

Application: 22-03-xxx

(CPUC #940)

Exhibit #: 4

Date: March 4, 2022

Witness(es): Various

SOUTHERN CALIFORNIA REGIONAL ENERGY NETWORK
SOCALREN ENERGY EFFICIENCY 2024-2027 IMPLEMENTATION PLANS
ENERGY EFFICIENCY 2024-2031 PORTFOLIO PLAN
PREPARED TESTIMONY
EXHIBIT 4



**SOUTHERN CALIFORNIA REGIONAL ENERGY NETWORK
ENERGY EFFICIENCY 2024-2031 PORTFOLIO PLAN
PREPARED TESTIMONY**

TABLE OF CONTENTS

Chapter	Title	Witness
Exhibit 1	SOCALREN 2024-2031 STRATEGIC BUSINESS PLAN	
1	INTRODUCTION AND EXECUTIVE SUMMARY	
2	SOCALREN'S ENERGY EFFICIENCY VISION FOR CALIFORNIA, 2024-2031	Minh Le
3	SOCALREN'S ENERGY EFFICIENCY STRATEGIES	Lujuana Medina
4	SOCALREN'S SEGMENTATION STRATEGIES	Lujuana Medina
5	SOCALREN'S SECTOR STRATEGIES	Lujuana Medina
6	SOCALREN'S 8-YEAR PORTFOLIO BUDGET	Minh Le
7	SOCALREN'S STRATEGIC 8-YEAR PORTFOLIO UNIQUE VALUE METRICS	Lujuana Medina
8	SOCALREN'S PORTFOLIO COORDINATION	Lujuana Medina
9	SOCALREN'S EVALUATION, MEASUREMENT AND VERIFICATION (EM&V) PLANS	Lujuana Medina
10	POLICY RECOMMENDATIONS	Lujuana Medina
Appendix A	SOCALREN UNIQUE VALUE METRICS	Lujuana Medina
Appendix B	SUMMARY LIST OF POLICY CHANGES	Lujuana Medina
Appendix C	STATEMENTS OF QUALIFICATIONS	Minh Le Lujuana Medina
Appendix D	COMPLIANCE CHECKLIST	

**SOUTHERN CALIFORNIA REGIONAL ENERGY NETWORK
ENERGY EFFICIENCY 2024-2031 PORTFOLIO PLAN
PREPARED TESTIMONY**

TABLE OF CONTENTS

Chapter	Title	Witness
Exhibit 2	SOCALREN 2024-2027 PORTFOLIO PLAN	
1	FOUR-YEAR PORTFOLIO SUMMARY	Minh Le
2	FORECAST METHODOLOGY	Minh Le
3	PORTFOLIO SEGMENTATION STRATEGY	Lujuana Medina
4	PORTFOLIO MARKET SECTOR STRATEGIES	Lujuana Medina
5	PORTFOLIO STRATEGIES	Lujuana Medina
6	PORTFOLIO MANAGEMENT	Lujuana Medina
7	EVALUATION, MEASUREMENT, AND VERIFICATION	Lujuana Medina
8	PORTFOLIO COSTS AND COMMITTED FUNDS	Lujuana Medina
Appendix A	SOCALREN'S ENERGY EFFICIENCY 2024-2027 CEDARS FILING SUBMISSION RECEIPTS AND LINKS	Lujuana Medina
Appendix B	COMPLIANCE CHECKLIST	
Exhibit 3	SOCALREN'S RESPONSES, PURSUANT TO ENERGY DIVISION TEMPLATE	
1	SOCALREN'S ENERGY EFFICIENCY 2024-2031 APPLICATION TABLES, PURSUANT TO ENERGY DIVISION TEMPLATE	Lujuana Medina

**SOUTHERN CALIFORNIA REGIONAL ENERGY NETWORK
ENERGY EFFICIENCY 2024-2031 PORTFOLIO PLAN
PREPARED TESTIMONY**

TABLE OF CONTENTS

Chapter	Title	Witness
2	SOCALREN'S ENERGY EFFICIENCY 2024-2027 SUPPLEMENTAL BUDGET NARRATIVE INFORMATION, PURSUANT TO ENERGY DIVISION TEMPLATE	Lujuana Medina
Exhibit 4	SOCALREN ENERGY EFFICIENCY 2024-2027 IMPLEMENTATION PLANS	Lujuana Medina

**SOUTHERN CALIFORNIA REGIONAL
ENERGY NETWORK**

EXHIBIT 4

**SOCALREN ENERGY EFFICIENCY 2024-2027
IMPLEMENTATION PLANS**

ENERGY EFFICIENCY PROGRAMS

**SoCalREN Workforce Education and
Training Sector**

**Architecture Construction
Engineering Students (ACES)
Pathway Program
Implementation Plan**

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
March 2022

Contents

Program Overview	3
Program Budget and Savings	4
Implementation Plan Narrative	5
Program Description	5
Program Delivery and Customer Services	5
Program Design and Best Practices	5
Innovation	5
Metrics	5
To-Code Savings Claims	6
Pilots	6
Workforce Education and Training	6
Workforce Standards	6
Disadvantaged Worker Plan	7
Additional Information	7
Supporting Documents	8
Program Manual and Program Rules	8
Program Theory and Program Logic Model	8
Process Flow Chart	8
Incentive Tables, Workpapers, and Software Tools	8
Quantitative Program Targets	8
Diagram of Program	8
Evaluation, Measurement, and Verification (EM&V)	8
Normalized Metered Energy Consumption (NMEC)	9

Index of Tables

Table 1. WE&T Sector	3
Table 2. WE&T Sector	5

Program Overview

The Architecture Construction Engineering Students (ACES) Pathway Program serves to engage, expose, and challenge students to explore architecture, engineering, and construction careers with a focus on Energy Efficiency by capitalizing on public works investment, community college STEAM course offerings and strong industry participation.

Program Budget and Savings

The CEDARS platform generates summary views of the following information, based on application tables that the PAs upload to CEDARS. The information is organized at the program level and, if applicable, sub-program level to enable multiple cross tabulations and outputs for stakeholders' review and consideration. Programs with subprograms will be displayed at subprogram level and will roll up to a program summary page.

1. Program and/or Sub-Program Name
 - a. Architecture Construction Engineering Students (ACES) Pathway Program
2. Program / Sub-Program ID number
 - a. SCR-WET-D2
3. Program / Sub-program Budget Table

Budget Category	2024	2025	2026	2027
Admin	\$30,000	\$30,000	\$33,000	\$33,000
ME&O	\$30,000	\$30,000	\$33,000	\$33,000
Direct Implementation	\$440,000	\$440,000	\$484,000	\$484,000
Total	\$500,000	\$500,000	\$550,000	\$550,000

4. Program / Sub-program Gross Impacts Table
 - a. This is not applicable for non-resource programs
5. Program / Sub-Program Cost Effectiveness (TRC)
 - a. N/A
6. Program / Sub-Program Cost Effectiveness (PAC)
 - a. N/A
7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Program Implementer	Yes
SoCalREN Only	
SoCalREN – Statewide Lead	

Other PA – Statewide Lead	
Third Party	X
Other (Partnership)	

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Market Sector	Yes
Residential	
Commercial	
Industrial	
Agricultural	
Public	
Codes & Standards	
Workforce Education & Training	X
Finance	
Other	

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Program Type	Yes	No
Resource		X
Non-Resource	X	

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market Channels	Yes	No
Upstream		
Midstream		
Downstream	x	

Implementation Plan Narrative

Program Description

The Architecture Construction Engineering Students (ACES) Pathway Program provides K-12 and college students with direct alignment to community colleges. ACES provides students with a head start on STEAM pathways to clean energy careers through tuition-free college enrollment that enable students to take engineering, architecture and construction related coursework that provide transferable college credit to the California State University and University of California systems. ACES is actively integrating youth STEAM education and career technical education in its workforce model to help cultivate the skilled workforce necessary to operate and maintain energy efficiency investments in the public sector.

Transition from training to employment is critically important to reinforce academic pathways to clean energy career jobs. Disadvantaged youth who complete two classes each academic year are provided a paid summer internship.



Program Delivery and Customer Services

Student Outreach: Early and continuous outreach to elementary and middle schools to engage and expose students to STEAM careers and enrollment in ACES. Onsite student engagement activities to be conducted during regular school hours, special assemblies, in-class visits to introduce the program and outreach events hosted by the school.

Schools are identified by Title I determination where the majority of students are classified as disadvantaged.

College enrollment: ACES facilitates college enrollment in partnership with the Los Angeles Community College District (LACCD) as well as other surrounding Community Colleges by scheduling students in a consistent sequence of courses that lead to earning transferable college credit, community college skills certificates, and industry recognized certifications. ACES in partnership with community colleges, collaborates in the creation/implementation of STEM skills certificates for the ACES pathway.

Hands on Training: In partnership with labor unions and YouthBuild, USA, ACES provides pre-apprenticeship training using the Multi-Craft Core Curriculum (MC3) created by the National Building and Construction Trades Council to facilitate a pathway to union apprenticeship. MC3 consists of 120 hours of training which include:

- Orientation to Union Construction
- Construction Trade Awareness
- Heritage of the American Worker

- Basic Construction Math
- Green Construction
- Tools and Materials
- Basic Blueprint Reading
- OSHA-10 and First Aid Certification

ACES facilitates enrollment in union apprenticeship programs for ACES students who complete the pre-apprenticeship training and wish to pursue a career in construction upon high school graduation.

Industry Certifications: In partnership with GoEngineer, ACES provides students the opportunity to train for the Certified SOLIDWORKS Associate (CSWA), Certified SOLIDWORKS Sustainability Associate and Certified SOLIDWORKS Professional (CSWP) international certification. SOLIDWORKS is a 3D CAD design software utilized in the ACE industry for a variety of purposes.

Paid Summer Internships: ACES students participate in paid internship working alongside industry professionals that reinforce their academic goals and interests. ACES students must first successfully complete a minimum of two college courses during the academic school year in order to be eligible. Paid internships are in partnership with the Workforce Development Aging and Community Services Department and industry partners in public and private sector. ACES coordinates with industry partners to identify internship opportunities.

Personal Enrichment Training

Personal Enrichment Training (PET) would be offered in preparation of the participant transitioning into the workforce, this will include financial literacy, work ethics, life skills, career exploration and goal setting. PET is offered when enrolling in a WDACS America's Job Center of California (AJCC) which provide training and support into the workforce.

Program Strategies

The program targets in-school youth by exposing them to clean energy careers and giving them access to higher education. The program offers a multi-level approach by offering community college certifications as well as industry certifications in the energy sector.

Marketing and Outreach

The ACES Pathway Program will be promoted through variety of channels to target our primary audience.

Direct Outreach to Students

The ACES Program will perform direct outreach to feeder schools in SoCalREN service territory. Program staff and program participants will provide information regarding the certifications and opportunities available as well as the supportive services offered to those not familiar with careers in the energy efficiency sector.

ACES Orientation Meetings

Program staff will conduct orientation meetings for school administration, students, and parents for those interested in learning more about the program

and enrolling. During this orientation, students will receive more information regarding the enrollment process, certifications and training available, requirements for paid internship and expectations.

Marketing and Advertising Engagement Channels

Marketing Collateral

Program overview and other materials (fact sheets, resources, etc.) have been developed to provide potential participants information regarding ACES and the benefits of participation.

Toll-Free Phone and Email Support

The ACES program will provide toll-free phone and email support for program inquiries. The toll-free line is available on weekdays from 9:00 a.m. to 5:00 p.m.

Web-Based Digital ME&O

The SoCalREN website includes a section dedicated to the ACES Pathway Program. In addition, the ACES Pathway Program is featured on SoCalREN social media platforms and in Quarterly SoCalREN E-Newsletters.

Public Relations

Information and subsequent activities of the ACES Pathway Program may be shared with local media outlets.

Campaign Goals

Program Goals	2024	2025	2026	2027
Schools	8	10	12	13
Orientations/Trainings*	2	2	2	2

* Based per school year (2 semesters=1 training course)

Program Design and Best Practices

The goal of the ACES Pathway Program is to expose students to the career pathways in the clean energy sector by providing them the foundational skills and training. Participants will go through individual assessments in order to identify any existing barriers. Once barriers have been identified, partners such as the Los Angeles County Department of Workforce Development, Aging and Community Services (WDACS) offer supportive services in order to eliminate or mitigate those barriers.

Barrier	Solution
---------	----------

Accessibility for youth of color to high road ACE careers	Outreach/recruitment conducted in coordination with participating high schools and community colleges
Local hiring standards for DAC/HTR professional workers	Implement the Paid Internship Program for youth to perform in ACE careers in partnership with public and private local employers
Limited entry-level ACE opportunities	Maintain strong employer relationships and identify entry level ACE opportunities with partner employers
Accessibility to technology	Participants enrolled in the program will have the opportunity to borrow a laptop and access to hotspots in order to complete skills certification training.
Transportation	Participants will receive bus pass or gas reimbursement to travel to and from training/employer site.
Clothing	Participant will receive clothing stipend for training/work site attire.

Participants will be using the SoCalREN website in order to fill out an interest form for the program.

Innovation

N/A

Metrics

The metrics to be gathered by the SoCalREN ACES program are as follows:

Metric	Data Collected
Marketing	Number of ACES website page visits; Number of Interest forms completed.
Direct Implementation	Number of enrolled participants in ACES; Number of enrolled participants in America's Job Center of California (AJCC) – WDACS
Training	Number of participants who completed orientation session; Number of participants enrolled in PET; Number of participants completing PET; Number of participants enrolled in community college training courses;

	Number of participants enrolled in SOLIDWORKS Industry certification; Number of participants obtaining skills certification; Number of participants obtaining SOLIDWORKS Industry Certification
Supportive Services	Number of participants receiving supportive services per category.
Paid Internship	Number of participants who completed 120-hour work experience.

To-Code Savings Claims

N/A

a.

Pilots

N/A

Workforce Education and Training

Describe how the program will support workforce, education, and training to:

1. Expand/initiate partnerships with entities that do job training and placement;
 - a. Our partnership through WDACS and the AJCCs provides job training and placement in a variety of fields for participants.
2. Require placement experience for any new partners in the workforce, education, and training programs and new solicitations;
 - a. N/A
3. Require “first source” hiring from a pool of qualified candidates, before looking more broadly, beginning with self-certification; and
 - a. N/A
4. Facilitate job connections, by working with implementers and contractor partners, and utilizing energy training centers.
 - a. N/A

Workforce Standards

N/A

Disadvantaged Worker Plan

N/A

Additional Information

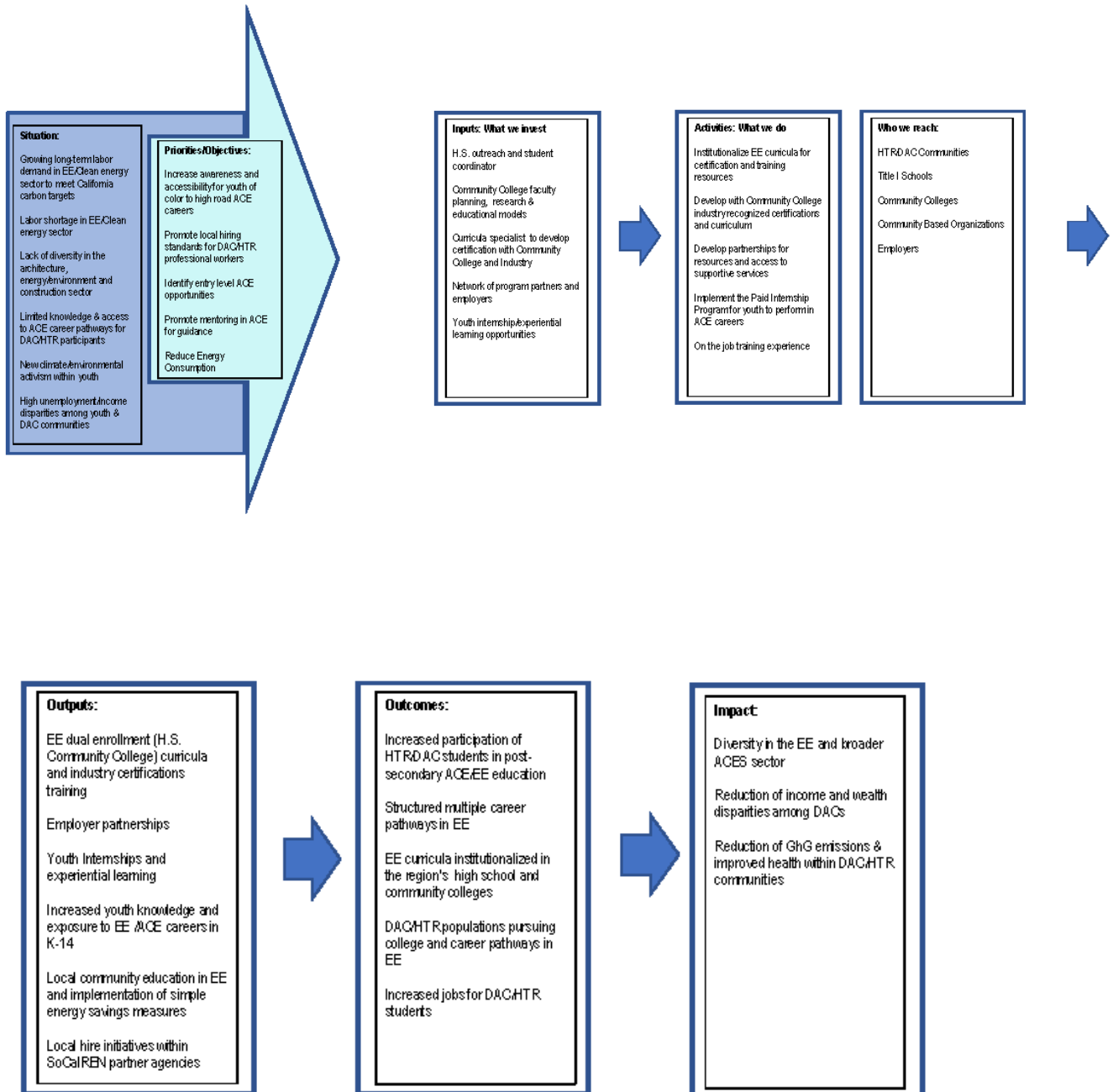
N/A

Supporting Documents

Program Manual and Program Rules

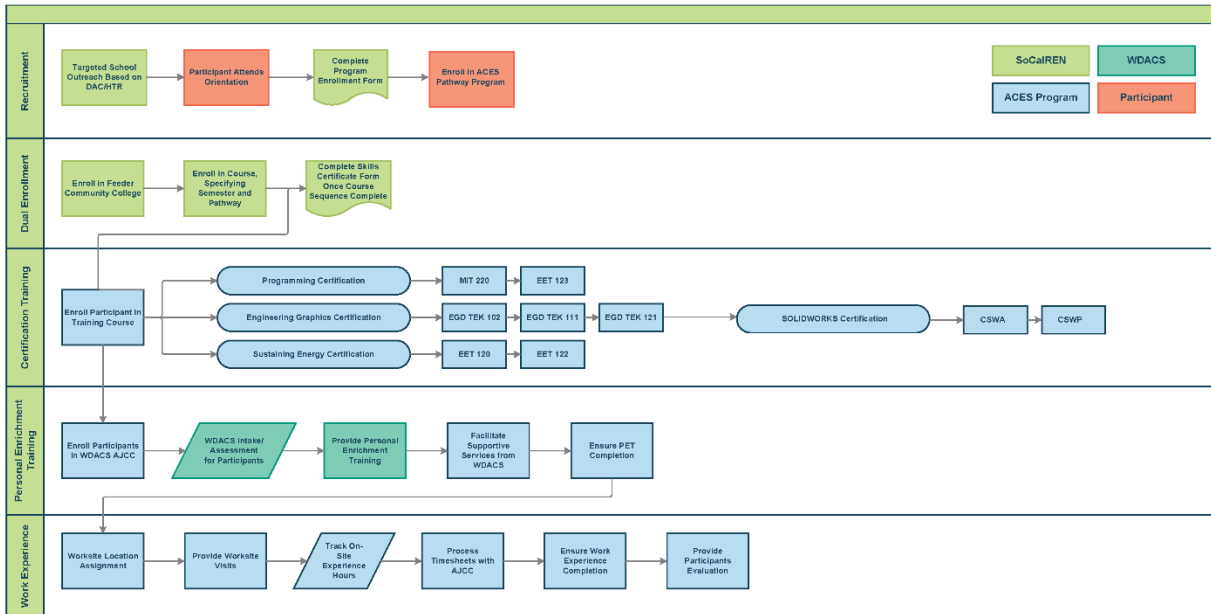
Program Manual will be prepared after approval of the Business Plan.

Program Theory and Program Logic Model



Process Flow Chart

SoCalREN Workforce Education and Training: ACES Pathway Program



Definitions:
 AJCC America's Job Centers of California
 DAC Disadvantaged Communities
 EET Electrical Engineering Technology
 EGD Engineering Graphics and Design
 HTR Hero to Reach Audiences
 MIT Manufacturing and Industrial Technology
 PET Personal Enrichment Training
 TEK Technology
 WDACs Department Of Workforce Development, Aging and Community Services

Incentive Tables, Workpapers, and Software Tools

N/A

Quantitative Program Targets

The SoCalREN ACES program aims to achieve the following goals:

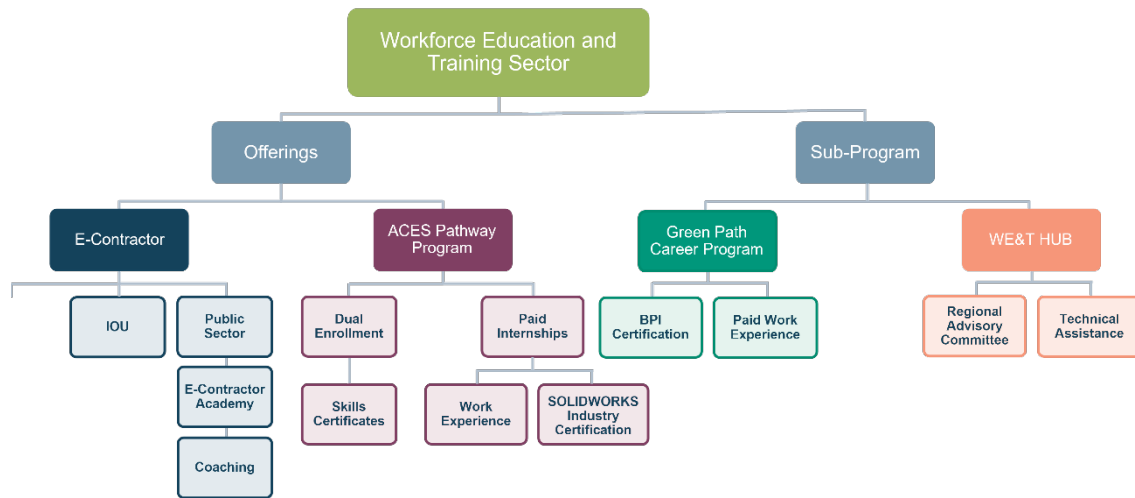
Campaign Goals

Program Goals	2024	2025	2026	2027
Schools	8	10	12	13
Orientations/Trainings*	2	2	2	2

* Based per school year (2 semesters=1 training course)

Diagram of Program

WE&T Sector Program Structure



Evaluation, Measurement, and Verification (EM&V)

The ACES program completes ongoing evaluation to ensure the goals and targets are met while keeping stakeholders fully informed of ACES program operations and outcomes. A comprehensive workplan will be developed by SoCalREN's third-party EM&V team at the beginning of each year to identify the study needs in the portfolio, determine the timeframe and allocate the budget per study.

Normalized Metered Energy Consumption (NMEC)

N/A



ENERGY EFFICIENCY PROGRAMS

SoCalREN Agriculture Sector
Agriculture Project Delivery Program
(Ag-PDP)
Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
March 2022

Contents

A.	Program Overview: Program Budget and Savings	1
B.	Implementation Plan Narrative	4
B.1.	Program Description.....	4
B.2.	Program Delivery and Customer Services.....	6
B.3.	Program Design and Best Practices.....	3
B.4.	Innovation	6
B.5.	Metrics	7
B.6.	To-Code Savings Claims	8
B.7.	Pilots.....	8
B.8.	Workforce Education and Training.....	8
B.9.	Workforce Standards.....	8
B.10.	Disadvantaged Worker Plan	9
B.11.	Additional Information.....	9
C.	Supporting Documents.....	9
C.1.	Program Manual and Program Rules.....	9
C.2.	Program Theory and Program Logic Model.....	11
C.3.	Process Flow Chart.....	11
C.4.	Incentive Tables, Workpapers, and Software Tools.....	11
C.5.	Quantitative Program Targets.....	11
C.6.	Diagram of Program.....	12
C.7.	Evaluation, Measurement, and Verification (EM&V).....	12
C.8.	Normalized Metered Energy Consumption (NMEC).....	12

Index of Tables

Table 1.	Program Budget Table	1
Table 2.	Program Impact Table.....	1
Table 3.	Expected TRC	2
Table 4.	Expected PAC	2
Table 5.	Program Implementer.....	2
Table 6.	Market Sector	2
Table 7.	Program Type.....	2
Table 8.	Market Channels & Intervention Strategies	3
Table 9.	Innovations.....	7
Table 10.	Metrics.....	7
Table 11.	Disadvantaged Workers Metrics.....	9
Table 12.	Supportive Materials Index.....	10
Table 13.	Other Tools.....	11

Index of Figures

Figure 1:	2021 Ag Potential and Goal Results.....	Error! Bookmark not defined.
Figure 2:	SoCalREN Ag Program Diagram.....	6
Figure 3:	SoCalREN Ag Program Diagram.....	12
Figure 4:	SoCalREN Ag-PDP Logic Model.....	13
Figure 5:	SoCalREN Ag-PDP Process Flow.....	14

A. Program Overview: Program Budget and Savings

The CEDARS platform generates summary views of the following information, based on application tables that the PAs upload to CEDARS. The information is organized at the program level and, if applicable, sub-program level to enable multiple cross tabulations and outputs for stakeholders’ review and consideration. Programs with subprograms will be displayed at subprogram level and will roll up to a program summary page.

1. Program and/or Sub-Program Name
SoCalREN Agriculture Project Delivery Program (Ag-PDP)
2. Program / Sub-Program ID number
SCR-AGR-G1
3. Program / Sub-program Budget Table

Table 1. Program Budget Table

Costs	2024	2025	2026	2027	Total
Admin	\$65,000	\$72,500	\$80,000	\$80,000	\$297,500
Marketing/Outreach	\$39,000	\$43,500	\$48,000	\$48,000	\$178,500
Incentives/Rebates	\$0	\$0	\$0	\$0	\$0
Direct Implementation	\$546,000	\$609,000	\$672,000	\$672,000	\$2,499,000
Totals	\$650,000	\$725,000	\$800,000	\$800,000	\$2,975,000

4. Program / Sub-program Gross Impacts Table

Table 2. Program Impact Table

	2024	2025	2026	2027	Total
Gross Demand Reduction(kW)	Not applicable, this is a non-resource Program				
Net Demand Reduction (kW)					
Gross Energy Savings (kWh)					
Net Energy Savings (kWh)					

5. Program / Sub-Program Cost Effectiveness (TRC)

Table 3. Expected TRC

	2024	2025	2026	2027	Total
Expected TRC	Not applicable, this is a non-resource Program				

6. Program / Sub-Program Cost Effectiveness (PAC)

Table 4. Expected PAC

	2024	2025	2026	2027	Total
Expected PAC	Not applicable, this is a non-resource Program				

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Table 5. Program Implementer

Program Implementer	
PA-Delivered	<input type="checkbox"/>
Third-Party Delivered	<input checked="" type="checkbox"/>
Partnership	<input type="checkbox"/>

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Table 6. Market Sector

Business Plan Sector	
Residential	<input type="checkbox"/>
Commercial	<input type="checkbox"/>
Industrial	<input type="checkbox"/>
Agricultural	<input checked="" type="checkbox"/>
Public	<input type="checkbox"/>
Cross-Cutting	<input type="checkbox"/>

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Table 7. Program Type

Program Type	
Resource	<input type="checkbox"/>
Non-Resource	<input checked="" type="checkbox"/>

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Table 8. Market Channels & Intervention Strategies

Market Channels	
Upstream	<input type="checkbox"/>
Midstream	<input type="checkbox"/>
Downstream	<input checked="" type="checkbox"/>

Intervention Strategies		
WE&T - Training	<input type="checkbox"/>	Ag-WE&T
PDP – Technical Assistance	<input checked="" type="checkbox"/>	Ag-PDP
Direct Install – No Cost	<input type="checkbox"/>	Rural-HTR Ag-DI
Retrofit - Incentive	<input type="checkbox"/>	Ag-Retrofit
Finance	<input type="checkbox"/>	Rural-HTR Ag Finance Assistance

B. Implementation Plan Narrative

B.1. Program Description

Program Description

The goal of the Southern California Regional Energy Network's (SoCalREN) Agriculture Sector is to identify and implement cost-effective energy efficiency projects that yield electricity and gas savings for disadvantaged, small and medium rural and underserved agriculture communities/customers across the region. To achieve this goal, the SoCalREN Agriculture Project Delivery Program (Ag-PDP) aims to achieve the following objectives:

1. Expand the implementation of cost-effective energy efficiency projects;
2. Make energy efficiency expertise accessible and available; and
3. Integrate energy efficiency as a standard business practice for Agriculture customers.

The Ag-PDP offers energy efficiency services to over ~30,000¹ eligible Agriculture customers in the Southern California Edison (SCE) and Southern California Gas (SoCalGas) service territories – including field & seed crops, fruit & nut crops, vegetables & melons, livestock & poultry, wineries, floriculture, and dairies - to help these customers reduce energy and maintenance costs at their facilities. According to SCE's business plan, these customers electric consumption was 2,400 GWh or 3% of the SCE's load in 2015. According to SoCalGas' business plan the Ag sector consumed 70 million therms in 2015.

The Ag-PDP is delivered through a third-party implementer who designed the program and is responsible for securing and coordinating all program resources and services to meet all program objectives and targets. The Ag-PDP program will leverage established relationships from enrolled SoCalREN public agencies to engage local Ag customers and funnel energy savings to SoCalREN's Ag-Retrofit and Rural-HTR Agriculture Direct Install (Ag-DI) programs. Through the coordination with SoCalREN's public sector, water agencies and water special districts will be encouraged to promote the other SoCalREN Ag Programs (e.g., Agriculture WE&T (Ag-WE&T), Ag-PDP, Ag-DI, Ag-Retrofit, and Rural-HTR Agriculture Finance Assistance Program) to their end-use water customers.

At no cost to the Ag customers, the Ag-PDP identifies energy saving measures and works side-by-side with these customers throughout the project lifecycle, from performance specification to construction completion, to implement energy efficiency strategies.

¹ Total Ag customers = 30,000, Mid-Size Ag customers ($\geq 50\text{kW}$, $< 250\text{kW}$) make up of 16% of all Ag SAs (or 4,800 SA) & Small Ag customers ($< 50\text{kW}$) make up of 82% of all Ag SAs (or 24,600 SA)

Geographic Location of Offering

Agriculture (Ag) customers are primarily located in the heavily concentrated agricultural regions of the San Joaquin Valley (CTZ 13) and the Central Coast (CTZ 5) and will be targeted with a combination of direct customer outreach with additional support from trade allies such as agricultural engineering firms and farm equipment suppliers.

Although agricultural regions are concentrated in climate zones 13 and 5, customers outside of these climate zones are eligible to receive Ag-PDP services.

Eligible Customers

All agricultural (Ag) customers who have a valid Southern California Edison (SCE) & Southern California Gas Company (SoCalGas) service account are eligible to participate in SoCalREN Ag Programs. Ag customers are defined by two-digit North American Industry Classification System (NAICS) Code 11. Post-harvest production (e.g., wine production, nut drying, etc.) is eligible when performed directly on-farm as defined by NAICS Code 11. Agriculture sub-segments further defined by four-digit NAICS Codes 1111, 1112, 1113, 1114 (including cannabis production which does not have a specific NAICS Code), 1119, 1121, 1122, 1123, 1124, 1125, 1129, 1131, 1132, 1133, 1141, 1142, 1151, 1152 and 1153.

The Ag-PDP offers energy efficiency services to over 29,400² eligible Agriculture customers in the Southern California Edison (SCE) and Southern California Gas (SoCalGas) service territories – including field & seed crops, fruit & nut crops, vegetables & melons, livestock & poultry, wineries, floriculture, and dairies - to help these customers reduce energy and maintenance costs at their facilities. The Ag-PDP will focus on rural & underserved communities.

According to SCE's business plan, these customers' electric consumption was 2,400 GWh or 3% of the SCE's load in 2015. According to SoCalGas' business plan, the AG sector consumed 70 million therms in 2015.

Measures

Ag-PDP is a non resource program. Ag-PDP funnels energy savings to SoCalREN's Agriculture Retrofit and Rural-HTR Agriculture Direct Install programs.

Rural-HTR Agriculture DI Measures: Booster Pump Overhaul, Booster Pump VSD, Evapotranspiration Monitoring and Optimization, Green Houses and Indoor Ag heating, Indoor Ag – Lighting, Outdoor Area Lighting, Well Pump Overhaul, Well Pump VSD

Agriculture Retrofit Measures: Barn ventilation, Booster pump overhaul, Booster pump VSD, Evapotranspiration monitoring and optimization, Greenhouse air distribution,

² Total AG customers = 30,000, Mid-Size AG customers ($\geq 50\text{kW}$, $< 250\text{kW}$) make up of 16% of all AG SAs (or 4,800 SA) & Small AG customers ($< 50\text{kW}$) make up of 82% of all AG SAs (or 24,600 SA)

Green houses condensing boilers, Greenhouse heating envelope measures, Process optimization, Well pump overhaul, Well pump VSD, Greenhouse heat curtains, Pipe insulation, Greenhouse infrared film.

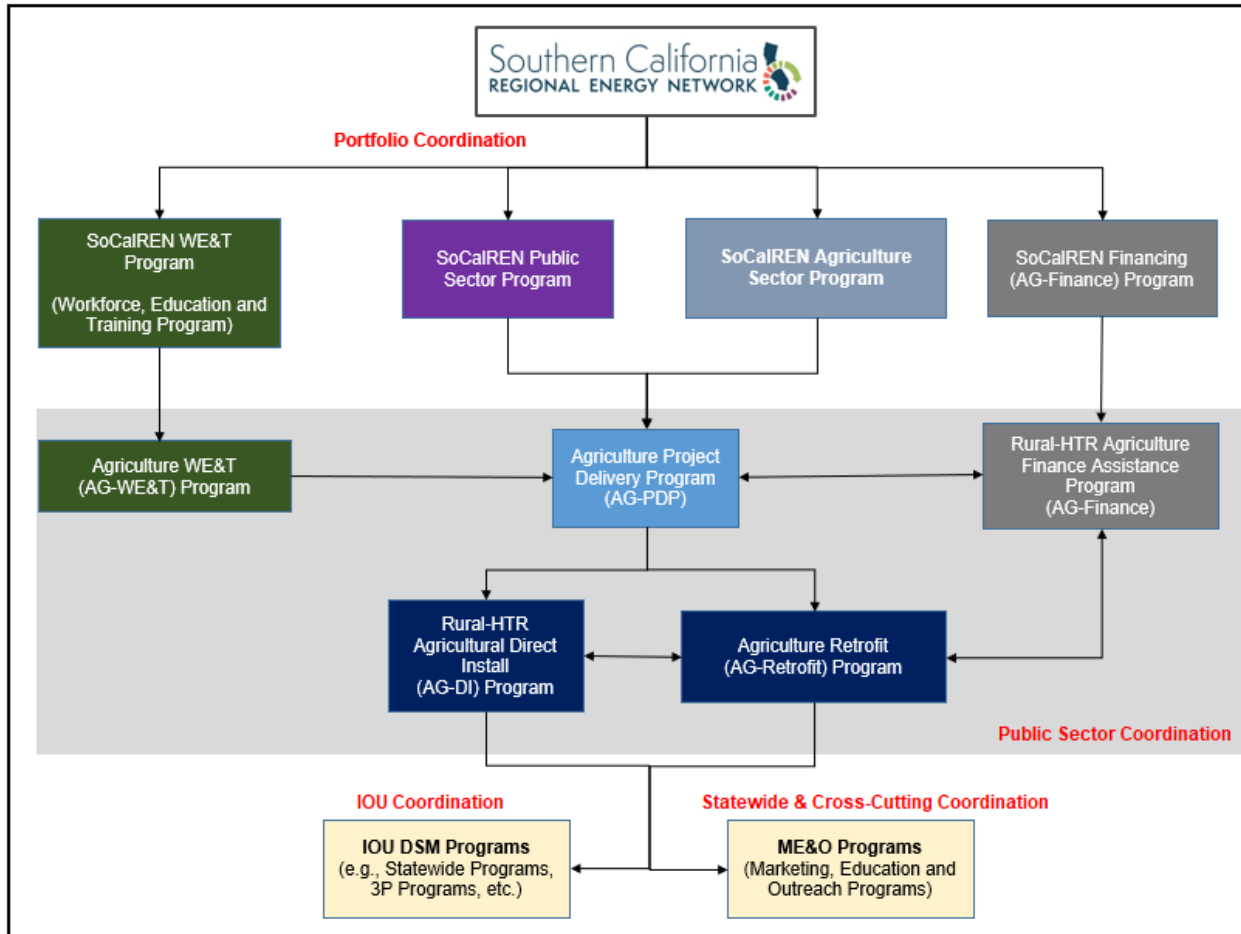
Rationale

SoCalREN believes that the small and medium Ag customers in rural, disadvantaged communities will not be the primary focus of SCE and SoCalGas' 3rd party programs due to TRC constraints of greater than 1.0 and cost to serve. Due to the reduced avoided costs in 2024, SCE's and SoCalGas' 3rd party program will have difficulty achieving their required TRC of 1.0 which will make it even harder for them to serve small and medium, rural, disadvantaged communities.

B.2. Program Delivery and Customer Services

The Ag-Retrofit assists Ag customers with comprehensive and customized project management and technical engineering services through a third-party implementer to implement cost-effective and streamlined energy efficiency projects. The Ag-PDP actively works to ensure missed opportunities from other IOU offerings, such as the upstream, midstream are funneling these customers into the other SoCalREN Ag Programs (e.g., Ag-WE&T, Rural-HTR Ag-DI, Ag-Retrofit, and Rural-HTR Agriculture Finance Assistance). After enrollment into the program, each Ag customer is assigned a dedicated project delivery team comprised of project management staff and an assigned engineering firm. Throughout project identification and implementation, the project delivery team works with the customer to address project challenges and proactively identify solutions.

Figure 1: SoCalREN Ag Program Diagram



Enrollment and Project Identification (Ag-PDP): A customer is considered enrolled in the Ag-PDP once it signs a non-binding enrollment form that acknowledges Ag-PDP participation, responsibilities, and services. The enrollment process begins with an initial engagement presentation to introduce SoCalREN Ag Programs in coordination with the IOUs, SoCalREN's Public Program, and other applicable program partners. The enrollment form is presented to the customer during this meeting; program services are not offered until the form is signed and returned. Enrollment in the Ag-PDP also gives customers access to other available SoCalREN Programs. Once enrolled, an Ag-PDP project manager is assigned to the customer to begin the project development process.

Education (Ag-WE&T): Promotion of the benefits of EE upgrades beyond utility cost savings considering crop/product quality improvement and building long-term relationships with the Ag customer as part of the education process. This includes general Ag training for Ag customers, Pump contractor training, Ag energy management, Ag water management, GHG reduction strategies, Ag emerging technologies, etc.

This will be coordinated with the overall SoCalREN WE&T program which provides the following training:

- LA County SoCalREN Intro.
- Climate Policy
- Sustainable Green Buildings Technologies

- How to Do Business with SoCalREN, SCE & SoCalGas
- Title 24 Codes and Regulations
- Estimating Energy Savings
- Project Estimating & Incentives
- Virtual Walk-Through
- Bonding Insurance / Access to Capital
- Estimating
- Project Scheduling
- Principles of Project Management

Benchmarking (Ag-PDP): After enrollment, the Ag-PDP engineer performs and prepares a customer-wide benchmark/energy analysis for the customer. The benchmark/analysis provides a portfolio-wide snapshot of energy consumption and cost by sector and estimates the potential energy and financial impacts of potential retrofits. The analysis is used as a tool to help identify and develop energy efficiency project opportunities. When possible, the benchmarking phase is completed in coordination with applicable program partners, such as SoCalREN's Public Sector Program and other SoCalREN Ag Programs (Rural-HTR Ag-DI and Ag-Retrofit). Coordination among partners ensures that a robust array of service offerings are provided to the customer, while also improving cost-effectiveness across programs and avoiding duplication of efforts. Other SoCalREN Ag Program offerings are also integrated during this phase, if applicable.

Audit (Ag-PDP): Once a project is identified, the Ag customer is asked to sign a project commitment form that communicates program services and records the customer's commitment to pursue a viable project prior to the investment of limited program resources. The Ag-PDP project manager will complete a detailed facility or site visit and identify a preliminary list of recommended energy efficiency measures to present to the customer. After the customer selects which energy efficiency measures to implement, the Ag-PDP Engineer prepares the audit calculations and a project proposal that recommends operational and maintenance improvements and/or upgrades to equipment and controls. The Project Feasibility Study (PFS) details the recommended measures and creates a business case for the implementation of recommended energy measures by providing estimated project costs, energy bill savings, available incentives, and financing solutions for the package of measures.

The Ag-PDP team will present the PFS to the customer for their approval. Upon approval the Ag-PDP team prepares the incentive application, the on-bill financing (OBF) application (if requested by the customer), and/or 3P financing options (see Rural-HTR Agriculture Finance Assistance Program) available to the customer (if applicable). Other financing options (e.g., grants, etc.) may also be applied for and pursued at this time.

Project Application Review (Ag-Retrofit and Rural-HTR Ag-DI): The Rural-HTR Ag-DI and Ag-Retrofit team review the PFS, associated audit calculations, and the OBF application. Upon their approval of the application package and the OBF application, the Rural-HTR Ag-DI and Ag-Retrofit team reserves the incentives and the OBF loan, for that customer and the team inform the customer of their notice-to-proceed.

Design and Procurement (Ag-PDP): The assigned Ag-PDP engineer completes technical performance specifications for the selected measures. If the customer releases a bid for project construction services, the Ag-PDP can provide procurement support in the form of supplementary bid package materials and sample language as required. If the customer is utilizing the Ag-PDP's simplified procurement method, a joint scope walk is scheduled at the site with the selected pre-qualified contractor, customer representative, and Ag-PDP project team.

The contractor provides feedback on the draft technical specifications and, if necessary, revises and finalizes them before a cost proposal is presented to the customer.

Customer Approval (Ag-Retrofit and Rural-HTR Ag-DI): The Ag-PDP project manager prepares a detailed project proposal package to assist the customer's staff with obtaining the necessary approvals for the project, which may include a staff report and draft resolution, scope of work, cost proposal, and any identified utility incentives and/or financing documents. The customer's relevant approval authority approves the project, submits the necessary signed documentation, and issues a purchase order to the contractor for construction services.

Construction (Ag-PDP): During the construction phase, the customer is the "project owner of record" responsible for all construction contracts and costs, as well as designating a construction manager. The customer may choose to manage the construction on its own, or access simplified construction management services through the Program Partners. The Ag-PDP project management team provides construction management support throughout the process, including review of contractor submittals and verification that the work is performed in accordance with the design specifications to ensure the expected energy savings are achieved and incentives are captured.

Commissioning Plan (Ag-PDP): Documented project intent provides the guide for contractors of a design intent that will guide the design of proposed Energy Conservation Measures (ECM), as well as define the Commissioning Plan for the testing of the installed systems and how they integrate with and affect the operation of existing building equipment. The Commissioning Plan will define how the proposed ECM should operate, guide the design and installation review and resulting requirements, and identify how the installed equipment/systems will be functionally tested. Tests include measurement of ECM performance to document energy savings potential (supporting M&V of energy savings) and demonstrate its improvement in or discover operating deficiencies to be corrected in the ECM equipment with which it interfaces.

Commissioning (Ag-PDP): Post installation, AG-PDP will ensure that the energy efficiency measure has been properly commissioned. Commissioning of new equipment can be defined as "the process of ensuring that the systems are designed, installed, functionally tested and capable of being operated and maintained to perform in conformity with the project intent. This will be conducted per the Commissioning Plan.

Completion (Ag-PDP): Once the project is installed and verified, the Ag-PDP team will work with the customer and contractor to collect the information required to submit the appropriate project close-out information to the applicable resource program so the customer can receive incentives and the savings can be accrued for the project. The contractor is responsible for the transfer of all appropriate documentation, knowledge, and training to the customer and the facility management personnel for new installed equipment and/or operational changes. This package is assembled into the Installation Report (IR) and submitted to the Rural-HTR Ag DI and Ag-Retrofit team.

Project Installation Report Review (Ag-Retrofit and Rural-HTR Ag-DI)

For the Rural-HTR Ag DI program a sampling of the installations will be inspected in order to assure that the project was installed. For the Ag-Retrofit, there will also be a post

installation inspection. The IR is then reviewed and approved by the Rural-HTR Ag DI and Ag-Retrofit Program team allowing the Rural-HTR Ag DI team to claim the savings, and the Ag-Retrofit pays out the incentive to the customer and claims its savings.

After project completion, the customer receives a survey to provide feedback on the impact of program services utilized to complete the energy efficiency project and how the program can improve.

Capacity Building (Ag-PDP): Outside of the project development services, enrolled customers are able to access expertise, resources, shared procurement strategies, best practices, and lessons learned in order to leverage the collective knowledge and expertise of the SoCalREN to better reduce costs and address common barriers. The Ag-PDP provides access to resources including project managers, technical advisors, engineering firms, contractors, financial advisory services, utilities, and other industry participants. Regular peer-to-peer sharing is also offered through workshops, newsletters, and other outreach methods.

B.3. Program Design and Best Practices

Program Design

The Ag-PDP engages both downstream and midstream market channels. The primary channel is the end-use (downstream) customer, but the local vendor community (midstream) will be leveraged as an outreach channel to connect with their existing customer base. Customers are provided technical expertise devoted to identifying efficiency solutions that maintain current production at a lower operating cost. Incentives and financing are then used to facilitate project implementation by reducing first-cost barriers. The agricultural sector is relationship-driven and requires the proven tactic of direct, one-on-one interactions. Agriculture programs often fail because they underestimate the level of support needed by customers and assume that they operate similar to commercial or industrial programs. Agriculture customers approach efficiency very cautiously and are reluctant to adopt unfamiliar technologies. The Program's role is to work closely with the customer to overcome this reluctance. The level of support provided is the primary tactic used to drive higher levels of participation.

SCE and SoCalGas support services provided to the Program prior to launch to facilitate outreach and promotion include:

- List of all eligible agriculture customers with contact information (business name, contact name, phone, email if available), annual gas usage, and NAICS code/market segment
- Knowledge of past EE program participation and facility equipment for ag customers
- Quarterly updates of customer target list to identify new accounts

Due to the relationship-driven nature of the Ag customer base, the Program will collaborate with SoCalREN's Public sector and the IOUs' Account Executives (AEs) to make customer introductions, identify known project plans, identify current projects that need follow-up to move forward, etc. In addition, Ag-Retrofit will collaborate with the SoCalREN's Public sector to gain introductions to other Program stakeholders, such as vendors, trade allies, and manufacturers. SoCalREN will be provided marketing collateral, while the IOU AEs will provide contact information for SoCalREN's outreach staff.

After an initial Program overview meeting, a more focused meeting will be held with key account representatives of Ag customers to identify known projects, identify potential projects that need follow-up to move forward, etc.

Market Barriers

The fragmented way in which the energy industry currently delivers services and incentives makes it challenging to achieve deep energy retrofits. This results in multiple barriers to whole building retrofits and a “project delivery gap” for the customer. A key barrier for customers is understanding the benefits of implementing energy projects on a comprehensive scale. Further, Ag customers often lack sufficient in-house expertise and necessary financial resources. These are important challenges to solve because Ag customers are significant players in the energy field, both as consumers and as leaders of their communities. The Ag-PDP addresses these barriers by providing services to streamline energy efficiency project implementation with sustained technical assistance, and support in accessing project funding.

Best Practices

To help fill the “project delivery gap” and better enable customers to meet key challenges, the Ag-PDP has identified several best practices that are integrated into the project delivery process to ensure continued success. The Ag-PDP addresses the unique needs of the Ag customer and mitigates the need for customers to acquire their own in-house expertise and resources. Through a “one stop” approach, the Ag-PDP delivers comprehensive energy retrofit services, customizable to the customer’s needs. Participating customers can take advantage of the full suite of offerings or select only the services that fit their needs.

The Ag-PDP aims for continuous improvement of implementation practices and systems to further improve and enhance the services received by Ag customers. Since the SoCalREN’s Public Sector PDP’s inception, it has been modified and streamlined to incorporate lessons learned from on the ground experience to design more effective systems for project delivery and implement more efficient tools and techniques and those lessons learned are incorporated into this SoCalREN’s Ag-PDP. In addition to continuous improvement, there have been significant efforts to improve upon cost-effectiveness. Program strategies are evaluated and developed to control costs and ensure that the most efficient methods are deployed for project implementation.

Examples of cost-effective program strategies include:

- A Project Budget Tool that ensures appropriate allocation of program resources based on project and customer characteristics
- Development of a streamlined pathway for engineers to enter project budgets for approval to ensure alignment on project scope and deliverables
- Project Commitment forms integrated into the program process to confirm customer’s buy-in more frequently as a project progresses and to ensure that PDP resources are carefully managed and delivered

Furthermore, the Ag-PDP has incorporated the following best practices into the program design: Regional Partner Agency Engagement: Through regional partners, agencies and their customers will be engaged by the Ag-PDP across diverse climate zones, population sizes, population densities, and other demographic characteristics are targeted for engagement in order to ensure comprehensive service to the Southern California region, including services to disadvantaged communities.

In 2019, SoCalREN partners began partnering with regional community-based organizations and Council of Governments (COGs) to provide on-the-ground outreach and engagement to promote and enhance program services. Many of these organizations have established relationships with agencies working on energy efficiency efforts and have or continue to support agencies as were previous implementers of IOU Local Government Partnerships. The regional partner approach brings SoCalREN to increased enrollment opportunities, peer-to-peer sharing, and an increased number of energy projects, while customizing services to meet regional needs. Regional partners enhance SoCalREN's expertise and reach by leveraging their local knowledge, existing relationships with member agencies, and professional relationships that often extend beyond energy efficiency. This effort will continue through the SoCalREN Public sector and will drive customers to the Ag-PDP and other SoCalREN Ag Programs (e.g., Ag-WE&T, Rural-HTR Ag DI, Ag-Retrofit and Rural-HTR Ag Finance Assistance Programs).

Utility Coordination and Stakeholder Collaboration: The Ag-PDP promotes early and ongoing cooperation and collaboration with utility partners and stakeholders based on an agreed upon protocol. Coordination among partners ensures that a robust array of service offerings are provided to the customer, while also improving cost-effectiveness across programs and avoiding duplication of efforts. A collaborative approach also improves the customer's experience and helps avoid confusion between programs.

Standardized Tools and Templates: A critical element to the Ag-PDP design is the continuous development and implementation of standardized tools and templates, including a comprehensive Project Delivery Manual (PDM). The PDM guides project managers and engineers to ensure quality control and application of best practices through the project delivery process.

Procurement Assistance: Assistance during the procurement process enables public agencies to move projects into the construction phase sooner and ensures the achievement and persistence of expected energy savings. The Ag-PDP also offers access to a pool of highly-qualified specialty contractors that have been selected through a competitive process, further driving down project costs.

Financing Support: To overcome the significant hurdle of project funding, the project team helps identify and secure grant funding and project financing (see Rural-HTR Ag Finance Assistance Program). The Ag-PDP helps customers access and apply for a variety of funding and financing sources that include, but are not limited to, Energy Lease Financing (ELF), IOU on-bill financing (OBF), the California Energy Commission (CEC) low interest loan program, local self-funded financing opportunities, and the SoCalREN's Revolving Loan Fund (RLF). Please see the Rural-HTR Ag Finance Assistance Program for more information. Enrolled customers also have access to a financial advisor for additional expertise on an as-needed basis.

Marketing and Communications: Successful marketing and communications strategies are leveraged to drive program activities and enrollment.

Evaluation and Reporting: The Ag-PDP completes ongoing evaluation to ensure the goals and targets are met while keeping stakeholders fully informed of Ag-PDP operations and outcomes.

Workforce Development: The Ag-PDP supports workforce development initiatives by measuring and reporting on job creation metrics that drive the local economy.

Outreach to Disadvantaged Communities: The Ag-PDP has identified and enrolled customers serving disadvantaged communities, providing them with specialized services and deliverables..

Customer Satisfaction: The Ag-PDP will monitor customer feedback to identify program enhancements and ensure the highest level of customer satisfaction is achieved.

Peer-to-Peer Learning: The Ag-PDP seeks to build customer and contractor capacity and expertise in energy efficiency by providing customers and contractors with customized tools and resources that they would otherwise have to develop on their own, thereby saving time, money, and staff resources. The Ag-PDP also shares the strategies and best practices used by its agencies to overcome common barriers with other enrolled agencies by hosting webinars and presenting at conferences and workshops (see Ag-WE&T Program).

Collaboration with Trusted Industry Partners: Agricultural customers are known to approach energy efficiency improvement projects cautiously even when there is a compelling value proposition. To overcome this barrier, it is critical to work through trusted industry partners and communication channels. Ag-PDP leverages trade associations, agricultural cooperatives, university extension offices, equipment vendors, manufacturers, and other relevant stakeholders to connect with customers on a more personal level.

B.4. Innovation

Table 9. Innovations

Program	Innovation: Strategy
Ag-PDP	<p>Delivery Approach:</p> <ul style="list-style-type: none"> • Deliver comprehensive, objective, and no-cost project management services from energy benchmarking and project identification through procurement and construction completion. • Streamline all EE program participation and delivery of savings benefits through a single, trusted channel - the SoCalREN Project Delivery Team. • Coordinate with SoCalREN Public Sector to enroll their Ag Customers into the Ag Program. <p>Market Strategy:</p> <ul style="list-style-type: none"> • Provide Ag Customers with access to benchmarking tools, reports, and training to improve staff’s ability to better manage their energy consumption, plan projects, and ensure energy savings achieved persist over time. • Develop the adoption of new technologies in the market <p>Connecting the Dots. The SoCalREN Ag Sector provides a turnkey solution through the various programs. The Ag programs are as follows:</p> <ul style="list-style-type: none"> • Ag-WE&T – Provides Workforce, Education and Training to Ag contractors and Ag customers • Ag-PDP – Provides ME&O for enrollment into the PDP program. PDP services include benchmarking, custom project development, financing support, commissioning support, and project closeout. • Rural-HTR Ag DI – Provides no-cost, low-cost installations of EE deemed measures • Ag-Retrofit – Provides EE custom measures support and project review facilitation • Rural-HTR Ag Finance Assistance – Provides OBF support, OBF bridge funding, 3P funding, grants, etc.

B.5. Metrics

The Ag-PDP is proposing the following key performance metrics to be tracked and reported on periodically throughout the program cycle.

Table 10. Metrics

No.	Metric	Method	Frequency
1	Customer Enrollment	Number of customers enrolled in SoCalREN Ag-PDP	Annually
2	Increased Pipeline	Energy savings identified through completed audits to be installed in future years	Annually

3	Program Savings Contribution to Market Share	Overall contributions of energy savings to IOU programs as measured by percentage of overall Ag Sector savings	Annually
4	Job Creation	Number of new construction jobs as measured by construction costs	Annually
5	Capacity & Expertise	Number of informational outreach activities conducted by SoCalREN	Annually
6	Customized Services	Reporting of services leveraged as a percentage of completed projects	Annually
7	Educational Material	Number of fact sheets, newsletters, and case studies generated by the SoCalREN program	Annually
8	Customer Satisfaction	Enrolled customer and contractor satisfaction rating as reported in annual program survey	Annually
9	Completed Projects in Disadvantaged Communities	Percent of projects completed in disadvantaged communities	Annually
10	Regional Environmental Benefits	Metric tons of greenhouse gas (GHG) emissions reduced regionally as measured by lifetime gross energy savings of completed EE projects	Annually

The necessary project information will be gathered through a series of discussions and verification checks with each customer. The Ag-PDP CRM database system will be used to track information about the customer, project, energy savings claimed and other details that will help show the impact of this program. This will be done on a quarterly basis and more frequently as needed. Once the information is gathered, it will be entered in the database and then used to generate reports. Savings will support overall SoCalREN Rural-HTR Ag DI and Ag-Retrofit programs.

B.6. To-Code Savings Claims

This section is not applicable to this non-resource program. Please see Ag-Retrofit Program for more information on To-Code Savings Claims.

B.7. Pilots

This section is not applicable.

B.8. Workforce Education and Training

Please see the SoCalREN Agriculture WE&T Program (Ag-WE&T) for more details.

B.9. Workforce Standards

This section is not applicable to this non-resource program. Please see Rural-HTR Ag DI and Ag-Retrofit Program for more information on HVAC and Lighting Measures.

B.10. Disadvantaged Worker Plan

The Ag-PDP will provide Disadvantaged Workers with improved access to career opportunities in the energy efficiency industry by supporting outreach initiatives (training, mentorship, and/or apprenticeships) in collaboration with a combination of our subcontractor partners. Using an optional survey, the Ag-PDP will track and report Disadvantaged Worker participation in outreach programs, as well as program hiring, including the following metrics:

Table 11. Disadvantaged Workers Metrics

Outreach	Hiring
<ul style="list-style-type: none"> • Number of training, mentorship, and/or apprenticeship opportunities offered • Number of participants • Number of staff and/or partner hours devoted to outreach initiatives 	<ul style="list-style-type: none"> • Number of recruiting channels promoting access to Disadvantaged Workers • Percentage of job opportunities made available to Disadvantaged Workers • Percentage of candidates screened • Percentage of candidates interviewed • Percentage of candidates offered a position • Percentage of candidates hired

Additionally, the turnover and attrition are tracked by designated classification of Disadvantaged Worker, subject to appropriate privacy considerations. For Subcontractor performance scorecards and KPIs are tracked on an individual firm basis, with Disadvantaged Worker participation as a key element.

B.11. Additional Information

This section is not applicable.

Measures

Ag-PDP is a non resource program. Ag-PDP funnels energy savings to SoCalREN's Agriculture Retrofit and Rural-HTR Agriculture Direct Install programs.

Rural-HTR Ag DI Measures: Booster Pump Overhaul, Booster Pump VSD, Evapotranspiration Monitoring and Optimization, Green Houses and Indoor Ag heating, Indoor Ag – Lighting, Outdoor Area Lighting, Well Pump Overhaul, Well Pump VSD

Ag-Retrofit Measures: Barn ventilation, Booster pump overhaul, Booster pump VSD, Evapotranspiration monitoring and optimization, Greenhouse air distribution, Green houses condensing boilers, Greenhouse heating envelope measures, Process optimization, Well pump overhaul, Well pump VSD, Greenhouse heat curtains, Pipe insulation, Greenhouse infrared film,

C. Supporting Documents

C.1. Program Manual and Program Rules

Not required at this time.

Table 12. Supportive Materials Index

#	Information Required	Short Description
1	Eligible Measures or measure eligibility	<p><i>A list of eligible measures, or measure eligibility requirements</i></p> <p>Eligible measures pursued by Ag Customers through the program will adhere to the rules set forth by SoCalREN regarding measure eligibility. All savings will be transparent in supporting calculations as submitted through either the Rural-HTR Ag DI or Ag-Retrofit program.</p>
2	Customer Eligibility Requirements	<p><i>Requirements for program participation (for example, annual energy use or peak kW demand)</i></p> <p>The Ag-PDP will work with eligible customers in the Ag sector. This includes Field & Seed Crops, Fruit & Nut Crops, Vegetables & Melons, Livestock & Poultry, Wineries, Floriculture and Dairies Customers served by SCE and/or SoCalGas that pay PPP charges.</p>
3	Contractor Eligibility Requirements	<p><i>List of any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements. (For example: specific IOU-required trainings, specific contractor accreditations, and/or specific technician certifications.)</i></p> <p>The Ag-PDP will work with the selected contractor to ensure all incentive eligibility requirements are addressed and met.</p>
4	Participating Contractors, Manufacturers, Retailers, Distributors	<p><i>Information as to whether:</i></p> <ul style="list-style-type: none"> ● <i>Program or sub-program delivery channel is downstream, midstream, or upstream, and</i> ● <i>Program is an incentive and/or buy-down type program.</i> <p>This is a downstream program offering project development and project implementation services, with post-installation incentives offered through Ag-Retrofit which is a resource program.</p>
5	Additional Services	<p><i>Descriptions of any additional sub-program delivery, measure installation, marketing & outreach, training, and/or other services provided, if not yet described above.</i></p> <p>The Ag-PDP will offer education outreach to Ag customers in SCE and SoCalGas territories. This educational outreach will include information on the benefits associated with utility-based energy saving measures.</p>
		<p><i>Information as to whether:</i></p> <ul style="list-style-type: none"> ● <i>Pre- and post-audits are required</i> ● <i>Funding or incentive levels have been set for audits, and</i> ● <i>The eligibility requirements for audit incentives.</i>

6	Audits	Pre and post installation audits will be conducted in a manner that aligns with SoCalREN incentive eligibility requirements by both the Rural-HTR Ag DI and Ag-Retrofit Programs.
7	Sub-Program Quality Assurance Provisions	<i>List of quality assurance and quality control requirements, including accreditations and/or certifications or other credentials of individuals or organizations performing this work.</i> Quality assurance checks will be implemented throughout the process at various milestones to maintain data accuracy and customer satisfaction.

All EE measures will funnel through existing EE resource programs. The below table describes other tools leveraged to support turnkey project delivery services.

Table 13. Other Tools

#	Tools	Short Description
1	PipeDrive	Customer Relationship Management (CRM), used to track projects and generate customer reports.
2	Compass	Platform used to collect and synthesize energy consumption data and deliver customer energy use analyses
3	ENERGY STAR Portfolio Manager	Online tool used to track energy consumption and greenhouse gas emissions. Allows user to benchmark the performance of one building or a whole portfolio of buildings.
4	GIS	Geographic Information System (GIS) tool allows users to pinpoint exact locations of facilities and tie usage characteristics to those facilities.
5	eziQC	Provides access to competitively awarded contractors through cooperative purchasing networks, expediting project delivery through a simplified procurement process.

C.2. Program Theory and Program Logic Model

Please see Attachment #1.

C.3. Process Flow Chart

Please see Attachment #2.

C.4. Incentive Tables, Workpapers, and Software Tools

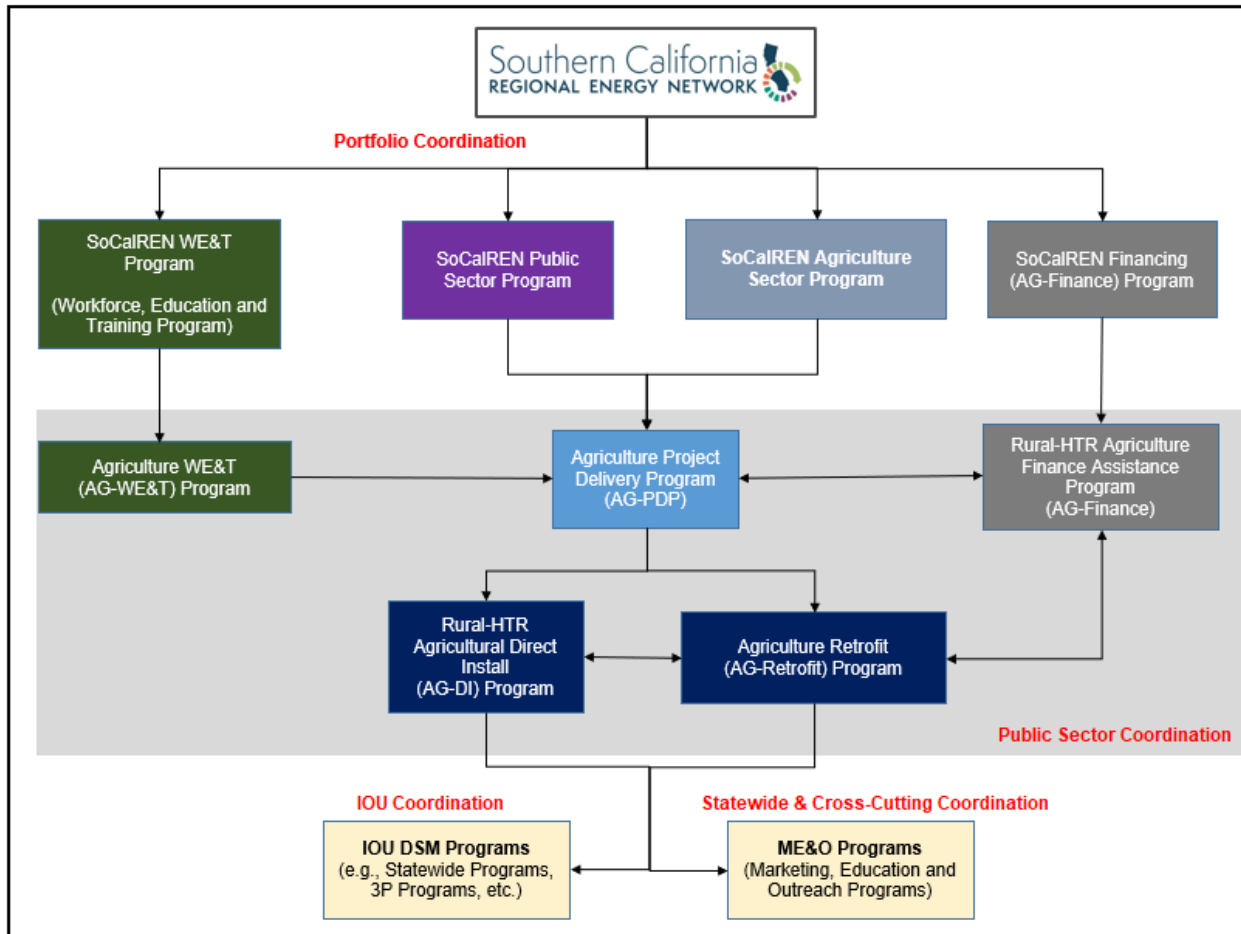
Not applicable to Ag-PDP.

C.5. Quantitative Program Targets

Not applicable at this time.

C.6. Diagram of Program

Figure 2: SoCalREN Ag Program Diagram



C.7. Evaluation, Measurement, and Verification (EM&V)

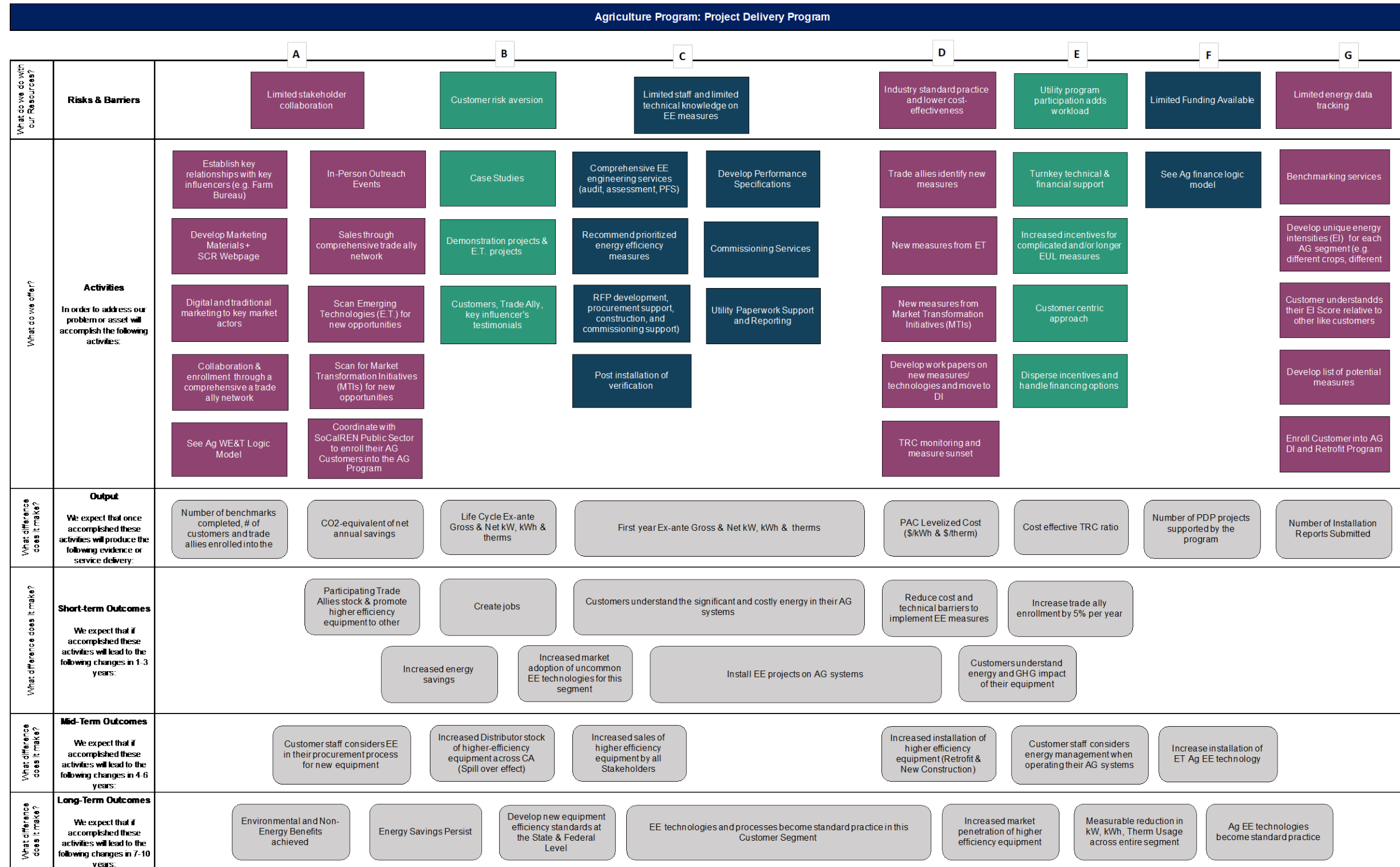
The Ag-PDP completes ongoing evaluation to ensure the goals and targets are met while keeping stakeholders fully informed of Ag-PDP operations and outcomes. A comprehensive workplan will be developed by SoCalREN's third-party EM&V team at the beginning of each year to identify the study needs in the portfolio, determine the timeframe and allocate the budget per study.

C.8. Normalized Metered Energy Consumption (NMEC)

Not applicable to Ag-PDP.

Attachment 1: Ag-PDP Logic Model

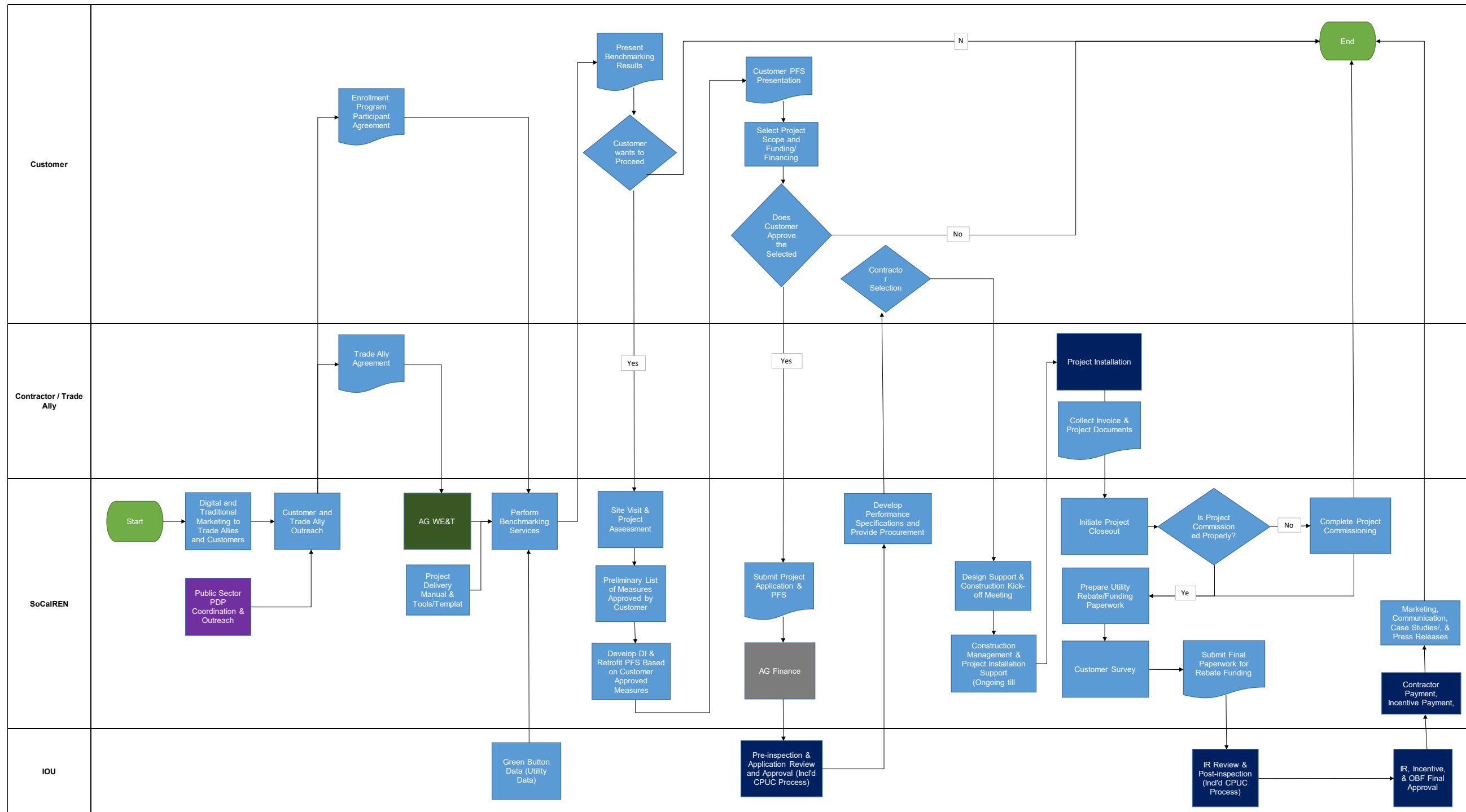
Figure 3: SoCalREN Ag-PDP Logic Model



Attachment 2: Ag-PDP Process flow

Figure 4: SoCalREN Ag-PDP Process Flow

AG-PDP Program (Non-Resource)
Market Support Activities: Benchmarking, Finance and Project Management Support - Non-resource



LEGEND





ENERGY EFFICIENCY PROGRAMS

**SoCalREN Agriculture Sector
Agriculture Retrofit Program
(Ag-Retrofit)
Program Implementation Plan**

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
March 2022

Contents

A.	Program Overview: Program Budget and Savings	1
B.	Implementation Plan Narrative	4
B.1.	Program Description.....	4
B.2.	Program Delivery and Customer Services.....	6
B.3.	Program Design and Best Practices.....	10
B.4.	Innovation	13
B.5.	Metrics.....	13
B.6.	To-Code Savings Claims	15
B.7.	Pilots.....	15
B.8.	Workforce Education and Training.....	15
B.9.	Workforce Standards.....	15
B.10.	Disadvantaged Worker Plan	16
B.11.	Additional Information.....	17
C.	Supporting Documents.....	17
C.1.	Program Manual and Program Rules.....	17
C.2.	Program Theory and Program Logic Model.....	19
C.3.	Process Flow Chart.....	19
C.4.	Incentive Tables, Workpapers, and Software Tools.....	19
C.5.	Quantitative Program Targets.....	19
C.6.	Diagram of Program.....	20
C.7.	Evaluation, Measurement, and Verification (EM&V).....	20
C.8.	Normalized Metered Energy Consumption (NMEC).....	26

Index of Tables

Table 1.	Program Budget Table	1
Table 2.	Program Impact Table.....	1
Table 3.	Expected TRC	1
Table 4.	Expected PAC	2
Table 5.	Expected TSB.....	2
Table 6.	Program Implementer.....	2
Table 7.	Market Sector	2
Table 8.	Program Type.....	2
Table 9.	Market Channels & Intervention Strategies	3
Table 9.	Innovations	13
Table 11.	Metrics.....	14
Table 12.	Disadvantaged Workers Metrics.....	17
Table 13.	Supportive Materials Index.....	17
Table 14.	Other Tools.....	18
Table 15.	Site-level NMEC Data Sources.....	29
Table 16.	Example Data Requirements for Ex-Ante Savings Estimates.....	30

Index of Figures

Figure 1:	2021 AG Potential and Goal Results	Error! Bookmark not defined.
Figure 2:	SoCalREN Ag Program Diagram.....	7

Figure 3: SoCalREN Ag Program Diagram.....	20
Figure 4: Identifying and adjusting for a typical NRE.....	31
Figure 5: SoCalREN Ag-Retrofit Logic Model.....	35
Figure 6: SoCalREN Ag-Retrofit Process Flow.....	36

A. Program Overview: Program Budget and Savings

The CEDARS platform generates summary views of the following information, based on application tables that the PAs upload to CEDARS. The information is organized at the program level and, if applicable, sub-program level to enable multiple cross tabulations and outputs for stakeholders' review and consideration. Programs with subprograms will be displayed at subprogram level and will roll up to a program summary page.

1. Program and/or Sub-Program Name
SoCalREN Agriculture Retrofit Program (Ag-Retrofit)
2. Program / Sub-Program ID number
SCR-AGR-G3
3. Program / Sub-program Budget Table

Table 1. Program Budget Table

Costs	2024	2025	2026	2027	Total
Admin	\$87,003	\$196,527	\$232,650	\$290,326	\$806,506
Marketing/Outreach	\$52,202	\$117,916	\$139,590	\$174,196	\$483,904
Direct Implementation	\$229,064	\$517,421	\$612,527	\$764,379	\$2,123,391
Incentives/Rebates	\$501,761	\$1,133,402	\$1,341,731	\$1,674,360	\$4,651,254
Totals	\$870,030	\$1,965,266	\$2,326,498	\$2,903,261	\$8,065,055

4. Program / Sub-program Gross Impacts Table

Table 2. Program Impact Table

Costs	2024	2025	2026	2027	Total
Gross Demand Reduction (kW)	6,878	18,228	30,718	34,830	90,654
Net Demand Reduction (kW)	4,510	11,953	20,145	22,841	59,450
Gross Energy Savings (kWh)	6,285,349	16,657,431	29,838,901	33,833,335	86,615,015
Net Energy Savings (kWh)	4,121,863	10,923,760	19,568,025	22,187,531	56,801,179

5. Program / Sub-Program Cost Effectiveness (TRC)

Table 3. Expected TRC

	2024	2025	2026	2027	Total
Expected TRC	0.77	0.83	0.82	0.84	0.82

6. Program / Sub-Program Cost Effectiveness (PAC) and Total System Benefit (TSB)

Table 4. Expected PAC

	2024	2025	2026	2027	Total
Expected PAC	2.36	2.88	3.36	3.21	3.08

Table 5. Expected TSB

	2024	2025	2026	2027	Total
Expected TSB	\$2,056,750	\$5,656,186	\$7,819,903	\$9,306,266	\$24,839,105

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Table 6. Program Implementer

Program Implementer	
PA-Delivered	<input type="checkbox"/>
Third-Party Delivered	<input checked="" type="checkbox"/>
Partnership	<input type="checkbox"/>

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Table 7. Market Sector

Business Plan Sector	
Residential	<input type="checkbox"/>
Commercial	<input type="checkbox"/>
Industrial	<input type="checkbox"/>
Agricultural	<input checked="" type="checkbox"/>
Public	<input type="checkbox"/>
Cross-Cutting	<input type="checkbox"/>

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Table 8. Program Type

Program Type	
Resource	<input checked="" type="checkbox"/>
Non-Resource	<input type="checkbox"/>

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Table 9. Market Channels & Intervention Strategies

Market Channels	
Upstream	<input type="checkbox"/>
Midstream	<input type="checkbox"/>
Downstream	<input checked="" type="checkbox"/>

Intervention Strategies		
WE&T - Training	<input type="checkbox"/>	Ag-WE&T
Project Delivery Program – Technical Assistance	<input type="checkbox"/>	Ag-PDP
Direct Install – No Cost	<input type="checkbox"/>	Rural-HTR Ag-DI
Retrofit - Incentive	<input checked="" type="checkbox"/>	Ag-Retrofit
Finance	<input type="checkbox"/>	Rural-HTR Ag Finance Assistance

B. Implementation Plan Narrative

B.1. Program Description

Program Description

The Ag-Retrofit Program drives installation of cost-effective solutions primarily through a combination of strategic measures and provides relevant technical assistance (AG-Ag-Retrofit) to drive customer awareness of both energy efficiency (EE) and non-EE measure benefits. In some cases, measures with high cost-effectiveness are relatively unknown to the target customers and face significant adoption barriers. For these measures, additional emphasis will be placed on creating compelling marketing collateral, case studies, and training curriculum (through the Agriculture WE&T program (Ag-WE&T)) for Ag customers and equipment vendors. This effort will be supplemented by current and anticipated non-EE funding (e.g., USDA grants). These grants (through the Rural-HTR Agriculture Finance Assistance Program) will provide significant additional resources to promote measures and overcome trust barriers, and specific funding will be pursued to achieve savings cost effectively for underserved communities. Additionally, the Ag-Retrofit Program recognizes the importance of water savings within California's agricultural sector and will identify new partnership and funding opportunities targeting the water-energy nexus. The program will work collaboratively with SoCalREN's Public Agencies Programs to evaluate and qualify opportunities to pursue grants to drive customer awareness and adoption of new and underutilized technologies that simultaneously achieve energy and water savings.

The Ag-Retrofit Program identifies and works with SCE & SoCalGas Ag industry customers to help them understand the benefits of implementing energy saving projects and measures; provides technical and project development assistance as needed; offers financial incentives and financing options; and for small/medium Disadvantaged Communities ("DAC") and Hard-to-Reach ("HTR") customers, installation of certain energy saving measures. The following activities will be conducted in support of achieving Program goals:

- Offer the Ag-Retrofit program focusing mainly on small and medium Ag customers that are engaged in growing, producing and processing various on-farm crops and animal products with a special emphasis on rural and underserved communities.
- Employ a multi-level outreach strategy that leverages the Program's account management team, local contractors, equipment vendors, key industry associations including universities, and other types of tradeallies and service providers that engage the agricultural community.
- Utilize analytics-based customer targeting to identify and engage HTR customers and DAC regions to assist them in saving energy.
- Provide in-language sales and promotion materials (including Spanish and Hmong) and establish strategy partnerships aligned with unique Ag customer segments.
- Provide Ag customers with energy engineering support to identifying deemed, custom and NMEC measures.
- Provide Ag customers with access to a program information via a program website.
- Offer a variety of incentive payments suitable for the customer size, project size, HTR or DAC classification, and project complexity/scale and measure type (e.g., deemed, custom, or NMEC).
- Identify and evaluate partnership and funding opportunities to increase adoption of new and underutilized technologies that achieve both water and energy savings

and develop full funding applications for any such opportunities that SoCalREN approves pursuing.

Geographic Location of Offering

Agriculture customers are primarily located in the heavily concentrated agricultural regions of the San Joaquin Valley (CTZ 13) and the Central Coast (CTZ 5) and will be targeted with a combination of direct customer outreach with additional support from trade allies such as agricultural engineering firms and farm equipment suppliers.

Although agricultural regions are concentrated in climate zones 13 and 5, customers outside of these climate zones are eligible to receive Ag-Retrofit Program services.

Eligible Customers

All agricultural (Ag) customers who have a valid Southern California Edison (SCE) Southern California Gas Company (SoCalGas) service account are eligible to participate in SoCalREN Ag Programs. Ag customers are defined by two-digit North American Industry Classification System (NAICS) Code 11. Post-harvest production (e.g., wine production, nut drying, etc.) is eligible when performed directly on-farm as defined by NAICS Code 11. Agriculture sub-segments further defined by four-digit NAICS Codes 1111, 1112, 1113, 1114 (including cannabis production which does not have a specific NAICS Code), 1119, 1121, 1122, 1123, 1124, 1125, 1129, 1131, 1132, 1133, 1141,1142, 1151, 1152 and 1153.

The Ag-Retrofit Program offers energy efficiency services to over ~30,000¹ eligible Agriculture customers in the Southern California Edison (SCE) and Southern California Gas (SoCalGas) service territories – including field & seed crops, fruit & nut crops, vegetables & melons, livestock & poultry, wineries, floriculture, and dairies - to help these customers reduce energy and maintenance costs at their facilities. The AG-Retrofit Program will focus on rural & underserved communities.

According to SCE’s business plan, these customers electric consumption was 2,400 GWh or 3% of the SCE’s load in 2015. According to SCG’s business plan the AG sector consumed 70 million therms in 2015.

SCE Segment	Demand	% of SA	# of Accounts	Total GWh Usage ²	Avg kW per Account
Large	≥250 kW	2%	600	899	480
Medium	≥50 kW, < 250 kW	16%	4,800	1191	100
Small	< 50 kW	82%	24,600	340	8
Total		100%	30,000	2,430	Weighted Avg – 32 kW

¹ Total AG customers = 30,000, Mid-Size AG customers (≥50kW, <250kW) make up of 16% of all AG SAs (or 4,800 SA) & Small AG customers (<50kW) make up of 82% of all AG SAs (or 24,600 SA)

² Based on breakdown per customer segment from SCE’s Business plan and sector usage of 3% of SCE total usage.

Measures

Ag-Retrofit Measures: Barn ventilation, Booster pump overhaul, Booster pump VSD, Evapotranspiration monitoring and optimization, Greenhouse air distribution, Green houses condensing boilers, Greenhouse heating envelope measures, Process optimization, Well pump overhaul, Well pump VSD, Greenhouse heat curtains, Pipe insulation, Greenhouse infrared film.

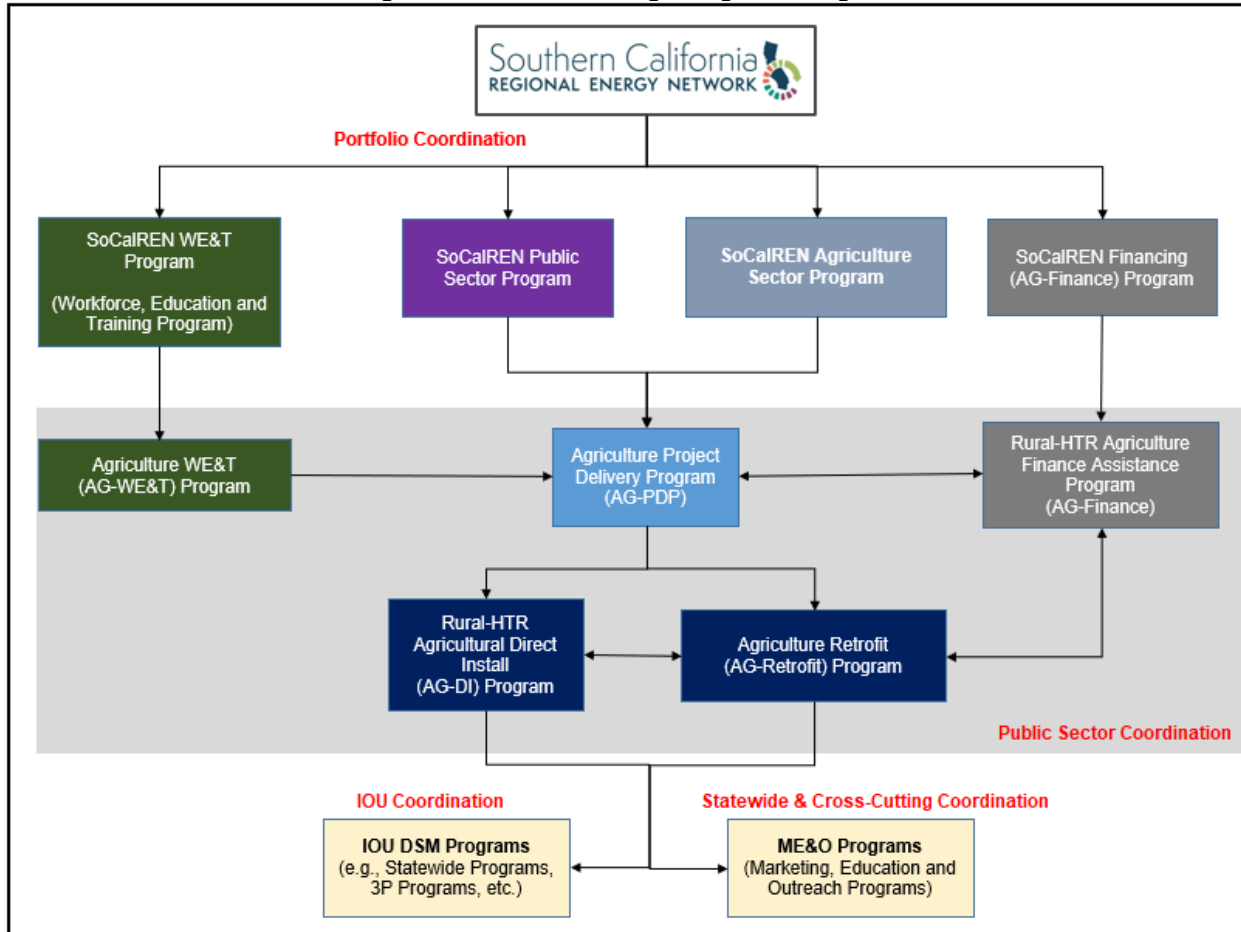
Rationale

SoCalREN believes that the small and medium Ag customers in rural, disadvantaged communities will not be the primary focus of SCE and SoCalGas' 3rd party programs due to TRC constraints of greater than 1.0 and cost to serve. Due to the reduced avoided costs in 2024, SCE's and SoCalGas' 3rd party program will have difficulty achieving their required TRC of 1.0 which will make it even harder for them to serve small and medium, rural, disadvantaged communities.

B.2. Program Delivery and Customer Services

The Ag-Retrofit Program delivers savings by offering Agriculture customers with comprehensive and customized project management and technical engineering services through a third-party implementer to implement cost-effective and streamlined energy efficiency projects. The Ag-Retrofit Program actively works to capture missed opportunities from other IOU offerings, such as the upstream, midstream, and feeds customers into the other Ag SoCalREN Programs (e.g., Ag-WE&T, Rural-HTR Ag-DI, Ag-PDP, and Rural-HTR Ag Finance Assistance). After enrollment into the Ag-PDP, each Ag customer is assigned a dedicated project delivery team comprised of project management staff and an assigned engineering firm. Throughout project identification and implementation, the project delivery team works with the customer to address project challenges and proactively identify solutions.

Figure 1: SoCalREN Ag Program Diagram



Enrollment and Project Identification (Ag-PDP): A customer is considered enrolled in the Ag-PDP once it signs a non-binding enrollment form that acknowledges Ag-PDP participation, responsibilities, and services. The enrollment process begins with an initial engagement presentation to introduce SoCalREN Ag Programs in coordination with SoCalREN’s Public Program and other applicable program partners. The enrollment form is presented to the customer during this meeting; program services are not offered until the form is signed and returned. Enrollment in the Ag-PDP also gives customers access to other available SoCalREN Programs. Once enrolled, an Ag-PDP project manager is assigned to the customer to begin the project development process.

Education (Ag-WE&T): Promotion of the benefits of EE upgrades beyond utility cost savings considering crop/product quality improvement and building long-term relationships with the Ag customer as part of the education process. This includes general Ag training for Ag customers, Pump contractor training, Ag energy management, Ag water management, GHG reduction strategies, Ag emerging technologies, etc.

This will be coordinated with the overall SoCalREN WE&T program which provides the following training:

<ul style="list-style-type: none"> • LA County SoCalREN Intro. • Climate Policy • Sustainable Green Buildings Technologies • How to Do Business with SoCalREN, SCE & SoCalGas • Title 24 Codes and Regulations • Estimating Energy Savings 	<ul style="list-style-type: none"> • Project Estimating & Incentives • Virtual Walk-Through • Bonding Insurance / Access to Capital • Estimating • Project Scheduling • Principles of Project Management
--	--

Benchmarking (Ag-PDP): After enrollment, a customer-wide benchmark/energy analysis is prepared for the customer. The benchmark/analysis provides a portfolio-wide snapshot of energy consumption and cost by sector and estimates the potential energy and financial impacts of potential retrofits. The analysis is used as a tool to help identify and develop energy efficiency project opportunities. When possible, the benchmarking phase is completed in coordination with applicable program partners, such as SoCalREN’s Public Sector Program and other SoCalREN Ag Programs (Rural-HTR Ag-DI and Ag-Retrofit). Coordination among partners ensures that a robust array of service offerings are provided to the customer, while also improving cost-effectiveness across programs and avoiding duplication of efforts. Other SoCalREN Ag Program offerings are also integrated during this phase if applicable.

Audit (Ag-PDP): Once a project is identified, the Ag customer is asked to sign a project commitment form that communicates program services and records the customer’s commitment to pursue a viable project prior to the investment of limited program resources. The Ag-PDP project manager will complete a detailed facility or site visit and identify a preliminary list of recommended energy efficiency measures to present to the customer. After the customer selects which energy efficiency measures to implement, the Ag-PDP Engineer prepares the audit calculations and a project proposal that recommends operational and maintenance improvements and/or upgrades to equipment and controls. The Project Feasibility Study (PFS) details the recommended measures and creates a business case for the implementation of recommended energy measures by providing estimated project costs, energy bill savings, available incentives, and financing solutions for the package of measures.

The Ag-PDP team will present the PFS to the customer for their approval. Upon approval the Ag-PDP team prepares the incentive application, the on-bill financing (OBF) application (if requested by the customer), and/or 3P financing options (see Rural-HTR Ag Finance Assistance Program) available to the customer (if applicable). Other financing options (e.g., grants, etc.) may also be applied for and pursued at this time.

Project Application Review (Ag-Retrofit and Rural-HTR Ag-DI): The Rural-HTR Ag-DI and Ag-Retrofit team review the PFS, associated audit calculations, and the OBF application. Upon their approval of the application package and the OBF application, the Rural-HTR AG-DI and Ag-Retrofit team reserves the incentives and the OBF loan, for that customer and the team inform the customer of their notice-to-proceed.

Design and Procurement (Ag-PDP): The assigned Ag-PDP engineer completes technical performance specifications for the selected measures. If the customer releases a bid for project

construction services, the Ag-PDP can provide procurement support in the form of supplementary bid package materials and sample language as required. If the customer is utilizing the Ag-PDP's simplified procurement method, a joint scope walk is scheduled at the site with the selected pre-qualified contractor, customer representative, and Ag-PDP project team. The contractor provides feedback on the draft technical specifications and, if necessary, revises and finalizes them before a cost proposal is presented to the customer.

Customer Approval (Ag-Retrofit): The Ag-PDP project manager prepares a detailed project proposal package to assist the customer's staff with obtaining the necessary approvals for the project, which may include a staff report and draft resolution, scope of work, cost proposal, and any identified utility incentives and/or financing documents. The customer's relevant approval authority approves the project, submits the necessary signed documentation, and issues a purchase order to the contractor for construction services.

Construction (Ag-PDP): During the construction phase, the customer is the "project owner of record" responsible for all construction contracts and costs, as well as designating a construction manager. The customer may choose to manage the construction on its own, or access simplified construction management services through the program partners. The Ag-PDP project management team provides construction management support throughout the process, including review of contractor submittals and verification that the work is performed in accordance with the design specifications to ensure the expected energy savings are achieved and incentives are captured.

Commissioning Plan (Ag-PDP): Documented project intent provides the guide for contractors of a design intent that will guide the design of proposed Energy Conservation Measures (ECM), as well as define the Commissioning Plan for the testing of the installed systems and how they integrate with and affect the operation of existing building equipment. The Commissioning Plan will define how the proposed ECM should operate, guide the design and installation review and resulting requirements, and identify how the installed equipment/systems will be functionally tested. Tests include measurement of ECM performance to document energy savings potential (supporting M&V of energy savings) and demonstrate its improvement in or discover operating deficiencies to be corrected in the ECM equipment with which it interfaces.

Commissioning (Ag-PDP): Post installation, Ag-PDP will ensure that the energy efficiency measure has been properly commissioned. Commissioning of new equipment can be defined as "the process of ensuring that the systems are designed, installed, functionally tested and capable of being operated and maintained to perform in conformity with the project intent. This will be conducted per the Commissioning Plan.

Completion (Ag-Retrofit): Once the project is installed and verified, the Ag-Retrofit team will work with the customer and contractor to collect the information required to submit the appropriate project close-out information to the applicable resource program so the customer can receive incentives and the savings can be accrued for the project. The contractor is responsible for the transfer of all appropriate documentation, knowledge, and training to the customer and the facility management personnel for new installed equipment and/or operational changes. After project completion, the customer receives a survey to provide feedback on the impact of program services utilized to complete the energy efficiency project and how the program can improve.

Project Installation Report Review (Ag-Retrofit and Rural-HTR Ag-DI)

For the Rural-HTR Ag-DI program, a sampling of the installations will be inspected in order to assure that the project was installed. For the Ag-Retrofit, there will also be a post installation inspection. The IR is then reviewed and approved by the Rural-HTR Ag-DI and Ag-Retrofit Program team allowing the Rural-HTR Ag-DI team to claim the savings, and the Ag-Retrofit pays out the incentive to the customer and claims its savings.

After project completion, the customer receives a survey to provide feedback on the impact of program services utilized to complete the energy efficiency project and how the program can improve.

Capacity Building (Ag-PDP): Outside of the project development services, enrolled customers are able to access expertise, resources, shared procurement strategies, best practices, and lessons learned in order to leverage the collective knowledge and expertise of the SoCalREN to better reduce costs and address common barriers. The Ag-PDP provides access to resources including project managers, technical advisors, engineering firms, contractors, financial advisory services, utilities, and other industry participants.

Regular peer-to-peer sharing is also offered through workshops, newsletters, and other outreach methods.

B.3. Program Design and Best Practices

Program Design

The Ag-Retrofit program engages both downstream and midstream market channels. The primary channel is the end-use (downstream) customer, but the local vendor community (midstream) will be leveraged as an outreach channel to connect with their existing customer base. Customers are provided technical expertise devoted to identifying efficiency solutions that maintain current production at a lower operating cost. Incentives and financing are then used to facilitate project implementation by reducing first-cost barriers. The agricultural sector is relationship-driven and requires the proven tactic of direct, one-on-one interactions. Agriculture programs often fail because they underestimate the level of support needed by customers and assume they operate like commercial or industrial programs. Agriculture customers approach efficiency very cautiously and are reluctant to adopt unfamiliar technologies. The Program's role is to work closely with the customer to overcome this reluctance. The level of support provided is the primary tactic used to drive higher levels of participation.

SCE and SoCalGas support services provided to the Program prior to launch to facilitate outreach and promotion include:

- List of all eligible agriculture customers with contact information (business name, contact name, phone, email if available), annual gas usage, and NAICS code/market segment
- Knowledge of past EE program participation and facility equipment for Ag customers
- Quarterly updates of customer target list to identify new accounts

Due to the relationship-driven nature of the Ag customer base, the Program will collaborate with SoCalREN's Public sector and the IOUs' Account Executives (AEs) to make customer introductions, identify known project plans, identify current projects that need follow-up to move forward, etc. In addition, Ag-Retrofit will collaborate with the SoCalREN's Public sector

to gain introductions to other Program stakeholders, such as vendors, trade allies, and manufacturers. SoCalREN will be provided marketing collateral, while the IOU AEs will provide contact information for SoCalREN's outreach staff.

After an initial Program overview meeting, a more focused meeting will be held with key account representatives of Ag customers to identify known projects, identify potential projects that need follow-up to move forward, etc.

Market Barriers

The fragmented way in which the energy industry currently delivers services and incentives makes it challenging to achieve deep energy retrofits. This results in multiple barriers to whole building retrofits and a "project delivery gap" for the customer. A key barrier for customers is understanding the benefits of implementing energy projects on a comprehensive scale. Further, agencies often lack sufficient in-house expertise and necessary financial resources. These are important challenges to solve because Ag customers are significant players in the energy field, both as consumers and as leaders of their communities. The SoCalREN Ag Program addresses these barriers by providing services to streamline energy efficiency project implementation with sustained technical assistance, and support in accessing project funding.

Best Practices

To help fill the "project delivery gap" and better enable customers to meet key challenges, the Ag-Retrofit has identified several best practices that are integrated into the project delivery process to ensure continued success. The Ag-Retrofit addresses the unique needs of the Ag customer and mitigates the need for customers to acquire their own in-house expertise and resources. Through a "one stop" approach, the SoCalREN Ag Program delivers comprehensive energy retrofit services, customizable to the customer's needs. Participating customers can take advantage of the full suite of offerings or select only the services that fit their needs.

The SoCalREN Ag Program aims for continuous improvement of implementation practices and systems to further improve and enhance the services received by Ag customers. Since the SoCalREN's Public PDP's inception, it has been modified and streamlined to incorporate lessons learned from on the ground experience to design more effective systems for project delivery and implement more efficient tools and techniques and those lessons learned are incorporated into this SoCalREN's Ag-Retrofit Program. In addition to continuous improvement, there has been significant efforts to improve upon cost-effectiveness. Program strategies are evaluated and developed to control costs and ensure that the most efficient methods are deployed for project implementation.

Examples of cost-effective program strategies include:

- A Project Budget Tool that ensures appropriate allocation of program resources based on project and customer characteristics
- Development of a streamlined retrofit pathway for engineers to enter project budgets for approval to ensure alignment on project scope and deliverables
- Project Commitment forms integrated into the program process to confirm customer's buy-in more frequently as a project progresses and to ensure that PDP resources are carefully managed and delivered

The Ag-Retrofit Program has incorporated the following best practices into the program design:

Regional Partner Agency Engagement: Through regional partners, agencies and their customers will be engaged by the Ag-PDP and the Ag-Retrofit Program across diverse climate

zones, population sizes, population densities, and other demographic characteristics are targeted for engagement in order to ensure comprehensive service to the Southern California region, including services to disadvantaged communities.

In 2019, SoCalREN partners began partnering with regional community based organizations and Council of Governments (COGs) to provide on-the-ground outreach and engagement to promote and enhance program services. Many of these organizations have established relationships with agencies working on energy efficiency efforts and have or continue to support agencies as were previous implementers of IOU Local Government Partnerships. The regional partner approach brings SoCalREN to increased enrollment opportunities, peer-to-peer sharing, and an increased number of energy projects, while customizing services to meet regional needs. Regional partners enhance SoCalREN's expertise and reach by leveraging their local knowledge, existing relationships with member agencies, and professional relationships that often extend beyond energy efficiency. This effort will continue through the SoCalREN Public sector and the Ag-PDP to drive customers to the Ag-Retrofit and other SoCalREN Ag Programs (e.g., Ag-WE&T, Rural-HTR Ag-DI, and Rural-HTR Ag Finance Assistance Programs).

Utility Coordination and Stakeholder Collaboration: The Ag-Retrofit promotes early and ongoing cooperation and collaboration with utility partners and stakeholders based on an agreed upon protocol. Coordination among partners ensures that a robust array of service offerings are provided to the customer, while also improving cost-effectiveness across programs and avoiding duplication of efforts. A collaborative approach also improves the customer's experience and helps avoid confusion between programs.

Financing Support: To overcome the significant hurdle of project funding, the project team helps identify and secure grant funding and project financing (see Rural-HTR Agriculture Finance Assistance Program). The PDP helps agencies access and apply for a variety of funding and financing sources that include, but are not limited to, Energy Lease Financing (ELF), IOU on-bill financing (OBF), OBF bridge funding, the California Energy Commission (CEC) low interest loan program, local self-funded financing opportunities, and the SoCalREN's Revolving Loan Fund (RLF) Please see the Rural-HTR Ag Finance Assistance Program for more information. Enrolled customers also have access to a financial advisor for additional expertise on an as needed basis.

Evaluation and Reporting: The Ag-Retrofit completes ongoing evaluation to ensure the goals and targets are met while keeping stakeholders fully informed of Ag-Retrofit operations and outcomes.

Peer-to-Peer Learning: The Ag-Retrofit Program seeks to build customer and contractor capacity and expertise in energy efficiency by providing customers and contractors with customized tools and resources that they would otherwise have to develop on their own, thereby saving time, money, and staff resources. The Ag-Retrofit Program also shares the strategies and best practices used by its customers to overcome common barriers with other enrolled customers by hosting webinars and presenting at conferences and workshops (see Ag-WE&T Program).

Collaboration with Trusted Industry Partners: Agricultural customers are known to approach energy efficiency improvement projects cautiously even when there is a compelling value proposition. To overcome this barrier, it is critical to work through trusted industry partners and communication channels. Ag-PDP leverages trade associations, agricultural cooperatives,

university extension offices, equipment vendors, manufacturers, and other relevant stakeholders to connect with customers on a more personal level.

For additional Best Practices, please see the Ag-PDP implementation plan.

B.4. Innovation

Table 10. Innovations

Program	Innovation: Strategy
<p>Ag-Retrofit Program</p>	<p>The Ag-Retrofit Program leverages several innovative program elements to achieve higher customer penetration rates and deliver a higher level of savings per customer. These innovative elements include:</p> <p>Segment-oriented solutions. The Program emphasizes market strategies that resonate with Ag customers such as a focus on measure benefits related to crop performance, yield, and water consumption reductions.</p> <p>Developing the adoption of new technologies in the market. Ag-Retrofit will drive customer awareness and adoption of innovative technologies advanced technologies that utilize infrared, microwave, ultraviolet, and radio wave frequencies to simultaneously achieve energy and water savings in food processing and sanitizing processes.</p> <p>Leveraging additional funding sources. The Ag-Retrofit Program plans to pursue external grant opportunities through USDA programs enabling the introduction of an additional, non-IOU funding source to Ag-Retrofit customers. This effort will include identifying, evaluating, and presenting funding opportunities to drive adoption of water saving technologies, including the development of full funding proposals to secure such funds.</p> <p>Connecting the Dots. The SoCalREN Ag Sector provides a turnkey solution through the various programs. The Ag programs are as follows:</p> <ul style="list-style-type: none"> • Ag-WE&T – Provides Workforce, Education and Training to Ag contractors and Ag customers • Ag-PDP – Provides ME&O for enrollment into the PDP program. PDP services include benchmarking, financing support, commissioning support, and project closeout. • Rural-HTR Ag-DI – Provides no-cost, low-cost installations of EE deemed measures • Ag-Retrofit – Provides EE custom measures support • Rural-HTR Ag Finance Assistance – Provides OBF support, OBF bridge funding, 3P funding, grants, etc.

B.5. Metrics

The Ag-Retrofit is proposing the following key performance metrics to be tracked and reported on periodically throughout the program cycle.

Table 11. Metrics

No.	Metric	Method	Frequency
1	1st Year Gross kWh Savings Claimed	Savings submitted to CPUC through funneled resource programs	Annually
2	1st Year Gross kW Savings Claimed	Savings submitted to CPUC through funneled resource programs	Annually
3	1st Year Gross Therm Savings Claimed	Savings submitted to CPUC through funneled resource programs	Annually
4	Customer Enrollment	Number of customers enrolled in SoCalREN Ag-Retrofit	Annually
5	Increased Pipeline	Energy savings identified through completed audits to be installed in future years	Annually
6	Program Savings Contribution to Market Share	Overall contributions of energy savings to IOU programs as measured by percentage of overall Public Sector savings	Annually
7	Job Creation	Number of new construction jobs as measured by construction costs	Annually
8	Capacity & Expertise	Number of informational outreach activities conducted by SoCalREN	Annually
9	Customized Services	Reporting of services leveraged as a percentage of completed projects	Annually
10	Educational Material	Number of fact sheets, newsletters, and case studies generated by the SoCalREN program	Annually
11	Customer Satisfaction	Enrolled customer and contractor satisfaction rating as reported in annual program survey	Annually
12	Completed Projects in Disadvantaged Communities	Percent of projects completed in disadvantaged communities	Annually
13	Regional Environmental Benefits	Metric tons of greenhouse gas (GHG) emissions reduced regionally as measured by lifetime gross energy savings of completed EE projects	Annually

The necessary project information will be gathered through a series of discussions and

verification checks with each customer. The Ag-Retrofit CRM database system will be used to track information about the customer, project, energy savings claimed and other details that will help show the impact of this program. This will be done on a quarterly basis and more frequently as needed. Once the information is gathered, it will be entered in the database and then used to generate reports.

B.6. To-Code Savings Claims

Compliance with Applicable Law

This program will comply with all applicable laws as well as CPUC guidance. CPUC Decision 17-11-006 requires that program execution lend insight into to-code savings potential. An online platform will track and report the specific to-code measures and savings implemented through the program by customer and building type, segment, and geography for reporting to SoCalREN. Implementer will collect and review Title 24 and other local code compliance documentation as a part of an individual project's eligibility review. The program also offers a normalized metered energy consumption (NMEC) methodology to capture full to-code savings for comprehensive measure packages. A custom-calculated approach for accelerated replacement (AR) and BRO measures may also capture to-code savings. To-code savings potential for specific equipment, building types and segments, and geography follows in the section below.

Customer Segments

To-code savings potential remains greatest in HTR/DAC communities, particularly those within climate zones 8, 10, 13, and 15. Older office, retail and grocery facilities in these climate zones represent a high opportunity for to-code savings.

B.7. Pilots

This section is not applicable.

B.8. Workforce Education and Training

Please see the Ag-WE&T Program for more details.

B.9. Workforce Standards

HVAC Measures

The standards pursuant to Decision 18-10-008³ are applicable. The program includes the installation, modification, and maintenance of incentivized HVAC measures (potentially greater than \$3,000) in commercial buildings by program, subcontractor, and Trade Pro staff, triggering the applicable workforce standards. When required, the program verifies that the installation team has completed and/or is enrolled in a federally accredited or California-accredited HVAC apprenticeship, completed at least five years of work at the journey level, passed an HVAC system installation competency test, received training specific to the equipment being installed, and obtained a C-20 HVAC contractor license from California's Licensing Board.

To enhance quality and deliver deep, durable energy savings, the program:

³ D.18-10-008, Attachment B, Section D, page B-9

- Establishes workforce standards with respect to apprenticeship, journey-level experience, and licensing
- Requires and provides training that improves overall quality of installers, including subcontractors and Trade Pros
- Requires and provides training targeted at specific measures
- Tracks technicians for measures installed and maps measures to applicable trainings, providing valuable WE&T metrics, and
- Performs comprehensive QA/QC, ties outcomes to specific technicians, and requires targeted remedial training based on those outcomes.

Compliance is demonstrated and enforced throughout the program lifecycle by:

- Establishing workforce standards requirements in customer applications and/or project agreements that are tied to incentive eligibility
- Collecting and verifying proper worker documentation (“qualified documents”), and
- Retaining “qualified documents” for reporting and periodic inspection by SoCalREN.

Advanced Lighting Control Measures

The program includes the installation, modification, and maintenance of incentivized lighting control measures (potentially greater than \$2,000) in commercial buildings by program staff, subcontractor staff, and Trade Pros, triggering the applicable workforce standards.

The program:

- Establishes workforce standards for lighting controls installations requiring California Advanced Lighting Controls Training Program certification, where applicable
- Requires and provides training that improves the overall quality of implementation workers across program staff, subcontractors, and Trade Pros
- Requires and provides training targeted at specific measures proposed and implemented
- Tracks installation technicians for measures installed and maps measures to applicable trainings,
- providing meaningful WE&T metrics, and
- Performs comprehensive QA/QC, ties outcomes to specific technicians, and requires targeted
- remedial training based on those outcomes.
- Compliance is demonstrated and enforced throughout the program lifecycle by:
- Establishing workforce standards requirements in customer applications and/or project agreements that are tied to incentive eligibility
- Collecting proper worker documentation (“qualified documents”); for lighting controls projects, installer certification is obtained directly from the California Advanced Lighting Controls Training Program, and
- Retaining qualified documents for reporting and periodic inspection by SoCalREN.

B.10. Disadvantaged Worker Plan

The Ag-Retrofit program will provide Disadvantaged Workers with improved access to career opportunities in the energy efficiency industry by supporting outreach initiatives (training, mentorship, and/or apprenticeships) in collaboration with a combination of our subcontractor partners. Using an optional survey, the Ag-Retrofit will track and report Disadvantaged Worker participation in outreach programs, as well as program hiring, including the following metrics:

Table 12. Disadvantaged Workers Metrics

Outreach	Hiring
<ul style="list-style-type: none"> • Number of training, mentorship, and/or apprenticeship opportunities offered • Number of participants • Number of staff and/or partner hours devoted to outreach initiatives 	<ul style="list-style-type: none"> • Number of recruiting channels promoting access to Disadvantaged Workers • Percentage of job opportunities made available to Disadvantaged Workers • Percentage of candidates screened • Percentage of candidates interviewed • Percentage of candidates offered a position • Percentage of candidates hired

Additionally, the turnover and attrition are tracked by designated classification of Disadvantaged Worker, subject to appropriate privacy considerations. For Subcontractor performance scorecards and KPIs are tracked on an individual firm basis, with Disadvantaged Worker participation as a key element.

B.11. Additional Information

This section is not applicable.

C. Supporting Documents

C.1. Program Manual and Program Rules

Not required at this time.

A short description of supporting materials is provided below. Greater detail will be provided in the program manual.

Table 13. Supportive Materials Index

#	Information Required	Short Description
1	Eligible Measures or measure eligibility	<i>A list of eligible measures, or measure eligibility requirements</i> Eligible measures pursued by Ag Customers through the program will adhere to the rules set forth by SoCalREN regarding measure eligibility. All savings will be transparent in supporting calculations as submitted to the SoCalREN Ag-Retrofit program.
2	Customer Eligibility	<i>Requirements for program participation (for example, annual energy use or peak kW demand)</i> The Ag-Retrofit will work with eligible customers in the Ag sector. This includes Field & Seed Crops, Fruit & Nut Crops, Vegetables & Melons,

	Requirements	Livestock & Poultry, Wineries, Floriculture and Dairies Customers served by SCE and/or SoCalGas that pay PPP charges.
3	Contractor Eligibility Requirements	<p><i>List of any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements. (For example: specific IOU-required trainings, specific contractor accreditations, and/or specific technician certifications.)</i></p> <p>The Ag-Retrofit will work with the selected contractor to ensure all incentive eligibility requirements are addressed and met.</p>
4	Participating Contractors, Manufacturers, Retailers, Distributors	<p><i>Information as to whether:</i></p> <ul style="list-style-type: none"> ● <i>Program or sub-program delivery channel is downstream, midstream, or upstream, and</i> ● <i>Program is an incentive and/or buy-down type program.</i> <p>This is a downstream program offering project development and project implementation services as well as post-installation incentives.</p>
5	Additional Services	<p><i>Descriptions of any additional sub-program delivery, measure installation, marketing & outreach, training, and/or other services provided, if not yet described above.</i></p> <p>The Ag-Retrofit will offer education outreach to Ag customers in SCE and SoCalGas territories. This educational outreach will include information on the benefits associated with utility-based energy saving measures.</p>
6	Audits	<p><i>Information as to whether:</i></p> <ul style="list-style-type: none"> ● <i>Pre- and post-audits are required</i> ● <i>Funding or incentive levels have been set for audits, and</i> ● <i>The eligibility requirements for audit incentives.</i> <p>Pre and post installation audits will be conducted in a manner that aligns with SoCalREN's incentive eligibility requirements by the Ag-Retrofit Program.</p>
7	Sub-Program Quality Assurance Provisions	<p><i>List of quality assurance and quality control requirements, including accreditations and/or certifications or other credentials of individuals or organizations performing this work.</i></p> <p>Quality assurance checks will be implemented throughout the process at various milestones to maintain data accuracy and customer satisfaction.</p>

All EE measures will funnel through existing EE resource programs. The below table describes other tools leveraged to support turnkey project delivery services.

Table 14. Other Tools

#	Tools	Short Description
1	PipeDrive	Customer Relationship Management (CRM), used to track projects and generate customer reports.
2	Compass	Platform used to collect and synthesize energy consumption data and deliver customer energy use analyses

3	Energy Star Portfolio Manager	Online tool used to track energy consumption and greenhouse gas emissions. Allows user to benchmark the performance of one building or a whole portfolio of buildings.
4	GIS	Geographic Information System (GIS) tool allows users to pinpoint exact locations of facilities and tie usage characteristics to those facilities.
5	eziQC	Provides access to competitively awarded contractors through cooperative purchasing networks, expediting project delivery through a simplified procurement process.

C.2. Program Theory and Program Logic Model

Please see Attachment #1.

C.3. Process Flow Chart

Please see Attachment #2.

C.4. Incentive Tables, Workpapers, and Software Tools

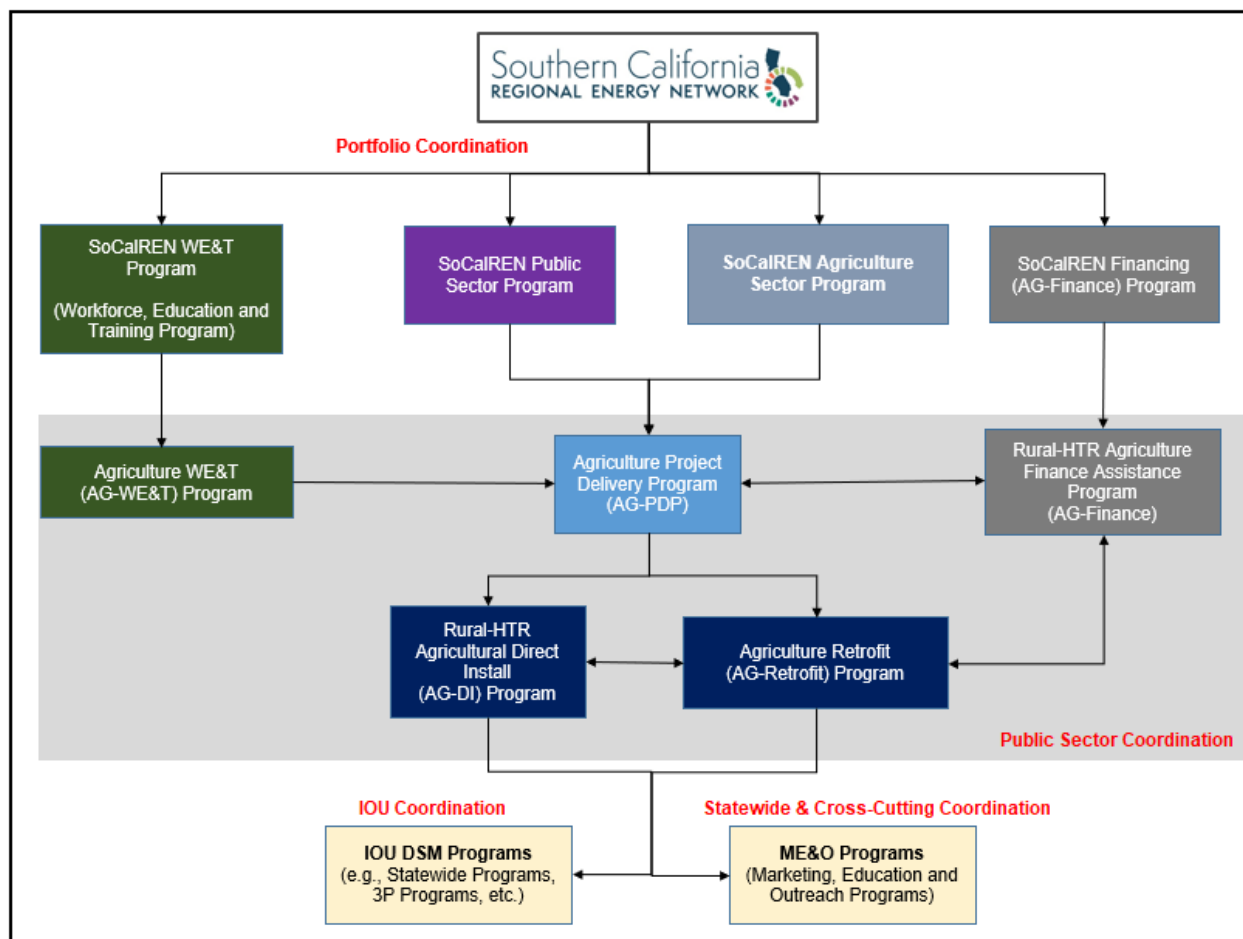
Please see Ag Retrofit program section of the Business Plan

C.5. Quantitative Program Targets

N/A at this time

C.6. Diagram of Program

Figure 2: SoCalREN Ag Program Diagram



C.7. Evaluation, Measurement, and Verification (EM&V)

1. Overview

The Ag-Retrofit program is a resource program. As such, EM&V for the program focuses on both customer energy savings claimed as well as program performance metrics for services offered in alignment with the CPUC's California Long Term Energy Efficiency Strategic Plan⁴.

Energy savings are determined by calculating the energy consumption of the system or facility before (referred to as the "baseline" period) and forecasting savings after the

⁴ California Energy Efficiency Strategic Plan, <http://www.cpuc.ca.gov/general.aspx?id=4125>

measures are implemented, adjusted for any differences, such as operating and weather conditions. Additionally, behavioral, retro-commissioning, and operational (BRO) strategies may utilize measured existing conditions baseline and may require additional energy model or simulation data.

Depending on the measure type, some calculations must use the most recent California Code of Regulations Title 24 (T24) Energy Efficiency Building Standards or Standard Practice for baseline operating conditions.

The Measurement and Verification (M&V) process built into Ag-Retrofit procedures is in accordance with IOU downstream intervention program requirements. For example, per the statewide Customized Calculation Savings Guidelines v. 22.0⁵, a full M&V plan is required for most custom projects with more than 250,000 kWh in savings, though custom projects with less than 250,000 kWh in savings may also require an M&V plan. If a full M&V plan is required for a project, it will be provided by the assigned engineer during development of the Project Feasibility Study. The full M&V plan is approved by SoCalREN, or a third-party technical reviewer representing SoCalREN, and includes the minimum required M&V data for the baseline and/or measure equipment and system performance.

The M&V plan methodology is based on the principles, procedures, and guidelines set forth in the International Performance Measurement and Verification Protocol (IPMVP) Options A-D6, and the Federal Energy Management Program (FEMP) M&V Guidelines⁷. The full M&V plan can be used as the basis for project verification. The project M&V plan is submitted as an attachment to the Project Feasibility Study at the time of application submission and attached to the Installation Report after project implementation. The Ag-Retrofit also delivers non-resource benefits to the Agriculture sector. The following describes the approaches and data that is collected in support of continuous improvement and ongoing program evaluation.

The SoCalREN customer relationship database (CRM) is used to record most program and project related information and to generate reports that indicate progress toward program goals. In addition, the Ag-Retrofit seeks feedback from its customers with a project specific survey after each project closeout, via focus groups and through an annual customer survey. Focus group feedback and survey results are analyzed to understand the impact program services have on energy efficiency projects and how the program can improve. Through data collected in the CRM and analysis of survey feedback, as complements to the ongoing customer service by the Ag-Retrofit's dedicated project manager, the Ag-Retrofit has the capacity to evaluate its effectiveness and ability to deliver energy savings, build customer and contractor knowledge and capacity, conduct outreach activities, meet greenhouse gas (GHG) reduction targets, create jobs, and streamline processes and procedures. The Ag-Retrofit ensures customer satisfaction and effectiveness in the delivery of its services by taking a nimble and highly adaptive approach to program implementation.

⁵ Statewide Customized Calculation Savings Guidelines for Non Residential Programs v. 22.0, <https://sceonlineapp.com/DocCounter.aspx?did=670>

⁶ International Performance Measurement and Verification Protocol, http://www.eepformance.org/uploads/8/6/5/0/8650231/ipmvp_volume_i_2012.pdf

⁷ Federal Energy Management Program (FEMP) M&V Guidelines, <https://www.energy.gov/eere/femp/downloads/mv-guidelines-measurement-and-verification-performance-based-contracts-version>

2. Project Process

This section serves to provide a high-level description of the Deemed and Custom M&V approach to be taken for the program; in practice custom projects will receive a site-specific M&V plan, tailored to the specifics of the unique project while also adhering to the guidelines laid out in this document. Custom projects will follow all statewide Customized Energy Efficiency Policy and Program Rulebook⁸ which was developed by Pacific Gas and Electric (PG&E).

Custom Projects

There are four overarching phases to a custom project:

1. **Pre-screening phase (Baseline Period):** Each site will be pre-screened with a site-visit to assess potential for energy savings. Data on equipment, energy use and weather for one year will be gathered to execute a high-level analysis to estimate the savings potential and confirm that they are cost effective. Implementer will notify Ag-PDP of the potential project so that pre-screening activities and site visits can be conducted in collaborative manner. Ag-PDP will ensure that feasibility customer account and feasibility studies adhere to current CPUC policies.
2. **Project Feasibility Study (PFS) (Baseline Period):** If a site passes the pre-screening phase it will receive a more detailed assessment in the pre-feasibility phase. This phase involves completion of a Project.

The Statewide Project Feasibility Study Template from the CPUC website will be filled out for each potential Custom project.⁹ At a high-level, the PFS consists of the following elements:

- Baseline information (equipment age and specs, operations, upgrades, underperforming systems, any failing systems, and all static factors)
- Individual Energy Conservation Measures (ECM) savings, expected useful life (EUL), and costs.
- Risk potential and a plan to mitigate risk
- Site-specific M&V plan will be drafted for each project.

Pre-feasibility savings estimations will be based on engineering calculations and judgment and any data that is available at the time, rather than logged data. These estimations will inform forecasting of facility energy use for the baseline and post-installation period.

3. **SoCalREN's Technical Pre-Agreement Review:** Implementer will submit the PFS to Ag-PDP for a thorough technical review. Pre-Agreement Review (PA Review) is a formal review of ECMs before the installation of any ECMs where the PFS acts as the submission package. The PA Review verifies each ECM to comply with

⁸ [PG&E Customized Energy Efficiency Policy & Programs Rulebook \(filesusr.com\)](https://filesusr.com)

⁹ The CPUC Statewide Project Feasibility Study and Post Installation Report Templates: <https://www.cpuc.ca.gov/General.aspx?id=4133>

SoCalREN's Program rules, Standard Practices (SPs), CPUC guidelines, and CPUC dispositions and documents the review results. The PA Review locks-in the baseline, calculation methodology, and lists prerequisite data for projects requiring an Installation Review (IR).

4. **CMPA Review:** If project's technical PA Review is approved to proceed, the project will be uploaded to the CMPA list. The project could be selected for CPUC review within 10 business days of being uploaded. If the project is not selected for review within 10 business days, the project is allowed to move forward. If the project is selected, the CPUC will then have 30 business days to review aside from supplemental data requests (SDRs). Implementer, program advisor, and Ag-PDP will respond to these SDRs. The CPUC will provide a disposition at the end of the review. CPUC review timeline is pursuant to Senate Bill 1131 and details are provided in the CPUC's Timing Protocol document.¹⁰
5. **Installation Verification:** Installation of ECMs will be verified through site inspections or pictures provided by the customer for all custom projects. Invoices for the installation will also be collected. For very low and low rigor projects, photos and remote data gathering will be sufficient in lieu of an on-site inspection. For medium to high rigor projects (i.e., when incentive is \$25,000 or higher), on-site verification will be done in accordance with the installation review parameters listed in the Pre-Agreement Review.
6. **Measure Verification & Reporting:** After sufficient data is collected, and the M&V activities and analysis is complete, a Post-Installation Report (PIR) will be completed in accordance with the Statewide Post Installation Report Template on the CPUC website. The report will present and compare the post-installation savings and savings analysis to the pre-installation savings and savings analysis. Changes to the baseline, modeling methodology employed, and the measurement period will be noted, if applicable. If deviations from the original proposed M&V plan occurred, this will be documented and substantiated. For behavioral, retro-commissioning, and operational measures, a repair and maintenance plan that adheres to CPUC rules will be formulated. The participant must agree to carry out the plan for a minimum of three years via a signed customer agreement.¹¹
7. **SoCalREN's Post-Technical Installation Review:** Implementer will submit the PIR to SoCalREN for a technical post-installation review. Ag-PDP will conduct a site visit unless it waives it due to sufficient project data and supporting documentation. Ag-PDP will verify and approve the final project energy savings.
8. **Post-Measurement CMPA Review:** If required by the CPUC, the project will be uploaded to the CMPA list for a post-M&V review. The CPUC post-M&V review timeline is pursuant to Senate Bill 1131 and will still follow the details in the

¹⁰ CPUC Staff Selection and Response Timing Protocol for Energy Efficiency Custom Projects Review Document: <https://www.cpuc.ca.gov/General.aspx?id=4133>

¹¹ California Public Utilities Commission, 'Rulebook for Programs and Projects Based on Normalized Metered Energy Consumption', Version 2.0 2020, see Section II.1.B. & Section II.1.C, pg. 10

Tracking/recording

Data gathered through site inspections and M&V activities will be documented for future use by Program Administrators and evaluation teams. This data will also prove useful in helping inform future program design to improve overall cost-effectiveness.

Custom Project M&V Guidelines

Custom measures will follow the IPMVP. At a high-level, M&V can be executed in through the following options¹³:

- Engineering Calculations (IPMVP Option A): Inputs are sourced from known specs and/or measurements. This method is ideal for straightforward ECMs that have a high level of certainty around the load profile and equipment specifications.
- Metering and Monitoring (IPMVP Option B): Measurements are used to fill in knowledge gaps around the ECM. Spot measurements are sufficient for constant load profiles and continuous measurements can be taken when the load is quite variable. Most ECM savings can be determined with Option B but the difficulty and costs can be great if metering requirements are complex and are not already in place for other purposes. In general, it is harder and more costly than Option A but more certain.
- Utility Bill Analysis (IPMVP Option C): This method is exclusive to the facility level which poses challenges regarding understanding how a specific ECM is contributing to differences in utility data before and after the project. There are risks that factors unrelated to the ECM (i.e., weather, occupancy, system failures, etc.) that can cause changes to the utility data post-project. These changes from unrelated factors could be significant and eliminate the ability to see the effects of the ECM. Ideally, this option will only be employed for NMEC projects with advanced metering infrastructure.
- Calibrated Computer Simulation (IPMVP Option D): In this approach, a simulation is built and calibrated to metered data. The calibrated model provides the baseline and then it is used to model the facility with the ECMs. This method provides the ability to look at the impact of all ECMs together (which is great for capturing interactive effects) or at individual ECMs in isolation. A unique challenge of this option is that the system's energy use needs to be isolated from the rest of the facility by appropriate meter. This option is a good choice if the savings associated with individual ECMs is desired, but the requirements of Options A and B are too difficult or costly.

Project specifics will dictate which IPMVP is chosen for each custom project. For projects scopes where the measurement or calculation boundary would encompass all or almost all the facility, Option D would be preferred. Option C would be applicable for these types of

¹² The CPUC Staff Selection and Response Timing Protocol for Energy Efficiency Custom Projects Review Document: <https://www.cpuc.ca.gov/General.aspx?id=4133>

¹³ The various IPMVP options are discussed thoroughly throughout this document: International Performance Measurement and Verification Protocol, Efficiency Valuation Organization, 'Concepts and Options for Determining Energy and Water Savings, Vol 1, 2012

projects but is not preferred for the reasons described above; it will be reserved for NMEC projects. For standalone equipment upgrades or replacements, Option A or B will be used. Existing metering equipment will be leveraged where possible. If spec sheets and information provided from the customer can sufficiently answer all questions that the engineering team needs to calculate the estimated savings from the project, Option A will be used. If more information is needed and the savings are significant enough, metering will be done under Option B.

Data Collection Plan

The following data will be collected:

- **Baseline:** Baseline conditions will be fully documented in the M&V plan for the specific project. All static factors relevant to the ECMs will be recorded (e.g., equipment types, production data, daily, operational hours by day, week, and season.). Specification sheets and information from the customer (i.e., production details, operational schedules). This data will serve to create a reasonable baseline model to which savings can be reliably derived from.
- **Metered Energy Use Data:** Metered data, if it is needed, will be obtained through customer-owned logging equipment where possible. If measurements are needed and it is financially feasible to do so, temporary metering equipment will be installed. The program implementors will verify that they have been recently calibrated and that the specifications meet the CPUC requirements (minimum accuracy of +/- 2%, and positive displacement meter type). Ideally, the time interval will be at least as granular as hourly, but more likely will be 15 minutes or less. A year's worth of utility data will be collected; 12 months of data from submeters on site will be collected if utility data is unavailable if it is available and helpful to the saving analysis. If there are gaps in the data, the technical reviewers will interpolate.
- **Weather Data:** The latest long-term average weather data will be used. This data will be sourced from CA Climate Zone 2022 weather files.
- **Production Data:** Production data (volume, type, seasonality differences) will be collected from the customer as needed.

Savings Calculation

The gross savings will be calculated after the measurement period is over and the site-level M&V requirements are satisfied. The gross savings calculation is as follows:

$$\text{Energy Savings} = \text{Baseline Model Predicted Energy Use} - \text{Actual Metered Use} \pm \text{NRE Adjustments}$$

The savings will be documented in the final report along with EUL and ECM costs. If deviations from the original proposed M&V plan occurred, this will be documented and substantiated. If the customer is participating in other energy efficiency programs, the gross energy savings will be adjusted to ensure that incentivized measures from other offerings are not included in the scope of the custom savings analysis.

Expected Useful Life

The project lifecycle savings will be based on a weighted average EUL method. The weighted EUL for the recommended ECMs will be determined in the feasibility study and will be updated as needed for the final report, after installation. EULs for the ECMs will be

sourced from the Database for Energy Efficient Resources (DEER).

Key Sources

As discussed in the M&V plan, M&V for Deemed measures will be guided by workpapers and Custom measures will be guided by the IPMVP. The following sources will be key for the Custom M&V approach:

- International Performance Measurement and Verification Protocol, Efficiency Valuation Organization, 'Concepts and Options for Determining Energy and Water Savings, Vol 1, 2012
- U.S. Department of Energy, 'M&V Guidelines: Measurement and Verification for Performance-Based Contracts', version 4.0, 2015

C.8. Normalized Metered Energy Consumption (NMEC)

1. Program Measurement & Verification Overview

Measurement & Verification (M&V) is the process of using measurements to reliably quantify savings from a resource savings project within a facility, a process, a building, or a building subsystem. In investor-owned utility (IOU) energy efficiency programs, the resource saved is typically energy (electric kWh or natural gas therms), demand (electric kW), or water (gallons). For simplicity, this plan focuses on energy savings, but the approach can be applied to any resource.

M&V is used to verify that an energy efficiency project is achieving its intended savings. Energy savings represents the absence of energy use and cannot be directly measured. Therefore, the M&V approach describes how savings are determined from measurements of energy use before and after implementation of a project, with appropriate adjustments made for changes in conditions. Such adjustments may be routine and expected, while others are nonroutine and unexpected, due to factors unrelated to the project.

The Ag-Retrofit M&V Plan conforms to CPUC guidance as codified in its Rulebook for Programs and Projects Based on Normalized Metered Energy Consumption (NMEC Rulebook 2.0), issued on January 7, 2020. To meet CPUC guidance, the Ag-Retrofit is a "Site-level NMEC Program."

Projects will be sorted for NMEC platforms based on the following criteria:

- Project site (or qualifying submeter) energy use models that meet goodness-of-fit criteria will be treated as NMEC.
- When NMEC is not applicable, the measure will be treated as Deemed or Custom.

2. Site-level NMEC Overview

The NMEC Rulebook 2.0 provides the following definition for site-level NMEC approaches:

- Savings are determined on a site-by-site basis and claimed at the level of the individual site or project.
- The method used to estimate savings is developed based on building and/or site-specific characteristics and reflect the unique drivers of savings at the site or project.
- The method may include adjustments for site-specific non-routine events (NREs) that occurred at the site during the baseline, reporting, or installation period.

The Ag-Retrofit will conduct site-level NMEC M&V following the framework in the International Performance Measurement and Verification Protocol (IPMVP), using the Option C-Whole Facility method. However, CPUC direction would take precedence over any variance to IPMVP methodology. All projects will be subject to CPUC review and dispositions.

This document covers the Program-level M&V. For each site-level NMEC project, a supplemental site-level M&V plan will be provided. These site-level M&V plans will include the site-specific details indicated above.

3. Methodology, Analytical Methods, and Software

The initial step in the NMEC approach is to create a mathematical model of the energy consumption at the project site (or submeter). This is a regression model, that relates energy consumption (the dependent variable), to one or more independent variables. The specifics of the regression model are determined by observing actual data. In the case of the baseline model, this data comes from the historical performance of the site.

In most cases, weather (outdoor dry-bulb temperature) is the primary independent variable for site-level NMEC models. Secondary variables (such as day-of-week, occupancy rate, or other variables describing operational variation) are added if they demonstrate significant explanatory power on energy use. After collecting 12-months of baseline data, one of three regression models is selected, based on data availability.

- **Model #1:** Daily Energy and Daily Weather Data (with Optional Daily Secondary Variable): Single variable (or optional two variable) least squares linear regression will be performed using 365 data points.
- **Model #2:** Hourly Energy and Hourly Weather Data: Time of Week and Temperature (TOWT): Temperature regression with time-of-week as a proxy for occupancy. Separate models fit within temperature buckets in each month. This allows analysis of sites with custom operation schedules.
- **Model #3:** Monthly Energy, Weather, and Secondary Variable Data: For sites that demonstrate strong correlations with a secondary variable, but have only monthly secondary data available, daily usage and weather data are totaled into monthly data. Two-variable least-squares linear regressions are performed using monthly data (minimum 12 data points).

NMEC modelling calculations will follow recognized CalTRACK 2.0 and LBNL NMEC procedures. These modelling calculations will have the following characteristics:

- Automated collection of utility AMI (or sub-meter) data, weather data import, and NMEC calculations compliant with NMEC guidance. Automation saves engineering effort.
- Scalable and not cost prohibitive for most customers and projects.
- Provision of monitoring capability (necessary for NMEC) and trigger notifications of potential sub-performance or NREs (persistence of savings).
- Calculation of statistical fitness metrics to validate appropriateness of a meter-based approach.

4. IPMVP Option and Measurement Boundary

IPMVP Option C, Whole Facility will be used for savings determination. Option C was selected because Ag-Retrofit promotes upgrade projects that encompass multiple energy efficiency measures (EEMs) and may have interactive effects.

SCE's revenue meters will be used to provide reference consumption data for electricity savings calculations. These meters account for all energy use of the facilities. If a facility is served by more than one meter, then all EEMs must be properly attributed to the meter that tracks the associated load. Alternatively, meter-level consumption can be summed to the whole-building or site level so long as all meters are included that serve loads affected by the adopted EEMs. In rare cases, if a system submeter of appropriate accuracy is present, the submeter may be used for analysis.

5. Example: NMEC Regression and Normalization

Electricity is correlated with weather (and secondary variable if it demonstrates influence), using a least-squares linear regression model. Weather data takes the form of Heating Degree Days (HDD), and Cooling Degree Days (CDD). OpenEEMeter tools automatically defines HDD and CDD balance point temperatures that will provide the best correlation to the energy profile.

The typical mathematical form of the regression for Model #1 (defined above) follows:

- $kWh(daily) = A_e \times CDD(daily) + B_e \times Secondary\ Variable(daily) + C_e$
- $Therms(daily) = A_g \times HDD(daily) + B_g \times Secondary\ Variable(daily) + C_g$

Where A_e , B_e and C_e and A_g , B_g and C_g are the constants resulting from the electric and natural gas regressions, respectively. If there is no secondary variable, constants B_e and B_g are zero. If there is electric heat (e.g., heat pumps), an HDD term is automatically added to the electric regression formula. Constants C_e and C_g are the base (non-temperature dependent) portion of consumption. The mathematical form for Model #3 is the same as that for #1 but uses monthly data. Model #2 (TOWT) uses hourly data.

Under this site-based NMEC approach, new regression models will be created for each project, using metered data from that particular site. Models will not be carried over from site to site, avoiding the concern of varying projects with complex sizes.

The resulting regression formula is then applied to the most recent typical year weather data for the appropriate climate zone to calculate baseline energy use over a normal weather year. This is the normalized baseline.

6. Adjustments for COVID-19

To account for the impacts of COVID-19 on energy consumption, a routine adjustment to gross savings will be used to ensure savings claims are not over or underestimated. Methods to perform this adjustment will be submitted to SoCalREN before implementation. Any adjustment to project on account of COVID-19 shall be subject to and in compliance with CPUC approval.

The most straightforward method of adjustment for site-level NMEC will be to adjust the COVID-19 impacted baseline period data associated with a project to reflect expected future site behavior more accurately. This adjustment could take the form of moving the baseline data collection window to look at a period unaffected by COVID-19 (e.g., 12 months prior to February 2020). More elaborate adjustments to the baseline models could also be made based on the site behavior as observed during the implementation period or reporting period.

The CalTRACK 2.0 methodology will be applied in an identical fashion to both the treatment and the comparison group. The 12-month baseline period and 12-month performance period will be set to occur over the same time period for both participants (treatment group customers) and

the comparison group customers. Then, the change in energy consumption for each comparison group customer will be calculated as avoided energy use in accordance with the information in this document and external CalTRACK 2.0 documentation. Performance payments will be calculated as the difference-in-differences between the treatment group customers' avoided energy use and the comparison group customers' avoided energy use.

The process used to select comparison groups is informed by the Department of Energy-funded Comparison Groups Working Group led by Recurve Analytics, Inc. The working group facilitated open discussion via bi-weekly meetings and a public github forum. The findings of this effort can be found in the final report, Comparison Groups for the COVID Era and Beyond. The Ag-Retrofit will follow the recommended methods included in that final report.

7. Data Collection Plan

The site-level NMEC *approach* allows for customization of M&V approaches based on site-specific characteristics and unique drivers of savings. The Ag-Retrofit will create project-level M&V plans that describe project-specific data collection for each site-level NMEC project. What follows is a discussion of general program level guidance for site-level NMEC data collection.

For the purposes of NMEC savings evaluation, models of energy use at site level meters will be created for the baseline period (pre-implementation) and reporting period (post implementation) using 12 months of input data as required by NMEC guidelines. Data requirements and sources for creation of site-level NMEC energy use models are listed in **Table 15** following.

Table 15. Site-level NMEC Data Sources

Description of Data	Data Sources
SCE Utility Data: Electricity (15-minute or hourly); Natural Gas (daily)	<ul style="list-style-type: none"> • SCE: automated Green Button “Share My Data” and Building Benchmarking Portal • External: utility application programming interface (API) import (i.e., UtilityAPI) • Contingency: SoCalREN’s Business Customer Account Representative assists with obtaining customer data; customer completes Customer Information Standardized Request (CISR) form
Other Independent Variable (e.g., occupancy rates)	<ul style="list-style-type: none"> • Data supplied by customer
Building Occupancy Schedule; Equipment Specifications, Schedules, and Sequences	<ul style="list-style-type: none"> • Observations from energy consultation • Building management system inspections • Building drawings, specifications, and staff interviews
Equipment Operating Parameters (e.g., chilled water and supply-air temperatures)	<ul style="list-style-type: none"> • Observations from energy consultation • Building management system inspections and trending • Data collection in keeping with the NMEC rulebook
Weather Data (hourly or daily dry-bulb ambient temperatures)	<ul style="list-style-type: none"> • Automatic download from National Oceanic and Atmospheric Administration (NOAA) or Dark Sky websites into NMEC tools

Ex-ante savings estimates will be generated during the initial project investigation. Shorter term data will be gathered for these ex-ante savings estimates. These calculations will use industry standard tools (e.g., spreadsheet calculations, eQUEST models) and methods that are compatible with CPUC energy efficiency policy. **Table 16** following, shows examples of data collection that will be required for typical ex-ante savings estimates. This example data would be needed in addition to what is shown for the NMEC models in **Table 15** above.

Table 16. Example Data Requirements for Ex-Ante Savings Estimates

Data Point and Units	Typical Measure Relevancy	Data Source-Measurement Device	Data Duration/ Interval
CHW Pump #1 & #2 Operating Speed (Hz)	HVAC	Building Management System (BMS) Trending	May 1 to Jun 15 / 15 minutes
Secondary CHW Loop Cooling Load (tons)	HVAC	BMS Trending	May 1 to Jun 15 / 15 minutes
AHU-1 Supply Fan Operating Speed (Hz)	HVAC	BMS Trending	May 1 to Jun 15 / 15 minutes
AHU-1 Supply, Return Mixed Air Temperatures (deg. F)	HVAC	BMS Trending	May 1 to Jun 15 / 15 minutes

8. Monitoring and Documentation During the Reporting Period

Implementation team engineers (or contractors) will remotely observe energy consumption data for each site-level NMEC project on a routine schedule over the reporting period. The reporting period observation frequency will be set for each project based on size and risk when completing the Pre-Implementation project-level M&V Plan. Observations will be frequent at first (typically monthly), but intervals will increase over time if performance is found to be stable. The purpose of these observations is to identify out-of-range performance or potential non-routine events (NREs) triggering investigation and corrective action. Performance indicating 10% or more savings variance will be considered a justifiable significant NRE triggering further evaluation (ASHRAE 14 Guideline).

Projects incorporating Energy Management Technologies (EMTs) will incorporate continuous monitoring and automated flagging of out-of-range performance and potential NREs for further investigation.

Project-level M&V reports will be submitted to SoCalREN as required during the standard NMEC-Custom project workflow. SoCalREN reviewers will also be allowed remote access to all NMEC program participant EMT portals, to verify performance and accuracy of M&V reports. Supporting data will be available to SoCalREN’s reviewers through the program’s online platform or can be sent directly by request. The M&V reports, with the data, will provide sufficient detail for SoCalREN’s reviewers to replicate the NMEC results.

9. Identifying and Adjusting for Non-Routine Events

NREs are unexpected changes in building operation that significantly impact energy use, skewing meter- based results. NREs may occur during baseline, implementation or post M&V periods, and may be one- time occurrences which must be isolated from the regression model, or recurring events requiring adjustments incorporated into the model.

Site-level NREs will be identified by observing baseline and reporting period energy use and identifying where savings deviate from ex-ante estimates by greater than 10% (ASHRAE 14 Guideline). These deviations will be further evaluated, and corrective action will be taken in the form of adjustments to the savings models and/or modifications to the installed measures.

Significant NREs will be quantified regardless of whether they have a positive or negative impact on savings. Typical potential NREs for Ag-Retrofit customers are:

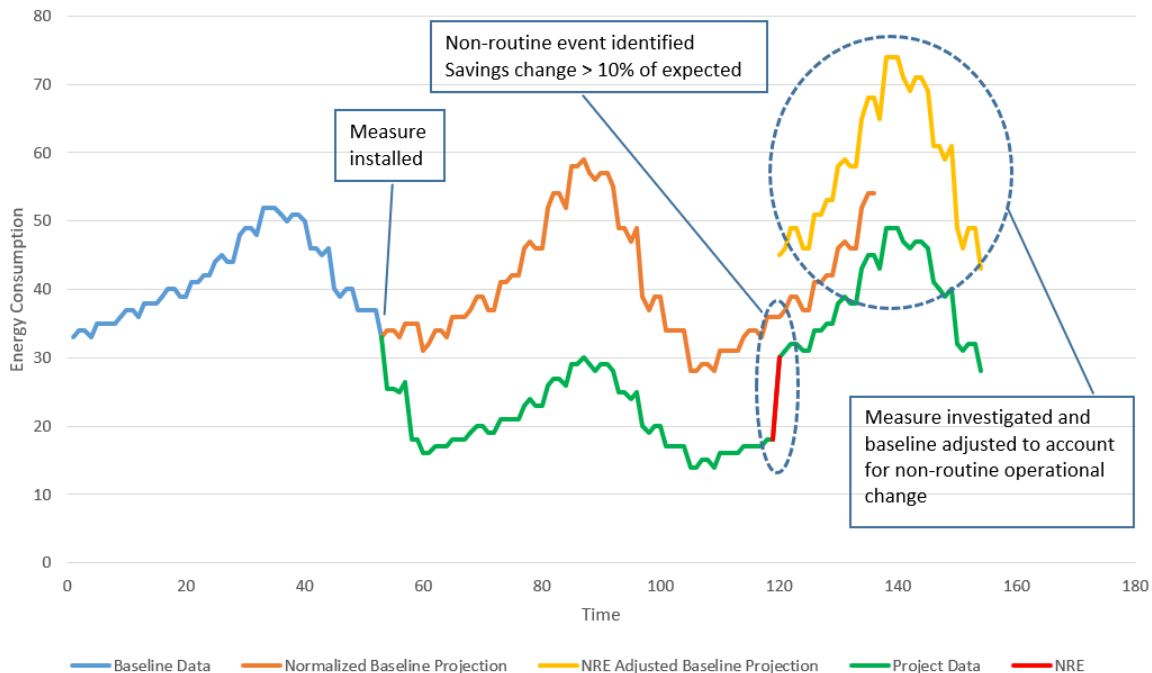
- Equipment outages or maintenance shutdowns
- Equipment replacements, additions, or removals unrelated to program measures
- Building use or tenancy changes, and
- Construction or facility closures.

Typical methods employed to prevent NREs from skewing NMEC results are:

- a) Remove the data points from the regression data set during the NRE:
 - Data points associated with NREs during the baseline period will be removed if they constitute a small portion of the overall data, and remaining data points contribute to models exhibiting acceptable goodness of fit. Where this is not the case, the associated projects will be moved to custom or deemed savings platforms or rejected from the program as appropriate.
 - Data points associated with NREs during the performance period will only be investigated if they cause project savings to move above or below a preset threshold. Before data-point removal, these projects will undergo manual review and investigation by program engineering staff to determine the true nature of the NRE and will be submitted to SoCalREN's for approval.
- b) Quantify the impact of the NRE by performing measurements and calculations in compliance with custom calculation guidelines for each NRE. Calculated NRE adjustments will be normalized.
- c) For deviation caused by project related systems, reconfigure to operate as intended.

Figure 4, following, depicts how an NRE is identified and adjusted for. In this example, the customer site implemented increased operating hours during the reporting period.

Figure 3: Identifying and adjusting for a typical NRE



10. Determining Program Influence

Influence for NMEC projects will follow the same procedures as for custom projects, following SoCalREN's free-ridership screening processes. The program's Early Screening QA/QC procedure step requires determination and documentation of program influence. This screening identifies customers' plans for upgrades and/or replacements, barriers to implementing higher efficiency options, and the incentives or services needed to overcome these barriers. This step requires description of the options presented to customers, normal replacement practices for the customer, and how the monetary incentives, technical services or financing assistance influenced the customer to invest in higher efficiency. The following documents will be submitted to demonstrate influence:

- Timeline of customer-implementer meetings, deliverables, and decision-making milestones
- Documentation of customers replacement and/or upgrade practices, plans, and budgets.
- Reports and business cases of options presented to customer (requires measure level preliminary or *ex-ante* savings estimates).
- Customer-implementer correspondence (e-mails, letters, meeting notes, letters, etc.)
- All influence documentation associated with each project will be uploaded and stored in the program's online platform.

11. Depth of Savings Thresholds and Model Accuracy

Ag-Retrofit will not use Site-level NMEC methodology on projects that save less than 10% of the site's annual energy consumption as measured at the meter or submeter level. Site-level NMEC models' goodness-of-fit between energy use and the independent variables will meet thresholds suggested in the LBNL NMEC Guidance and ASHRAE Guideline 14.

12. Incentive Structure

Site-level NMEC savings will be claimed by SoCalREN in accordance with the provisions under the Agreement and the CPUC guidelines. These savings will be calculated *based on*

ex-ante savings estimates and adjusted as needed by changes in project details (e.g., scope, operating parameters) found during post-implementation inspections and review. Software and calculation methods are discussed in the M&V Plan Subsections “Methodology, Analytical Methods, and Software” and *Expected Costs, Energy Savings, Peak Impacts and EULs* “

Once the performance period data collection period is over and true NMEC savings are *calculated*, the program savings will be true-up against the prior savings claimed at the end of project installation. This savings true-up will be implemented in the form of reductions in current project savings at the time the true-up process is implemented.

Program payments to customers will be split in portions between payments tied to installation, and a follow-up payment provided after the performance period has been evaluated. See the M&V Plan Subsection “Customer Incentives” for more detail. In the event that savings degrade during the performance period to the point that the upfront payment was found to be in excess (i.e., greater than the NMEC verified savings multiplied by the appropriate incentive rates), the Implementer will evaluate whether excess incentive paid is above a threshold value and responsibility for savings degradation and decide whether to recover incentive funds from the customer.

13. Customer Incentives

Maximum customer incentives will be calculated based on net, lifecycle savings. Lifecycle savings will be based on project-level EULs (see the M&V Plan Subsection “Project Level EULs”).

EULs for electric energy and gas energy (kWh and therms) will be discounted for the purposes of incentive calculations.

Net, discounted lifecycle savings will be multiplied by site-level NMEC incentive rates to calculate the maximum incentive. These calculations will be based on *ex-ante* savings estimates, which will then be true-up to NMEC measured savings once obtained.

Maximum incentive calculations may receive a DAC, HTR, or Grid Constrained Load Shape Benefit multiplier where justified.

Depending on customer barriers and needs, the calculated maximum incentive may be provided as equivalent technical or financing services, or as direct cash incentives.

Expected Costs, Energy Savings, Peak Impacts and EULs

Program estimates of costs, energy savings, peak impacts and effective useful life of project measures are based on Database for Energy Efficient Resources (DEER) values and latest workpapers. Costs from previously implemented projects or other reputable sources (e.g., RS Means) may be used when DEER or approved workpaper values are unavailable.

14. Project Level EULs

Project level EULs will be calculated as weighted averages of individual measure level EULs that make up a given project. Weighting of the measures in these calculations will be based on the individual measure level savings converted to BTUs. Savings for the purposes of this calculation are estimated first-year savings.

Individual measure level EULs will be based on the most updated DEER values and CPUC guidance. If a DEER EUL does not exist for a measure, the implementation team will propose an estimated EUL for SoCalREN's approval.

To facilitate EUL estimating, the implementation team will collect site-level data for the implemented measures and document any equipment being replaced.

15. Program Target Population and Eligibility

The Ag-Retrofit serves commercial customers of all types (including HTR, DAC), sizes (small, medium), and geographic regions (all of SCE's distribution planning regions [DPRs]).

All customers without excessive variability in operations and occupancy (except industrial processes) that meet savings levels and statistical fitness thresholds are eligible for NMEC. NMEC will be used for project bundles with interactive, predominantly existing baseline (AR, AOE and BRO), measures. The program's Early Screening step includes screening for NMEC. This includes verification of an appropriate utility meter location (or sub-meter location meeting accuracy requirements as found in LBNL NMEC Guidance), and permissible project types. Site-level NMEC will not be used for projects with *ex-ante* savings estimates below 10% of baseline energy consumption. Eligible site-level NMEC projects must be able to have their energy use simulated with models meeting statistical goodness-of-fit thresholds suggested in the LBNL NMEC Guidance and ASHRAE Guideline 14.

16. To-Code Savings Insight

Insight into questions surrounding to-code savings will be generated during the program's Early Screening QA/QC procedure. This step includes an identification of customers' business-as-usual plans for upgrades and/or replacements, the customers' barriers to implementing higher efficiency options, and the incentives or services needed to overcome these barriers. The following documents will contribute to insight into why these customers currently operate below code requirements:

- Documentation of customers replacement and/or upgrade practices, plans, and budgets.
- Reports and business cases of options presented to customers (requires measure level preliminary or *ex-ante* savings estimates).
- Customer-implementer correspondence (e-mails, letters, meeting notes, letters, etc.)

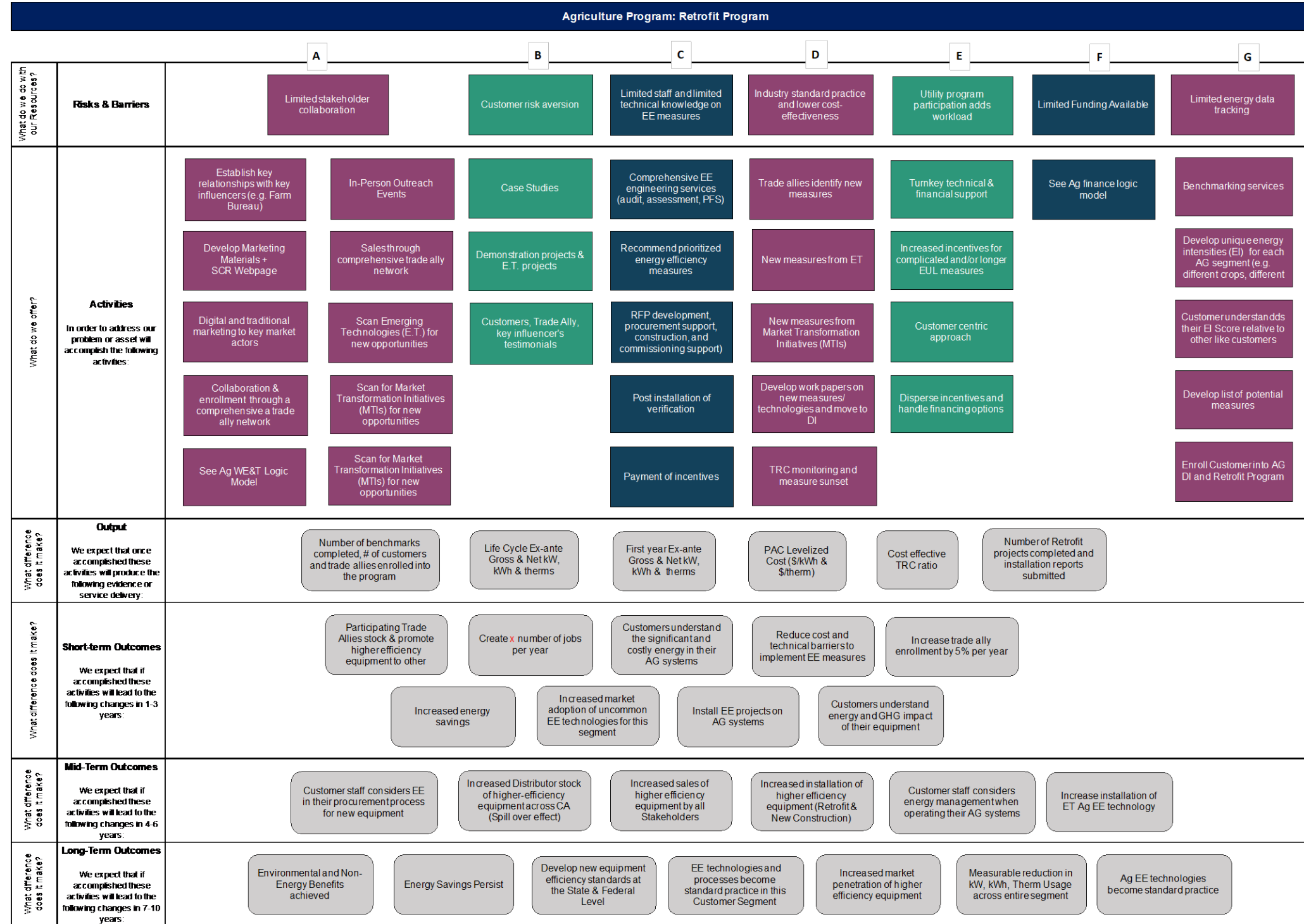
See the "For Programs Claiming To-Code Savings" section of the Implementation Plan, above, for more information.

Bid M&V Plan

An M&V Plan was included in the Implementer's original bid.

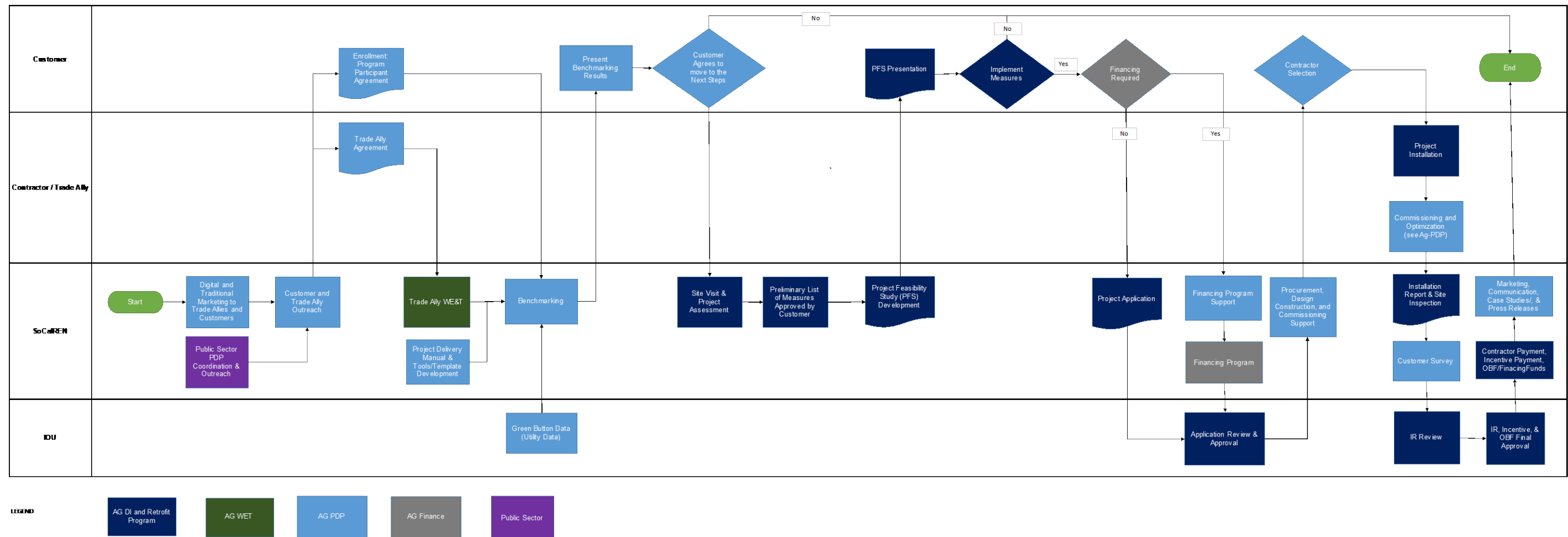
Attachment 1: Ag-Retrofit Logic Model

Figure 4: SoCalREN Ag-Retrofit Logic Model



Attachment 2: Ag-Retrofit Process flow

Figure 5: SoCalREN Ag-Retrofit Process Flow





ENERGY EFFICIENCY PROGRAMS

SoCalREN Workforce Education and Training Sector

Agriculture Workforce, Education and Training Program (Ag-WE&T) Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
March 2022

Contents – Fix Format

A.	Program Overview: Program Budget and Savings	1
B.	Implementation Plan Narrative	4
B.1.	Program Description.....	4
B.2.	Program Delivery and Customer Services.....	6
B.3.	Program Design and Best Practices.....	7
B.4.	Innovation	Error! Bookmark not defined.
B.5.	Metrics	9
B.6.	To-Code Savings Claims	9
B.7.	Pilots.....	9
B.8.	Workforce Education and Training	10
B.9.	Workforce Standards.....	10
B.10.	Disadvantaged Worker Plan	10
B.11.	Additional Information.....	11
C.	Supporting Documents.....	11
C.1.	Program Manual and Program Rules.....	11
C.2.	Program Theory and Program Logic Model.....	13
C.3.	Process Flow Chart.....	13
C.4.	Incentive Tables, Workpapers, and Software Tools.....	13
C.5.	Quantitative Program Targets.....	13
C.6.	Diagram of Program.....	13
C.7.	Evaluation, Measurement, and Verification (EM&V).....	14
C.8.	Normalized Metered Energy Consumption (NMEC).....	14

Index of Tables

Table 1.	Program Budget Table	1
Table 2.	Program Impact Table.....	1
Table 3.	Expected TRC	1
Table 4.	Expected PAC	2
Table 5.	Program Implementer.....	2
Table 6.	Market Sector	2
Table 7.	Program Type.....	2
Table 8.	Market Channels & Intervention Strategies	3
Table 9.	Barriers and Intervention Strategies.....	7
Table 10.	Innovations	9
Table 11.	Metrics.....	9
Table 12.	Disadvantaged Workers Metrics.....	10
Table 13.	Supportive Materials Index.....	11
Table 14.	Other Tools.....	12

Index of Figures

Figure 1:	SoCalREN Ag Program Diagram.....	14
Figure 2:	SoCalREN Ag-WE&T Logic Model	15
Figure 3:	SoCalREN Ag-WE&T Process Flow.....	16

A. Program Overview: Program Budget and Savings

The CEDARS platform generates summary views of the following information, based on application tables that the PAs upload to CEDARS. The information is organized at the program level and, if applicable, sub-program level to enable multiple cross tabulations and outputs for stakeholders’ review and consideration. Programs with subprograms will be displayed at subprogram level and will roll up to a program summary page.

1. Program and/or Sub-Program Name
SoCalREN Agriculture Workforce, Education and Training Program (Ag-WE&T)
2. Program / Sub-Program ID number
3. SCR-WET-D5
4. Program / Sub-program Budget Table

Table 1. Program Budget Table

Costs	2024	2025	2026	2027	Total
Admin	\$10,800	\$12,000	\$15,000	\$18,000	\$55,800
Marketing/Outreach	\$10,800	\$12,000	\$15,000	\$18,000	\$55,800
Incentives/Rebates	\$0	\$0	\$0	\$0	\$0
Direct Implementation	\$158,400	\$176,000	\$220,000	\$264,000	\$818,400
Totals	\$180,000	\$200,000	\$250,000	\$300,000	\$930,000

5. Program / Sub-program Gross Impacts Table

Table 2. Program Impact Table

	2024	2025	2026	2027	Total
Gross Demand Reduction(kW)					
Net Demand Reduction (kW)	Not applicable, this is a non-resource Program				
Gross Energy Savings (kWh)					
Net Energy Savings (kWh)					

6. Program / Sub-Program Cost Effectiveness (TRC)

Table 3. Expected TRC

	2024	2025	2026	2027	Total
Expected TRC	Not applicable, this is a non-resource Program				

7. Program / Sub-Program Cost Effectiveness (PAC)

Table 4. Expected PAC

	2024	2025	2026	2027	Total
Expected PAC	Not applicable, this is a non-resource Program				

8. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Table 5. Program Implementer

Program Implementer	
PA-Delivered	<input type="checkbox"/>
Third-Party Delivered	<input checked="" type="checkbox"/>
Partnership	<input type="checkbox"/>

9. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Table 6. Market Sector

Business Plan Sector	
Residential	<input type="checkbox"/>
Commercial	<input type="checkbox"/>
Industrial	<input type="checkbox"/>
Agricultural	<input type="checkbox"/>
Public	<input type="checkbox"/>
Cross-Cutting	<input checked="" type="checkbox"/>

10. Program / Sub-program Type (i.e., Non-resource, Resource)

Table 7. Program Type

Program Type	
Resource	<input type="checkbox"/>
Non-Resource	<input checked="" type="checkbox"/>

11. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Table 8. Market Channels & Intervention Strategies

Market Channels	
Upstream	<input type="checkbox"/>
Midstream	<input type="checkbox"/>
Downstream	<input checked="" type="checkbox"/>

Intervention Strategies		
WE&T - Training	<input checked="" type="checkbox"/>	Ag-WE&T
PDP – Technical Assistance	<input type="checkbox"/>	Ag-PDP
Direct Install – No Cost	<input type="checkbox"/>	Rural HTR Ag-DI
Retrofit - Incentive	<input type="checkbox"/>	Ag-Retrofit
Finance	<input type="checkbox"/>	Rural-HTR Ag Finance Assistance

B. Implementation Plan Narrative

B.1. Program Description

Program Description

The goal of the Southern California Regional Energy Network's (SoCalREN) Agriculture (Ag) Sector is to identify and implement cost-effective energy efficiency projects that yield electricity and gas savings for disadvantaged, rural and underserved agriculture communities/customers across the region. In order to achieve this goal, the SoCalREN Agriculture Workforce, Education and Training (Ag-WE&T) aims to achieve the following objectives:

1. Expand the implementation of cost-effective energy efficiency projects;
2. Build the trade ally network of qualified Ag service providers;
3. Train Ag trade allies on how to "sell" an energy efficiency product in the various Ag sectors;
4. Make energy efficiency expertise accessible and available; and
5. Integrate energy efficiency as a standard business practice for Agriculture customers.

SoCalREN envisions a reliable, diverse, and highly skilled workforce that is able to deliver high-quality Agricultural EE services to all segments of the Southern California ratepayer community as a result of a comprehensive regional and effective workforce education and training infrastructure.

SoCalREN's overarching goal for workforce education and training (WE&T) is to increase the size, skills, and diversity of the Ag EE labor force in the Southern California region to ensure effective implementation of the state's energy efficiency (EE) goals. This SoCalREN goal aligns with and leverages public sector economic development resources and capacities to maximize two of the inclusion goals and policies of the California Public Utilities Commission (CPUC):

- General Order (DO) 156 – a supplier diversity ruling that requires a 25 percent disadvantaged business enterprise/women business enterprise/disabled-veteran business enterprise (DBE/WBE/DVBE) contracting goal for all expenditures,
- The 2011 Energy Efficiency Strategic Plan goal for "minority, low-income, and disadvantaged communities [to] fully participate in training and education programs at all levels of the DSM and EE industry."

SoCalREN will leverage its public-sector economic development knowledge, networks, and capacities to achieve the following specific objectives:

- Increase Southern California regional workforce and training infrastructure/partnerships (community-based training organizations, K–12 and higher educational institutions), apprenticeship programs, and workforce investment boards) by 25 percent to increase the quantity and

skills of entry-level and incumbent workers at all levels of the demand-side management (DSM) and EE industry.

- Increase entry-level skills training and job opportunities for disadvantaged workers by 50 percent.
- Develop a regional energy management training program to increase the operational efficiencies of retrofitted projects.
- Standardize local contracting policies and protocols into public bid/solicitation documents across the SoCalREN region to increase capacity and the participation of diverse, small, and disabled veteran-owned businesses in EE work by 25 percent.
- Establish regular coordination with Statewide WE&T efforts to leverage efforts with existing ratepayer funded training centers and programs.
- Establish a SoCalREN online data and reporting system to collect, monitor, and report workforce and contracting outcomes.

Geographic Location of Offering

Agriculture customers are primarily located in the heavily concentrated agricultural regions of the San Joaquin Valley (CTZ 13) and the Central Coast (CTZ 5) and will be targeted with a combination of direct customer outreach with additional support from trade allies such as agricultural engineering firms and farm equipment suppliers.

Eligible Customers

All agricultural (Ag) customers who have a valid Southern California Edison (SCE) & Southern California Gas Company (SoCalGas) service account are eligible to participate in SoCalREN Ag Programs. Ag customers are defined by two-digit North American Industry Classification System (NAICS) Code 11. Post-harvest production (e.g., wine production, nut drying, etc.) is eligible when performed directly on-farm as defined by NAICS Code 11. Agriculture sub-segments further defined by four-digit NAICS Codes 1111, 1112, 1113, 1114 (including cannabis production which does not have a specific NAICS Code), 1119, 1121, 1122, 1123, 1124, 1125, 1129, 1131, 1132, 1133, 1141, 1142, 1151, 1152 and 1153.

The Ag-WE&T Program offers energy efficiency services to ~30,000¹ eligible Agriculture customers in the Southern California Edison (SCE) and Southern California Gas (SoCalGas) service territories – including field & seed crops, fruit & nut crops, vegetables & melons, livestock & poultry, wineries, floriculture, and dairies - to help these customers reduce energy and maintenance costs at their facilities. The Ag-WE&T Program will focus on rural & underserved communities.

According to SCE's business plan, these customers electric consumption was 2,400 GWh or 3% of the SCE's load in 2015. According to SCG's business plan the AG sector consumed 70 million therms in 2015.

¹ Total AG customers = 30,000, Mid-Size AG customers (>=50kW, <250kW) make up of 16% of all AG SAs (or 4,800 SA) & Small AG customers (<50kW) make up of 82% of all AG SAs (or 24,600 SA)

SCE Segment	Demand	% of SA	# of Accounts	Total GWh Usage ²	Avg kW per Account
Large	≥250 kW	2%	600	899	480
Medium	≥50 kW, < 250 kW	16%	4,800	1191	100
Small	< 50 kW	82%	24,600	340	8
Total		100%	30,000	2,430	Weighted Avg – 32 kW

Measures

N/A. The Ag-WE&T program is a non-resource program.

Rationale

SoCalREN believes that the small and medium Ag customers in rural, disadvantaged communities will not be the primary focus of SCE and SoCalGas’ 3rd party programs due to TRC constraints of greater than 1.0 and cost to serve. Due to the reduced avoided costs in 2024, SCE’s and SoCalGas’ 3rd party program will have difficulty achieving their required TRC of 1.0 which will make it even harder for them to serv small and medium, rural, disadvantaged communities.

B.2. Program Delivery and Customer Services

SoCalREN has identified workforce development as a vital component of energy efficiency customer transformation. SoCalREN is investing in developing relevant workforce opportunities in order to achieve its mission of addressing climate change while providing local economic and workforce benefits.

Through a growing network of trained local contractors, SoCalREN can help achieve deeper market penetration with expertise in multiple demand–side management Ag technologies and ensure each project has high program quality standards. SoCalREN will support the success of its Rural HTR Ag-DI and Ag-Retrofit energy efficiency programs with complementary workforce development and training.

This non-resource program will reach customers and provide services through building partnerships specific to each intervention below.

- Expand WE&T Infrastructure and Partnerships
- Small business entities (SBEs), diverse business enterprises (DBEs), and Disadvantaged Workers (DW)
- Training and Technical Assistance
- Organize Integrated Entry-Level Skills Training and Infrastructure
- Establish Online Data Reporting Tool

Education (Ag-WE&T): Promotion of the benefits of EE upgrades beyond utility cost savings considering crop/product quality improvement and building long-term relationships with the Ag customer as part of the education process. This includes general AG training for Ag customers, Pump contractor training, Ag energy

² Based on breakdown per customer segment from SCE’s Business plan and sector usage of 3% of SCE total usage.

management, Ag water management, GHG reduction strategies, Ag emerging technologies, etc.

This will be coordinated with the overall SoCalREN WE&T program which provides the following training:

- LA County SoCalREN Intro.
- Climate Policy
- Sustainable Green Buildings Technologies
- How to Do Business with SoCalREN, SCE & SoCalGas
- Title 24 Codes and Regulations
- Estimating Energy Savings
- Project Estimating & Incentives
- Virtual Walk-Through
- Bonding Insurance / Access to Capital
- Estimating
- Project Scheduling
- Principles of Project Management

B.3. Program Design and Best Practices

Program Design and Best Practices

SoCalREN will use best practices, using lessons learned from industry experts such as Emerald Cities and local workforce development experts to provide Ag-WE&T services to rural and underserved communities. Additionally, SoCalREN will coordinate with a wide variety of industry partners, including technical assistance providers, industry associations, as well as trades and pre-apprenticeship programs. These valued trade partners will assist in connecting job seekers, especially disadvantaged workers and underserved communities, to contractors who will provide internships that can lead to long-term job prospects.

SoCalREN will facilitate job connections by working with the aforementioned Ag workforce and industry partners. Roundtables and feedback sessions will provide feedback that will inform future program design; these discussions will also help identify obstacles that the workforce faces to developing high-performance building practices. Each feedback opportunity will provide 6 contractors from all EE trades with the opportunity to convene and learn best practices, and to discover opportunities for cooperation. Workshops will also seek to address industry needs identified in roundtable discussions and provide resources for industry participants.

SoCalREN has identified several barriers to providing meaningful and practical training to contractors and job seekers. Several barriers are listed below, along with strategies identified to bring these critical skills to the current workforce and to job seekers.

Table 9. Barriers and Intervention Strategies

Problem Statement	Market Barrier	Desired market Effect	Frequency
EE workforce requires a variety of trainings for all skill levels	Lack of diverse training	Stackable programs that meet workforce where they are	1. Work with partners and industry experts to design and implement trainings 2. Develop a plan for funding sector specific, stackable certifications (entry level professional certifications)

Trainings take contractors away from their core job responsibilities	Lack of time for trainings	To seamlessly integrate trainings into day-to-day operations	<ol style="list-style-type: none"> 1. Schedule trainings around peak work schedules 2. Incorporate on-the-job training 3. Bring trainings to contractors
There are not enough comprehensive educational programs focused on energy efficiency	Discrete trainings do not contribute to a career pathway	Create meaningful career paths for participants	Design an energy efficiency vocational program
Contractors don't know how to use, install, or explain the value of new technology	Lack of training on new technologies	New technologies are valued and installed by the masses upon release	<ol style="list-style-type: none"> 1. Facilitate educational workshops with product manufacturers 2. Provide on-the-job training for operations and maintenance staff

The Ag-WE&T Program will increase uptake of cost-effective energy efficiency measures by educating and training the EE workforce on emerging and mainstream technologies. The Program has been designed to meet the workforce where they are, both in geographical and technical terms. SoCalREN will invite their input into the training process and topic definition and will provide them with the tools that they need to move beyond a single-technology installation mindset to one that encourages whole home, safe and efficient approaches to energy efficiency. and safer, more efficient technologies. For job seekers, the Program will introduce them to emerging and mainstream EE technologies, skills, and potential employers.

B.1. Innovation

Table 10. Innovations

Program	Innovation: Strategy
Ag-WE&T	<p>Delivery Approach:</p> <ul style="list-style-type: none"> • Build a stronger extended agricultural energy community through energy and water management training in coordination with SoCalREN’s Workforce Education and Training sector to rural and underserved communities and contractors. <p>Technology:</p> <ul style="list-style-type: none"> • Provide information and technical support to agricultural customers in their efforts to implement Distributed Energy Resources (DER) and other iDSM strategies including Demand Response. • Introduce customers to new technologies designed to save water and energy (Satellite Watering Imagery, remote pump monitoring, etc.)

B.2. Metrics

The Ag-WE&T is proposing the following key performance metrics to be tracked and reported on periodically throughout the program cycle.

Table 11. Metrics

No.	Metric
1	Number of partnerships by sector where partnerships is defined by curriculum developed jointly.
2	Number of participants by sector
3	Percent participation relative to eligible target population for curriculum
4	Percent of disadvantage participants trained (ID by zip code)
5	Percent of incentive dollars spent on measures verified to have been installed by contractors with demonstrated commitment to provide career pathways to disadvantage workers
6	Number of energy efficiency projects related to the WE&T training on which a participant has been employed for 12 months after receiving the training

B.3. To-Code Savings Claims

This section is not applicable to this non-resource program. Please see Rural HTR Ag-DI and Ag-Retrofit Programs for more information on To-Code Savings Claims.

B.4. Pilots

This section is not applicable.

B.5. Workforce Education and Training

This section refers to how workforce, education and training is incorporated into non-WE&T programs. Since the Program focuses solely on WE&T, SoCalREN addresses this topic throughout this implementation plan.

B.6. Workforce Standards

Although this is not applicable for the Ag-WE&T program, SoCalREN will ensure that contractors and potential employers used for the internship portion of the program possess all California regulations related to workforce standards, including continuing training and appropriate industry-level licenses.

B.7. Disadvantaged Worker Plan

According to CPUC D.18-10-008, “Disadvantaged Worker” means “a worker that meets at least one of the following criteria: lives in a household where total income is below 50 percent of Area Median Income; is a recipient of public assistance; lacks a high school diploma or GED; has previous history of incarceration lasting one year or more following a conviction under the criminal justice system; is a custodial single parent; is chronically unemployed; has been aged out or emancipated from the foster care system; has limited English proficiency; or lives in a high unemployment ZIP code that is in the top 25 percent of only the unemployment indicator of the CalEnviroScreen Tool.”³

The Ag-WE&T Program will work with CBOs and workforce development partners that have long-standing relationships with these communities to target disadvantaged workers and recruit them to the Program’s internship component. The WE&T program will also engage with properties that have participated in SoCalREN’s energy efficiency programs and are located within disadvantaged communities. These organizations can be targeted for additional training opportunities and added to AEA’s list of contractor references. This strategy will help connect disadvantaged workers to projects through energy efficiency programs.

The Ag-WE&T program will provide Disadvantaged Workers with improved access to career opportunities in the energy efficiency industry by supporting outreach initiatives (training, mentorship, and/or apprenticeships) in collaboration with a combination of our subcontractor partners. Using an optional survey, the Ag-PDP will track and report Disadvantaged Worker participation in outreach programs, as well as program hiring, including the following metrics:

Table 12. Disadvantaged Workers Metrics

Outreach	Hiring
<ul style="list-style-type: none">• Number of training, mentorship, and/or apprenticeship opportunities offered• Number of participants	<ul style="list-style-type: none">• Number of recruiting channels promoting access to Disadvantaged Workers• Percentage of job opportunities made available to Disadvantaged Workers

³ [CalEnviroScreen 3.0 | OEHHA](#)

- | | |
|--|--|
| <ul style="list-style-type: none"> • Number of staff and/or partner hours devoted to outreach initiatives | <ul style="list-style-type: none"> • Percentage of candidates screened • Percentage of candidates interviewed • Percentage of candidates offered a position • Percentage of candidates hired |
|--|--|

Additionally, the turnover and attrition are tracked by designated classification of Disadvantaged Worker, subject to appropriate privacy considerations. For Subcontractor performance scorecards and KPIs are tracked on an individual firm basis, with Disadvantaged Worker participation as a key element.

B.8. Additional Information

This section is not applicable.

C. Supporting Documents

C.1. Program Manual and Program Rules

Not required at this time.

Table 13. Supportive Materials Index

#	Information Required	Short Description
1	Eligible Measures or measure eligibility	<i>A list of eligible measures, or measure eligibility requirements</i> Eligible measures pursued by Ag Customers through the program will adhere to the rules set forth by SoCalREN regarding measure eligibility. All savings will be transparent in supporting calculations as submitted to SoCalREN through either the Rural HTR Ag-DI or Ag-Retrofit program.
2	Customer Eligibility Requirements	<i>Requirements for program participation (for example, annual energy use or peak kW demand)</i> The Ag-WE&T Program will work with eligible customers and contractors in the Ag sector. This includes Field & Seed Crops, Fruit & Nut Crops, Vegetables & Melons, Livestock & Poultry, Wineries, Floriculture and Dairies Customers served by SCE and/or SoCalGas that pay PPP charges.
3	Contractor Eligibility Requirements	<i>List of any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements. (For example: specific IOU-required trainings, specific contractor accreditations, and/or specific technician certifications.)</i> The Ag-WE&T Program will work with the selected contractor to ensure all incentive eligibility requirements are addressed and met.

4	Participating Contractors, Manufacturers, Retailers, Distributors	<p><i>Information as to whether:</i></p> <ul style="list-style-type: none"> • Program or sub-program delivery channel is downstream, midstream, or upstream, and • Program is an incentive and/or buy-down type program. <p>This is a downstream program.</p>
5	Additional Services	<p><i>Descriptions of any additional sub-program delivery, measure installation, marketing & outreach, training, and/or other services provided, if not yet described above.</i></p> <p>The Ag-WE&T Program will offer education outreach to Ag customers in SCE and SoCalGas territories. This educational outreach will include information on the benefits associated with utility-based energy saving measures.</p>
6	Audits	<p><i>Information as to whether:</i></p> <ul style="list-style-type: none"> • Pre- and post-audits are required • Funding or incentive levels have been set for audits, and • The eligibility requirements for audit incentives. <p>No Audits will be completed in this program. Pre and post installation audits will be conducted in a manner that aligns with SoCalREN's incentive eligibility requirements by both the Rural HTR Ag-DI and Ag-Retrofit Programs.</p>
7	Sub-Program Quality Assurance Provisions	<p><i>List of quality assurance and quality control requirements, including accreditations and/or certifications or other credentials of individuals or organizations performing this work.</i></p> <p>Quality assurance checks will be implemented throughout the process at various milestones to maintain data accuracy and customer satisfaction.</p>

All EE measures will funnel through existing EE resource programs. The below table describes other tools leveraged to support turnkey project delivery services.

Table 14. Other Tools

#	Tools	Short Description
1	PipeDrive	Customer Relationship Management (CRM), used to track projects and generate customer reports.
2	Compass	Platform used to collect and synthesize energy consumption data and deliver customer energy use analyses
3	ENERGY STAR Portfolio Manager	Online tool used to track energy consumption and greenhouse gas emissions. Allows user to benchmark the performance of one building or a whole portfolio of buildings.
4	GIS	Geographic Information System (GIS) tool allows users to pinpoint exact locations of facilities and tie usage characteristics to those facilities.

5	eziQC	Provides access to competitively awarded contractors through cooperative purchasing networks, expediting project delivery through a simplified procurement process.
---	-------	---

C.2. Program Theory and Program Logic Model

Please see Attachment #1.

C.3. Process Flow Chart

Please see Attachment #2.

C.4. Incentive Tables, Workpapers, and Software Tools

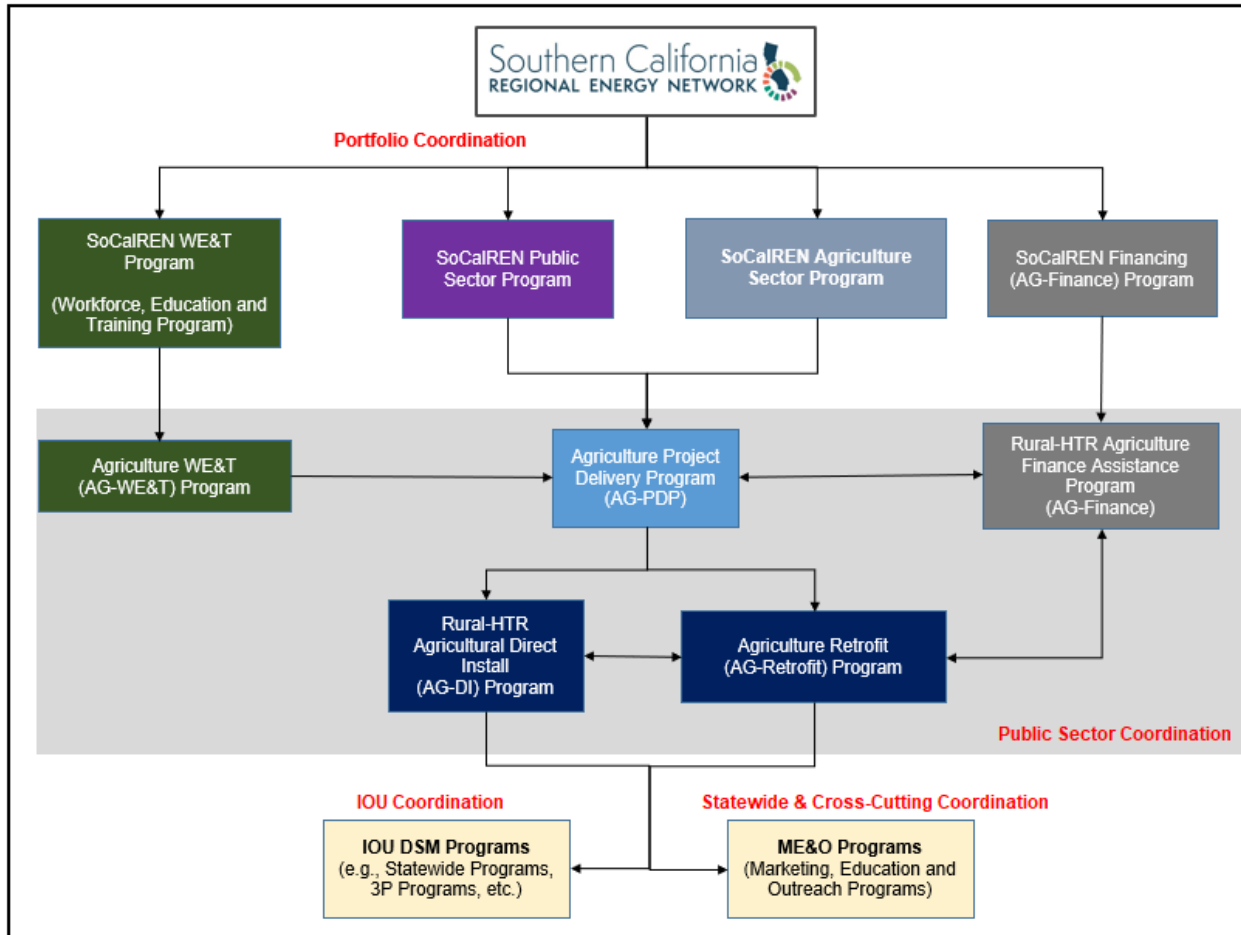
Not applicable.

C.5. Quantitative Program Targets

Not applicable.

C.6. Diagram of Program

Figure 1: SoCalREN Ag Program Diagram



C.7. Evaluation, Measurement, and Verification (EM&V)

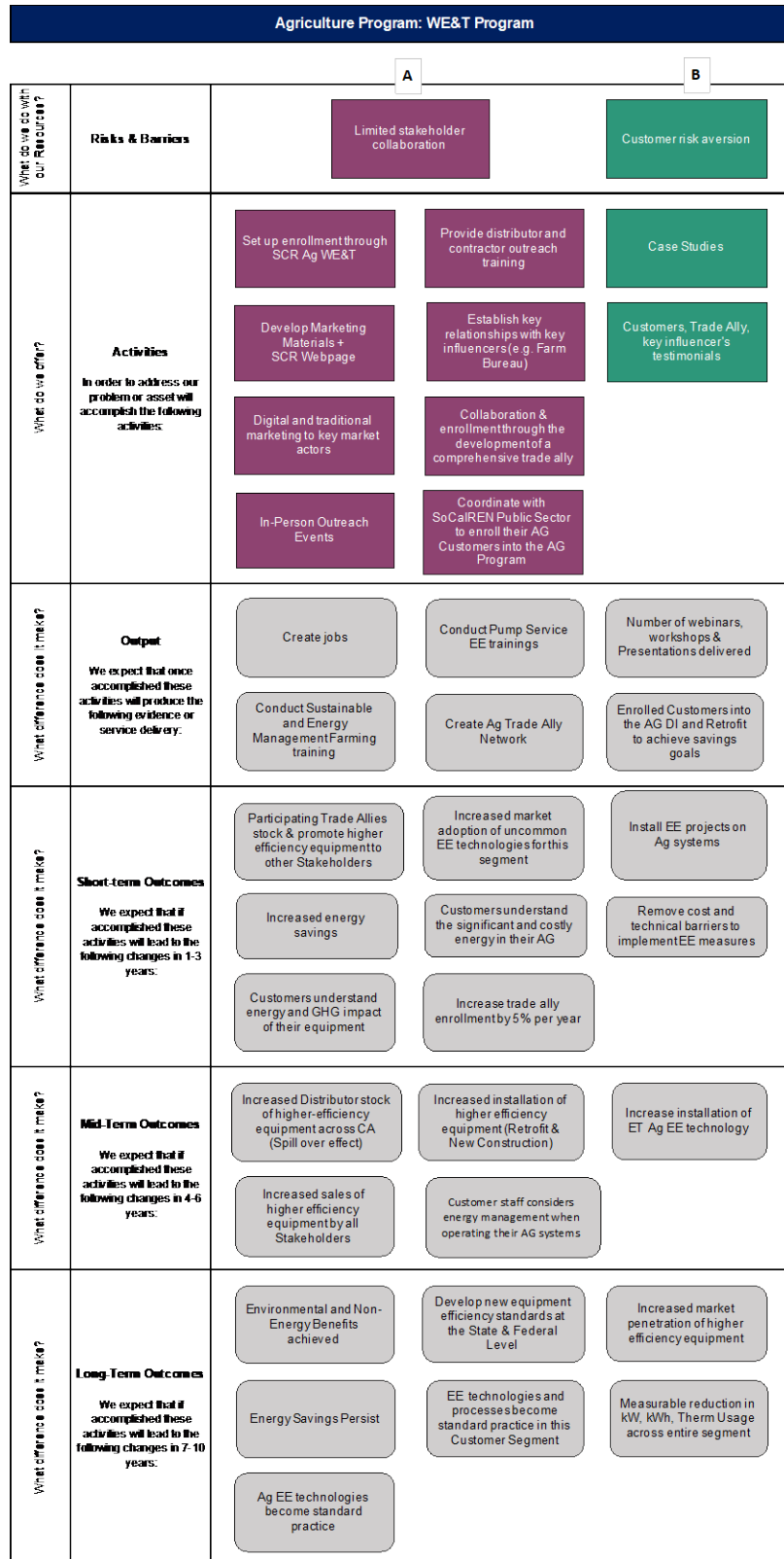
Not applicable to Ag-WE&T. The Ag-WE&T is a non-resource program that funnels energy savings to the Rural HTR Ag-DI and AG-Retrofit, resource programs. As such, EM&V will be described in those Implementation Plans.

C.8. Normalized Metered Energy Consumption (NMEC)

Not applicable to Ag-WE&T.

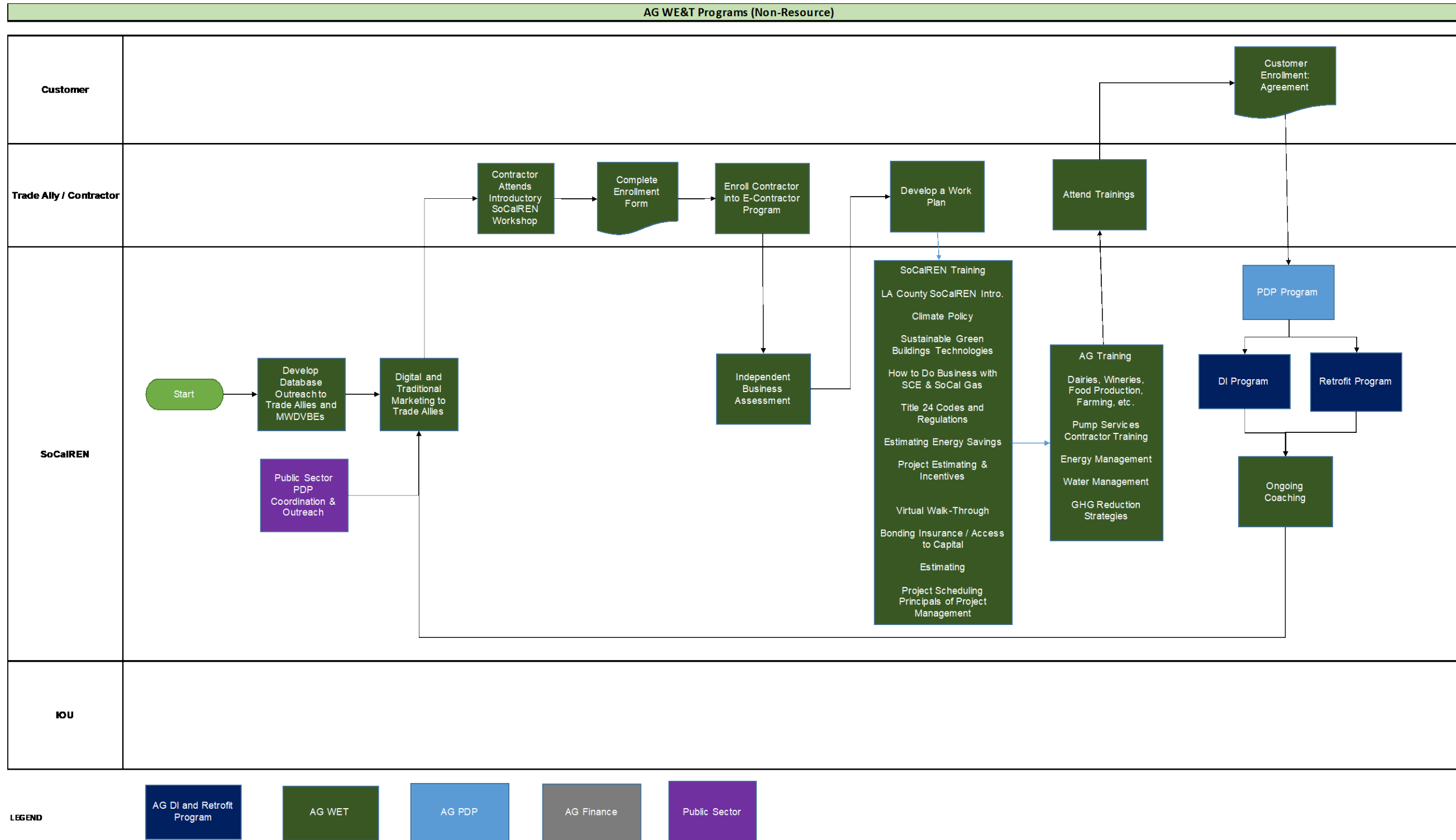
ATTACHMENT 1: AG-WE&T LOGIC MODEL

Figure 2: SoCalREN Ag-WE&T Logic Model



ATTACHMENT 2: AG-WE&T PROCESS FLOW

Figure 3: SoCalREN Ag-WE&T Process Flow





ENERGY EFFICIENCY PROGRAMS

SoCalREN Commercial Sector
California Green Business Network
Program
Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
January 2022

Contents

Program Overview.....	3
Program Budget and Savings.....	4
Implementation Plan Narrative.....	5
Program Description	5
Program Delivery and Customer Services	6
Program Design and Best Practices	8
Innovation	8
Metrics	8
To-Code Savings Claims	9
Pilots	9
Workforce Education and Training	9
Workforce Standards	10
Disadvantaged Worker Plan	10
Additional Information	10
Supporting Documents.....	11
Program Manual and Program Rules	11
Program Theory and Program Logic Model	11
Process Flow Chart	11
Incentive Tables, Workpapers, and Software Tools	12
Quantitative Program Targets	12
Diagram of Program	12
Evaluation, Measurement, and Verification (EM&V)	13
Normalized Metered Energy Consumption (NMEC)	13

Program Overview

This program promotes and expands the existing California Green Business Network (CAGBN)¹ and offers services and incentives to achieve green business certification. The program will leverage the services and resources of the CAGBN while offering eligible businesses technical services and direct incentives to identify and implement energy savings opportunities that reduce operating costs and greenhouse gas emissions. Promotion of the program will be targeted throughout the SoCalREN Regional Partner² geographic areas of influence, but the program will be available territory-wide.

This market support program focuses on educating customers to engage in long-term sustainable energy actions through the support and enhancement of the existing CAGBN, and promotes establishing partnerships to facilitate outreach and added value to all participants.

¹ <https://greenbusinessca.org/>

² Organizations that represent specific geographic regions and partner with SoCalREN in order to support customized outreach and implementation.

Program Budget and Savings

1. Program and/or Sub-Program Name
SoCalREN California Green Business Network (CAGBN) Program
2. Program / Sub-Program ID number
SCR-COMM-E2
3. Program / Sub-program Budget Table

Table 1. Program Budget Table

	2024	2025	2026	2027	Total
Administration	\$37,500	\$24,998	\$26,205	\$28,015	\$116,718
Marketing/ Outreach	\$50,000	\$29,000	\$30,400	\$32,500	\$141,900
Direct Implementation	\$412,500	\$526,002	\$551,395	\$589,485	\$2,079,382
Total	\$500,000	\$580,000	\$608,000	\$650,000	\$2,338,000

4. Program / Sub-program Gross Impacts Table
Not applicable for this program.
5. Program / Sub-Program Cost Effectiveness (TRC)
Not applicable for this program.
6. Program / Sub-Program Cost Effectiveness (PAC)
Not applicable for this program.
7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)
Third party-delivered
8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)
Commercial
9. Program / Sub-program Type (i.e., Non-resource, Resource)
Non-resource (market support)
10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market channel: downstream

Intervention strategies: audit, education, incentives, recognition

Table 2. Campaign Goals and Timeline

Phase	Key Deliverables	Dates
Launch Readiness	Implementation Plan Marketing Plan Program marketing materials Program Management Plan QA/QC Plan	Q1 2024
Program Ramp Up	Program launch to customers Marketing Plan implementation Program deliverable development	Q1 - Q2 2024
Program Steady State	Program deliverable implementation	Q2 2024 - Q2 2027
Program Ramp Down	Program Ramp Down Plan	Q3 2027 - Q4 2027

Implementation Plan Narrative

Program Description

This program expands the implementation of the California Green Business Network within regional partner geographic regions and throughout the SoCalREN territory. The implementing regional partners would leverage the services and resources of the CAGBN to assist small to medium sized businesses to achieve green business certification. The program would target hard-to-reach (HTR) businesses through tactics such as in-language marketing, offering walk-through audits with measure recommendations, program referrals, and incentives for equipment upgrades.

By taking a holistic approach to sustainability, this program attracts businesses looking to demonstrate to the community and their customers that they are a green business. Certification requires businesses to take action to improve energy efficiency, conserve water, reduce waste, and use alternative forms of transportation. The program also helps reduce businesses operating costs.

The SoCalREN CAGBN Program aims to meet the following objectives in alignment with the California Energy Commission’s Environmental and Social Justice Action Plan 2.0³ and SoCalREN Core Values:

³ “Draft Environmental and Social Justice Action Plan 2.0”. <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/draft-cpuc-esj-2010262021c.pdf> . Accessed 4 January 2022.

Objectives	ESJ Action Plan Goal	SoCalREN Core Value
Objective #1: Increase number of small and medium businesses that certify as a California Green Business.	Goal 4: Increase climate resiliency in ESJ communities.	Building Capacity & Energy Competency; Climate Action Leadership; Expand Access to EE Benefits
Objective #2: Increase number of small and medium businesses that recertify as California Green Business.	Goal 4: Increase climate resiliency in ESJ communities.	Climate Action Leadership; Expand Access to EE Benefits
Objective #3: Decrease operating expenses for small and medium businesses.	Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Build Capacity & Economic Resilience; Expand Access to EE Benefits
Objective #4: Businesses adopt more sustainable practices in their operations and contribute to local climate action targets and greenhouse gas goals.	Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Climate Action Leadership
Objective #5: Expand the CAGBN network across the SoCalREN territory.	Goal 5: Enhance outreach and public participation opportunities for ESJ communities to meaningfully participate in the CPUC's decision-making process and benefit from CPUC programs.	Building Capacity and Energy Competency; Expand Access to EE Benefits

Program Delivery and Customer Services

This program leverages an established and recognized green business certification pathway and offers no-cost support along with financial support for energy efficiency measures. Program offerings are delivered through the delivery process detailed below and in the process flow chart in the Supporting Materials section. Program implementation is led by SoCalREN regional partners with support from CAGBN and CAGBN affiliated partners.

Partner Outreach and Business Engagement: regional partners engage with CAGBN and local partners to collect local sustainable practice resources. This includes cities, counties, utilities,

water districts, sanitation districts, and transportation. These resources are incorporated into the local education and outreach materials developed for communities and businesses that are shared through local outreach channels, oftentimes including community based organizations. The regional partners also conduct marketing campaigns directed to the business community with an equity-focus by reaching HTR businesses, and BIPOC, and LGBTQ+ owned businesses. HTR businesses will be targeted through in-language marketing materials along with easy-to-understand language that speaks to the value of the program to the business owner.

Registration: For businesses that are interested in green business certification, a Green Business Coordinator trained by the regional partner with support from CAGBN will be introduced to the business to support the entire certification process. The process begins with the business registering on the CAGBN website. Once a business is registered, CAGBN will notify the regional partner and the SoCalREN and provide the appropriate certification checklist based on the business sector. The Green Business Coordinator will leverage this checklist throughout the process.

Audit, Recommendations and Referral: The Green Business Coordinator will meet with the business owner to review the certification checklist and perform a walkthrough audit with a focus on energy efficiency opportunities. A high-level list of energy operational changes, energy measure upgrade recommendations, program opportunities and other supporting resources and information will be provided to the business owner. Once the business owner determines what programs they are interested in pursuing, the Green Business Coordinator will facilitate introductions or provide applications to the appropriate programs.

Installation and Application: The business owner is responsible for taking the additional necessary steps to meet the certification requirements. The Green Business Coordinator will remain available to answer questions along the way.

Evaluation and Certification: Once the checklist is completed, and the Green Business Coordinator has audited, or otherwise verified completion of the required measures, the certification application is completed in CAGBN's GreenBizTracker database, and the Regional Partner awards the Green Business Certification to the business owner.

Profile Updates, Payment and Reporting: Following certification, the business's profile will be added to the CAGBN website. If the business upgraded energy equipment as part of the process and there were direct costs incurred by the business, the Green Business Coordinator will collect the necessary information for a program incentive. The one-time incentive will be paid out by the SoCalREN, with HTR businesses receiving a higher incentive amount. As a non-resource program, the program would not report the savings as resource acquisition, but the savings estimated through the CAGBN software would be reported as a program indicator, along with several other quantifiable program benefits.

Promotion: Businesses certified by CAGBN are promoted as green businesses through local outreach channels. This is facilitated by CAGBN, regional partners and other CAGBN affiliated partners.

Re-engagement: Green-certified businesses are re-engaged every three years following certification. Businesses are given the opportunity to recertify with program support and surveyed to collect data on sustained impacts of the program and certification over time.

Program Design and Best Practices

While IOUs have account representatives, they have limited time and often focus on businesses that are the largest energy users. Due to volume alone, medium and small businesses do not receive the individual attention needed to help them identify reductions and access resources to make improvements. This program offers direct support through Green Business Coordinators trained to guide small and medium businesses through the identification of energy efficiency opportunities, application for incentives, and green business certification, as well as referrals to additional programs.

Not only do these businesses face a cost barrier to implement energy equipment replacements, they also often lack the staff expertise to identify and evaluate energy efficiency opportunities. This is even more significant for HTR businesses. Rebate programs reduce costs but can be limiting or not sufficient to cover the high costs associated with equipment replacement. This program offers direct incentives to small and medium businesses, with higher incentives offered to qualifying HTR businesses.

This program leverages CAGBN's established resources and tools that were funded in part through the Environmental Protection Agency (EPA) and California Air Resources Board (CARB). CAGBN maintains the certification program pathway, the associated database, and tools that track program metrics/indicators and identify the tasks a business needs to accomplish to become certified. CAGBN also provides networking opportunities and best practices for businesses to improve marketing tactics and engagement strategies. All of these resources provided by CAGBN have been built over years and individual programs benefit from the regular sharing of best practices and lessons learned through an online Q&A database, committees and semi-annual meetings.

Innovation

This program will increase the uptake of energy efficiency within small to medium businesses through the innovations described below.

Marketing a holistic sustainability package: The CAGBN offers a proven framework for small and medium businesses to adopt sustainable practices while decreasing their operating costs. The branding toolkit along with its local community partners promotes participants as Green Certified Businesses within their communities.

Trusted local partners: Local regional partners that have been supporting energy programs, and trusted community based organizations, deliver a customized outreach approach with in-language marketing to target hard-to-reach businesses.

Connections to other programs: In addition to the direct resources offered through this program, the Green Business Coordinators will also connect businesses to and facilitate participation in other energy programs to support deeper energy savings and minimize lost opportunities.

Metrics

The program reports out on the key performance metrics listed in Table 2 below on an annual basis and periodically throughout the program cycle. In addition to the metrics listed below, SoCalREN also reports out annually on Common Metrics and the Market Support Segmentation Metrics as directed by the CPUC.

Table 3. Program Metrics

Activity	Metric	Method	Frequency
Guide eligible small/medium businesses through CAGBN certification/recertification process	# of businesses that receive incentives to achieve CAGBN certification	As reported by CAGBN implementer	Annually
In-language customized outreach leveraging CAGBN materials to individual businesses that is understandable and comprehensive	# of HTR businesses that receive incentives to achieve CAGBN Certification	As reported by CAGBN implementer	Annually
Guide eligible small/medium businesses through CAGBN recertification process	# of businesses supported by the program that recertify through CAGBN	As reported by CAGBN implementer	Annually
In-language customized outreach leveraging CAGBN materials to individual businesses that is understandable and comprehensive	# of HTR businesses supported by the program that recertify through CAGBN	As reported by CAGBN implementer	Annually

The program also tracks and reports out the below program-specific indicators:

- Number of organizations that learn about and promote the program to local businesses
- Number of business owners that register through CAGBN by territory (breakdown types of businesses and HTR characteristics)
- List of eligible measures to upgrade and savings opportunity
- Number of businesses that participate in other energy efficiency programs
- Measures supported through incentives
- Gallons of water saved
- Greenhouse gas emissions reduced
- Annual kWh savings
- Metric tons of waste diverted from the landfill
- Utility bill savings
- Number of businesses promoted

To-Code Savings Claims

Not applicable for this program.

Pilots

Not applicable for this program.

Workforce Education and Training

Regional partners will lead program implementation activities through this program. Through coordination with SoCalREN workforce education and training (WE&T) programs, regional

partners may leverage emerging workers to support implementation activities. Green Business Coordinators may receive fieldwork support from emerging workers through SoCalREN WE&T programs. This would provide direct and relevant energy efficiency experience to participants in WE&T training and placement programs.

Workforce Standards

Not applicable for this program.

Disadvantaged Worker Plan

Not applicable for this program.

Additional Information

Not applicable for this program.

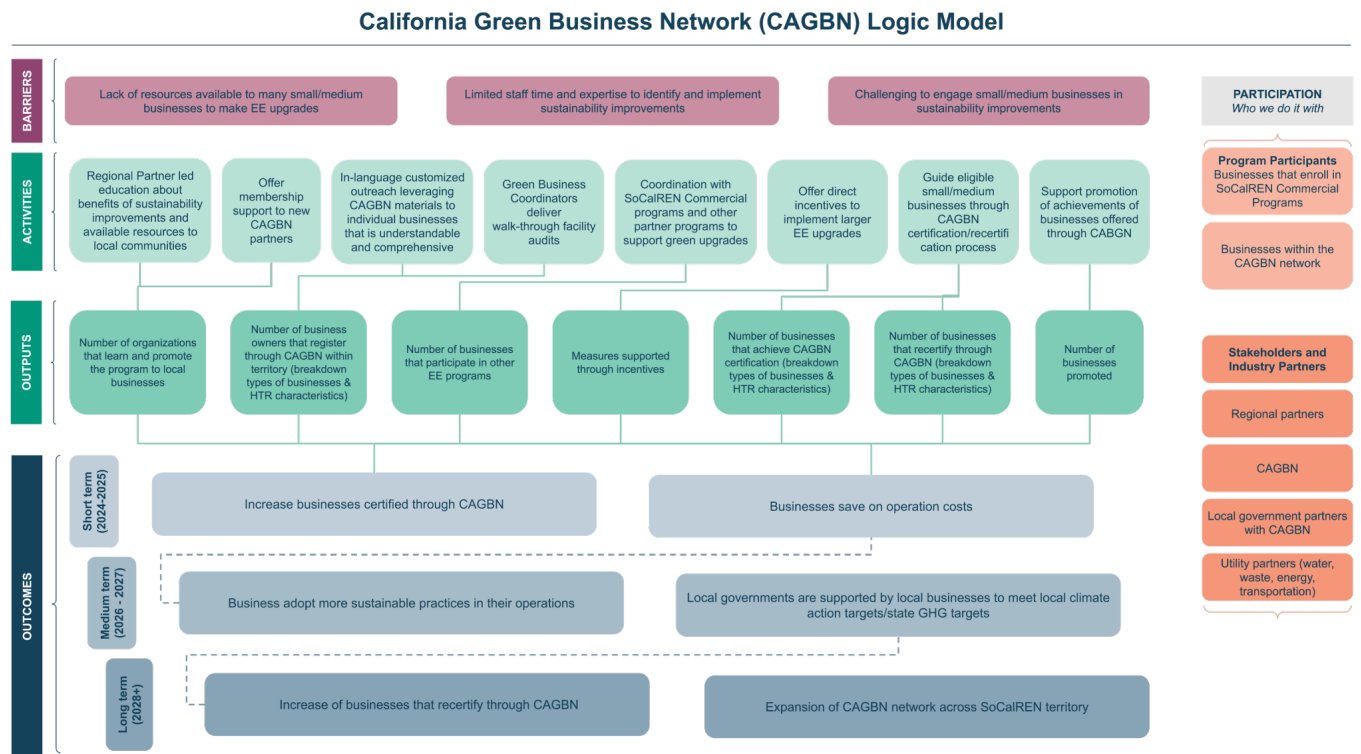
Supporting Documents

Program Manual and Program Rules

To be produced following program approval.

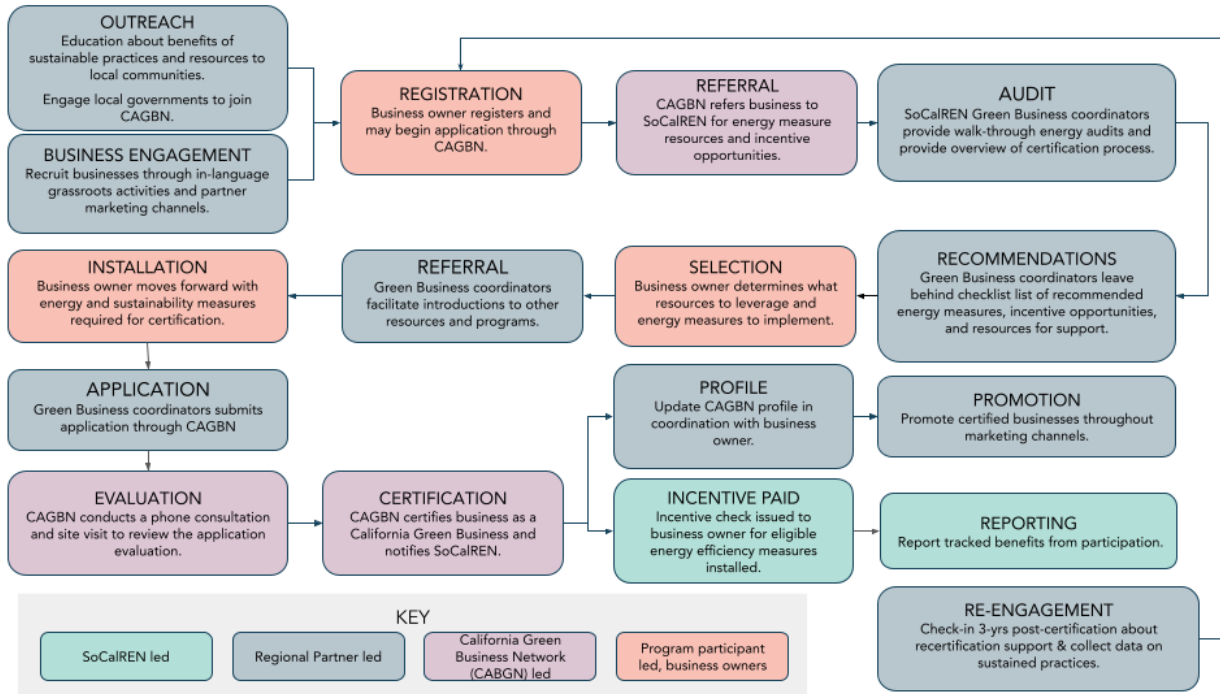
Program Theory and Program Logic Model

Figure 1: Program Theory and Program Logic Model



Process Flow Chart

Figure 2: Program Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

This program leverages the database maintained by the California Green Business Network.

Quantitative Program Targets

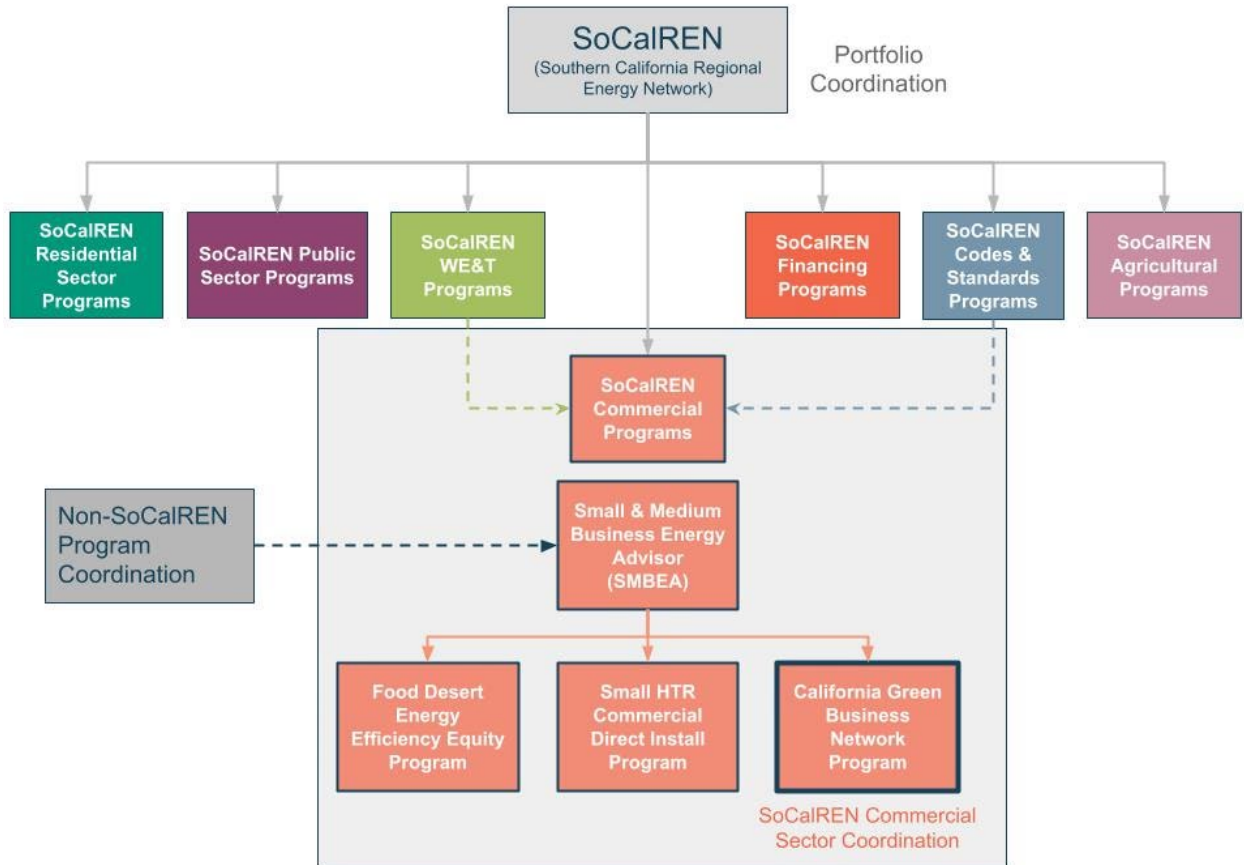
Below are the quantitative program targets for this market support program.

Table 4. Quantitative Program Targets

Metric	2024 Target	2025 Target	2026 Target	2027 Target	4-year Total
# of businesses that receive incentives to achieve CABGN certification	75	84	94	105	358
# of HTR businesses that receive incentives to achieve CABGN Certification	39	44	49	55	187
# of businesses supported by the program that recertify through CAGBN	8	10	14	22	54
# of HTR businesses supported by the program that recertify through CAGBN	5	6	8	12	31

Diagram of Program

Figure 3: Program Diagram



Evaluation, Measurement, and Verification (EM&V)

This program is a non-resource market support program that supports the long-term growth of the energy efficiency market. In order to demonstrate the program's contribution to the market support objectives, the following EM&V activities will be performed:

- The program implementer (PI) will establish clear and robust data collection strategies that will be detailed in the program manual prior to program launch. This will include clear data coordination protocols with CAGBN to ensure continuous and timely reporting of the program metrics and indicators.
- The PA and PI will establish regular data reporting strategies that comply with any established reporting requirements.

Normalized Metered Energy Consumption (NMEC)

Not applicable for this program.

ENERGY EFFICIENCY PROGRAMS

**SoCalREN Codes and Standards
Crosscutting Sector
Codes and Standards
Compliance Enhancement
Program Implementation Plan**

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
October 2021

Contents

Program Overview	4
Program Budget and Savings	5
Implementation Plan Narrative	6
Program Description	6
Program Delivery and Customer Services	7
Intervention 1 (1a and 1b): Provide Targeted Resources and Tools to Local Governments and C&S Stakeholders	7
Intervention 1a: Provide Targeted Resources and Tools to Local Governments	8
Intervention 1b: Provide Targeted Resources and Tools to C&S Stakeholders including Contractors and Property Owners	8
Intervention 2: Develop and Adopt Advanced Energy Codes, Standards, and Policies	9
Advanced Energy Codes	9
Benchmarking and Audit Ordinances	9
Building Emissions Performance Standards	10
Related Activities	10
Intervention 3: Measure and Analyze Impacts from Code Compliance and Code-development Interventions	10
Program Design and Best Practices	11
Innovation	13
Metrics	13
To-Code Savings Claims	13
Pilots	14
Workforce Education and Training	14
Workforce Standards	14
Disadvantaged Worker Plan	14
Additional Information	14
Supporting Documents	14
Program Manual and Program Rules	14
Program Theory and Program Logic Model	14
Process Flow Chart	15
Incentive Tables, Workpapers, and Software Tools	15
Quantitative Program Targets	15
Diagram of Program	16

Evaluation, Measurement, and Verification (EM&V)	16
Normalized Metered Energy Consumption (NMEC)	17

Program Overview

SoCalREN will design all Codes and Standards (C&S) interventions within a framework for creating decarbonized zero net energy (ZNE) communities. SoCalREN seeks to accelerate local government leadership in energy efficiency (EE), ZNE, and greenhouse gas (GHG) goals through their regulatory authority over construction and land use. SoCalREN will build local government capacity for the development, adoption and implementation of model policies and programs that improve the energy efficiency of existing buildings and of ZNE building energy policies and codes (on both a mandatory and voluntary basis) for new construction and existing buildings. SoCalREN's advanced energy codes, standards, and policy support includes promoting the adoption of codes, standards and policies that address:

- Better compliance with and enforcement of state and local energy codes;
- Building benchmarking and energy data disclosure;
- Building emissions performance standards (BEPS);
- Cool roof and cool parking lot requirements;
- Electric vehicle-ready policies and standards;
- Rooftop solar requirements for new construction;
- Point of sale home energy performance rating/indexing;
- All-electric new construction mandates and incentives;
- ZNE building mandates and incentives;
- Accelerated/streamlined permitting processes for EE and distributed energy resource (DER) projects, and;
- Energy policies and initiatives that benefit underserved, vulnerable and disadvantaged communities to improve energy equity and affordability.

Program Budget and Savings

1. Program and/or Sub-Program Name: SoCalREN Codes and Standards Program
2. Program / Sub-Program ID number: SCR-CST-F1
3. Program / Sub-program Budget Table see below

Table 1: Program Budget Breakdown

Program Name	2024	2025	2026	2027	Total 4-yr Budget
SoCalREN Codes & Standards Program	\$650,000	\$720,000	\$810,000	\$800,000	\$2,980,000

4. Program / Sub-program Gross Impacts Table
 - a. This section is not applicable.
5. Program / Sub-Program Cost Effectiveness (TRC)
 - a. This section is not applicable.
6. Program / Sub-Program Cost Effectiveness (PAC)
 - a. This section is not applicable.
7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)
 - a. Third party-delivered
8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)
 - a. Cross cutting, codes and standards
9. Program / Sub-program Type (i.e., Non-resource, Resource)
 - a. This section is not applicable.
10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.
 - a. Market channel: downstream
 - b. Intervention strategy: technical assistance

Implementation Plan Narrative

Program Description

The SoCalREN’s C&S Compliance Enhancement Program interventions will complement and not duplicate the efforts of the statewide joint investor-owned utility (IOU) C&S program. While the statewide IOU C&S program provides tools and resources to a subset of C&S stakeholders, the C&S landscape is large and important enough to warrant local activities, particularly in light of current gaps, barriers and challenges. For example, statewide IOU C&S building department training courses cannot be widely attended (even virtually) by building department staff simply because of limited staff resources and their pressing day-to-day duties. Furthermore, one jurisdiction’s building stock and emissions inventory often differs greatly from adjacent communities and may require a tailored strategy. SoCalREN’s proposed Energy Code Coach services, outlined in Intervention 1 below, speaks directly to these gaps and seeks to address barriers that IOU programs have not sufficiently addressed. A special emphasis will be placed on support and assistance to smaller permitting agencies with more capacity and resource constraints compared to larger agencies. Additionally, the SoCalREN approach will develop a comprehensive Compliance Enhancement Program template that addresses the entire spectrum of compliance, from building design to operation. This is something that is not covered by any existing IOU C&S programs and can thoroughly prepare the C&S community for quickly approaching EE, ZNE and electrification mandates. The focus will be on implementing systematic improvements along the entire permitting process and will be more impactful than providing generic education and training on code and permit requirements.

Table 2: Program Objectives and Alignment with SoCalREN Core Values and ESJAP

Objective	SoCalREN Core Value Addressed	ESJAP*
Assist in building a future in which the C&S community collectively delivers high energy performance buildings through permitting, inspection, and enforcement compliance outcomes at a scale needed to achieve the state’s current and future energy goals.	Build energy capacity and economic resilience	#2,6,8
Provide C&S community members with actionable resources that address their specific role in advancing the state’s ZNE and decarbonization goals.	Deliver energy and climate impacts	#1,2,5
Coordinate with public agencies and external C&S stakeholders to adopt, implement, and enforce advanced energy codes, standards, and policies that pave the way for improved building performance and increased numbers of ZNE buildings.	Build energy capacity and economic resilience	#1,3,9
Enable public agencies to use data collected from the application of advanced energy codes to inform their energy resiliency action plans and serve as a key resource for addressing their energy/GHG targets and strategies.	Build energy capacity and economic resilience; Deliver energy and climate impacts	#1,6
Leverage construction industry trade allies to improve the customer experience and customer outcomes related to the adoption of new and innovative clean energy approaches for new construction and retrofits.	Build energy capacity and economic resilience; Expand access to EE benefits	#2,5,7,8
Streamline permit review and approval processes to facilitate inclusion of energy resiliency and climate adaptation design elements in new and existing buildings, including local DER enablement policies.	Deliver energy and climate impacts	#1,2,3,4,8

Engage and assist C&S stakeholders to reduce potential increased costs from building electrification projects through assistance with energy efficiency and load reduction actions, and adoption of market-based strategies to mitigate the impacts from time and location dependent electricity pricing.	Deliver energy and climate impacts; Build energy capacity and economic resilience	#2,4
---	---	------

*ESJAP = Environmental and Social Justice Action Plan

Program Delivery and Customer Services

The SoCalREN Codes and Standards Compliance Enhancement Program will provide four targeted offerings as summarized below:

1. Assist in developing and promulgating advanced energy codes and support local implementation and compliance strategies.
2. Coordinate with the C&S community to streamline permitting processes and demonstrate the value of energy code compliance, and use innovative information dissemination and training strategies to build agency staff capacity and competency.
3. Develop tools and templates to support trade allies and their supply chains to promote and accelerate electrification, decarbonization, and adoption of innovative energy technologies.
4. Collaborate with the administrators of residential and commercial energy benchmarking and energy performance rating tools and software to help drive higher energy performance in new and existing buildings.

Intervention 1 (1a and 1b): Provide Targeted Resources and Tools to Local Governments and C&S Stakeholders

SoCalREN will take a multi-pronged approach to designing and implementing compliance enhancement activities (Table 3). This approach involves leveraging all relevant existing information on permit compliance and permit agency issues/needs, and then supplementing this base understanding with supplemental needs assessment work among a representative sample of permit agencies, agency staff, and selected outside stakeholders. The supplemental needs assessment research will use surveys, focus groups, and targeted interviews to identify specific gaps and barriers related to code compliance capacity and expertise, and will inform the design of region-wide and agency-targeted education, training, tools and system improvements to specifically address the gaps and barriers identified in the assessment. It is important to simultaneously maintain both a regional and individual agency lens to avoid one-size-fits-all solutions that may be expedient, but do not adequately address the unique needs and characteristics of city and county sub-segments such as small, rural, disadvantaged, economically-challenged, high density, mild to severe climate zones, etc. While the primary audience for this task is local government staff (e.g., staff in development services, building, public works, and planning departments), an assessment including the larger compliance stakeholder group will result in a comprehensive approach that more effectively achieves permit process and code compliance improvements.

In addition, SoCalREN will organize local government peer-to-peer workshops and training (online, virtual, or in-person) to discuss current energy codes, plan reviews and approvals, inspections, enforcement, advanced energy codes, benchmarking and disclosure ordinances, outcome-based codes, and performance measurement. These sessions will also share case studies, best practices, and lessons learned from existing code compliance as well as new code development, adoption, and implementation based on relevant California and U.S. experiences.

This will include integration of information and resources from relevant state and federal initiatives that align with local compliance enhancement activities.

Intervention 1a: Provide Targeted Resources and Tools to Local Governments

SoCalREN will collect data from permitting agencies to identify code compliance trends and deliver customized resources and tools to local governments. SoCalREN will group agencies based on which platform they use to collect permit application and energy-related data. Grouping agencies by permit system, whether electronic or manual, will allow SoCalREN to support peer groups of agencies with similar needs cost-effectively. Data from the electronic permit systems will provide verifiable insights into C&S compliance activities that have traditionally been derived from best guess assumptions or anecdotal information, and will allow SoCalREN to craft tailored solutions to address verified problems.

SoCalREN's planned C&S interventions rely on a foundation of accurate permitting and compliance data. This data will help state agencies better identify compliance gaps, since they will be able to access data to inform their own C&S metrics. Based on these data-driven understandings, SoCalREN will develop and deliver resources and tools to jurisdictions in its service area including: energy code training, virtual workshops on best practices, specialized energy code compliance and enforcement information, and an Energy Coach for personalized technical assistance and mentoring. SoCalREN will also explore electronic tools that can be added to existing permit systems like Accela to improve permitting compliance.

Access to permit data will also support the Energy Resilience Action Plans (ERAPs) described in the Public Sector Chapter of the SoCalREN Business Plan. This includes developing simple tables that connect permit types and frequencies to the sector-specific strategies outlined in the ERAPs. With SoCalREN's assistance, cities and counties can identify trends in permitting and make sure those trends align with ERAP strategies to meet state and local goals.

For example, if water heater permits are issued infrequently, but their ERAP calls for water heating electrification, an agency can engage C&S stakeholders and program administrators to improve compliance activities and staff training, correcting the trend and increasing the number of water heaters being replaced and being converted to electricity.

SoCalREN, led by the County of Los Angeles, will support the review and approval of solar and energy storage projects within the C&S process in collaboration with the Solar Energy Action Committee (SEAC). SEAC is working with the solar industry and local governments to design streamlined processes and standardized manuals. These processes and manuals will create consistency, better solar and battery storage code compliance, an easier approval process for project applicants, and more solar and storage projects within the participating jurisdictions. SEAC is in the process of expanding its focus to include other DER projects beyond solar and storage.

SoCalREN will produce and distribute a report with common energy code compliance gaps in the region, corresponding strategies, and best practices that can increase compliance rates over time to reach permitting agencies that choose not to participate in SoCalREN's C&S program.

Intervention 1b: Provide Targeted Resources and Tools to C&S Stakeholders including Contractors and Property Owners

In tandem with Intervention 1a, and informed by any measure-level compliance gaps that have already been or will be identified through a SoCalREN needs assessment, SoCalREN will develop resources and tools for C&S stakeholders with particular emphasis on general contractors, specialty license contractors (electrical, mechanical, plumbing, etc.), and property owners. Based

on SoCalREN's work with permitting agencies, the SoCalREN will compile lists of contractors who are frequently issued permits in respective jurisdictions, as well as lists of the most common permit types and compliance gaps. Using this information, SoCalREN will develop resources to raise awareness and improve adherence to energy codes and standards, as well as positively impact priorities in a jurisdiction's ERAP. These potential resources will include:

- Targeted and locally accessible workshops that will coincide with any impending updates to Title 24;
- Access to an online clearinghouse containing energy code information and tools, and an online forum open to the entire C&S stakeholder community to facilitate the sharing of ideas and best practices and provide an opportunity to "Ask an Expert" for answers to energy code questions that will be shared with all stakeholders in the forum;
- E-communications, presentation materials, and key messaging information for local government and building industry contacts;
- Social media content, podcasts, and other creative forms of outreach and communication to C&S stakeholders as appropriate, and;
- Climate zone specific contractor and property owner resources for, among other items, heat pump water and space heating in new construction and conversions, electrical panel upgrades, EV charging infrastructure, and other building electrification topics.

Intervention 2: Develop and Adopt Advanced Energy Codes, Standards, and Policies

SoCalREN will reach economies of scale in C&S efforts by providing the 220 local governments within its territory with comprehensive end-to-end support to develop and adopt advanced energy codes, BEPS, and benchmarking and disclosure ordinances/regulations. To improve building efficiency in both existing and new buildings in their communities, local governments must play a greater leadership role through their regulatory authority, including adopting codes, standards, and ordinances that support local energy resiliency and climate action goals and targets.

Advanced Energy Codes

Local governments are increasingly demonstrating energy and climate leadership tied to their C&S actions. To date, over three dozen cities have passed advanced energy codes that focus on clean heating and cooling, appliance electrification, electric vehicles, and rooftop solar. In the absence of an all-electric statewide energy code, local governments will continue to need guidance, tools, resources, model language, and technical support in drafting local energy codes that align with and move forward their energy and climate goals.

Benchmarking and Audit Ordinances

There is a long-standing trend of local governments creating benchmarking and disclosure ordinances. In 2018, as a result of AB802, the California Energy Commission (CEC) launched the Building Energy Benchmarking Program. The CEC has encouraged jurisdictions to continue filling the gaps in statewide policy by addressing the building stock not covered in their program. Additionally, jurisdictions such as the Cities of Los Angeles, Berkeley, San Francisco, San Jose, San Diego, and Brisbane require "beyond benchmarking requirements" that direct building owners to audit and upgrade their buildings. Designing such an ordinance requires technical assistance to tailor the requirements, support, and tools to better engage and conduct outreach to the community and relevant stakeholders, as well as aid in developing implementation approaches that minimize opposition and maximize positive environmental and economic outcomes to align with their climate leadership goals.

Building Emissions Performance Standards

An emerging trend in the United States is BEPS. The U.S. Department of Energy has invested resources to study how a hybrid approach to C&S and local ordinances can improve the performance of the existing building stock. BEPS protocols set time and locational performance targets for energy, water, and emissions that are then tied to required actions to improve the overall performance of designated buildings and/or categories of buildings within a jurisdiction. The mandated or voluntary targets and goals can be tied to DERs and resiliency metrics, and can also be aligned with state and local climate goals. To date, only one city in California is actively pursuing a BEPS approach for existing buildings. SoCalREN will include information on BEPS as a part of its suite of advanced energy code support to cities and counties since it presents a promising pathway for upgrading the energy performance of the existing building stock and achieving significant energy efficiency savings.

Related Activities

SoCalREN will work with local governments in the region to assess community needs and assist identifying relevant advanced energy codes and standards. Additionally, SoCalREN will assist in drafting code language and staff reports to facilitate review and adoption by the agency, including assistance with engaging and educating property owners, the development and contractor community, elected officials, and other stakeholders, and will coordinate with other SoCalREN local governments.

SoCalREN's intervention strategy provides access to a one-stop Online Resource Portal that will include: technical assistance; sample ordinance and staff report templates; case studies from other jurisdictions on model codes, energy disclosure, benchmarking, and other topics; and access to advice from a statewide network of experts and practitioners. Given that each local government will have unique characteristics related to their building stock, energy use, and GHG emissions profile, SoCalREN will strive to provide customized and actionable energy and GHG emissions data and reports (as is also described in the Public Sector Chapter of this Business Plan) that can support a more complete and nuanced understanding of energy use and GHG emissions within a jurisdiction, and serve as the starting point for development and adoption of advanced energy codes and policies that best fit their local needs and opportunities. SoCalREN will assist local governments in establishing processes and protocols for ongoing measurement, collection, and tracking of data following adoption of their advanced codes and standards to accurately ascertain the actual impacts following implementation. SoCalREN will also coordinate with any Southern California Edison (SCE) and Southern California Gas Company (SoCalGas) reach code program activities. For example, the program anticipates cost effectiveness studies that can help guide the development of local strategies.

Intervention 3: Measure and Analyze Impacts from Code Compliance and Code-development Interventions

The cornerstone for measuring C&S compliance is to establish: 1) a solid understanding of the age and characteristics of the building stock; 2) community energy baselines; and 3) reliable access to accurate data. Intervention 3 builds upon the success of the previous interventions. Intervention 1a establishes a baseline for the frequency of permit types and the energy and emissions impacts in each jurisdiction. In subsequent years of the business plan, an impact analysis of permitting and local ordinance policy activities will be measured against local energy and climate action plans to identify gaps. Analysis of these performance gaps will lead to recommendations for improvement that can be acted upon by the jurisdiction. For example, a jurisdiction may have adopted a goal to have 20% ZNE buildings by 2030, but the data measurement and analysis shows that they are behind in meeting the goal and need to consider

additional program and policy interventions to get back on track. The results data will be shared with the local agency as well as with the California Public Utilities Commission (CPUC) and the CEC so that they may benefit from the local insights gathered to inform the EE portfolio and C&S development cycles. The DNV-GL® Integrated Standards and Savings Model (ISSM), for example, would benefit from having real-world data to update measure-level compliance factors used by the Potential and Goals Study. As future code cycles progress under the aegis of the CEC, and as California Air Resources Board (CARB) explores its authority to regulate appliances, the data collected through the SoCalREN C&S program efforts will yield insights that have traditionally eluded policymakers, and will support statewide efforts to improve energy code compliance in new construction and existing buildings.

SoCalREN will assist agencies adopting policies such as BEPS and/or benchmarking and audit ordinances in capturing detailed and standardized data related to the impacts from their initiatives. It is important to note that the CEC regulates energy code software, but heretofore has not played an active role in standardizing data collected at the local jurisdiction level for code compliance. SoCalREN will help address this gap. Furthermore, by supporting local leadership in BEPS as well as benchmarking and audit ordinances, SoCalREN will establish a valuable data stream to measure building energy metrics. By aligning with the suite of Department of Energy (DOE) and National Research Lab tools and resources, this intervention will streamline the collection and analysis of data related to C&S programs and enhance the value and utility of this data for the efforts of state regulators and policymakers to greatly reduce energy use and GHG emissions in buildings.

Program Design and Best Practices

Table 3: Intervention 1a & 1b – Compliance Enhancement Activities

Intervention Strategy	Barriers	Tactics
Provide targeted resources and tools to local governments and C&S stakeholders	Complicated codes, burdensome compliance processes, and competing priorities among C&S stakeholders	Needs assessment to identify C&S compliance gaps and barriers
		Targeted compliance enhancement activities
		Energy Code Coach for building department staff and stakeholders
		Online clearinghouse for information, tools and case studies, online and in-person training, and peer-to-peer learning

Partners: Local governments, IOUs, California Energy Commission, and local stakeholders who participate in building permitting and compliance activities

Table 3: Intervention 2 – Develop/Adopt Advanced Energy Codes, Standards & Policies

Intervention Strategy	Barriers	Tactics
Develop and adopt advanced energy codes, standards, and policies	Local governments lack awareness and/or capacity to lead by example with advanced energy codes and standards, and they lack resources to implement and track outcomes	Advanced energy code opportunities identification and planning
		Advanced energy code development assistance
		Data-driven technical assistance
		Online tools, templates, and resources
<p>Partners: Local governments, IOUs, California Energy Commission, community members, and local stakeholders who will be affected by advanced codes and policies</p>		

Table 4: Intervention 3 – Measure & Analyze Impacts from Code Compliance & Code-development Interventions

Intervention Strategy	Barriers	Tactics
Measure and analyze impacts from code compliance and code-development interventions	Better and more actionable data is the foundation for the tools and initiatives that can save energy and reduce GHGs in the building sector. Ongoing, consistent access to data resources for tracking and analysis of policy impacts and sector trends is the key to achieving better C&S compliance.	Compile data on age and characteristics of building stock
		Compile data on community energy baselines

		Develop tools and technical assistance to provide reliable, ongoing access to accurate C&S data
Partners: Local governments, IOUs, California Energy Commission, universities with energy data and analysis software platforms, DOE, National Renewable Energy Laboratory (NREL), Lawrence Berkeley National Laboratory (LBNL), etc.		

Innovation

The program innovation consists of using the resources of SoCalREN, which is a local government-led network, to support participating local government agencies in better addressing energy code compliance, collection and evaluation of building stock characteristics, energy usage, and building permit data, and promoting advanced energy code development and implementation. Typically, local governments have limited input into the design and implementation of ratepayer-funded Codes and Standards Compliance Enhancement Programs. As a consequence, many of the C&S support needs of local governments are not adequately being met at present. Furthermore, the proposed local government compliance resources that will be provided by the SoCalREN will focus on emerging changes and additions to Title 24 including Flexible Demand Appliance Standards, as well as beyond code enforcement of distributed energy resources. Lastly, this program will support an emerging topic in local ordinances, which is BEPS, which is critical to reaching state and local climate goals.

Metrics

Table 5 below outlines the metrics that will be tracked and reported on an annual basis.

Table 5: Metrics

Metric	Reporting Frequency
# of jurisdictions receiving C&S services and assistance	Annually
% of increased code compliance and permit closeout in fully participating jurisdictions	Annually
# of local governments adopting advanced energy codes, standard, or policies	Annually
# of local governments using SoCalREN data evaluation tools & assistance to enhance C&S activities and policies	Annually

To-Code Savings Claims

This section is not applicable.

Pilots

This section is not applicable.

Workforce Education and Training

This section is not applicable.

Workforce Standards

This section is not applicable.

Disadvantaged Worker Plan

This section is not applicable.

Additional Information

This section is not applicable.

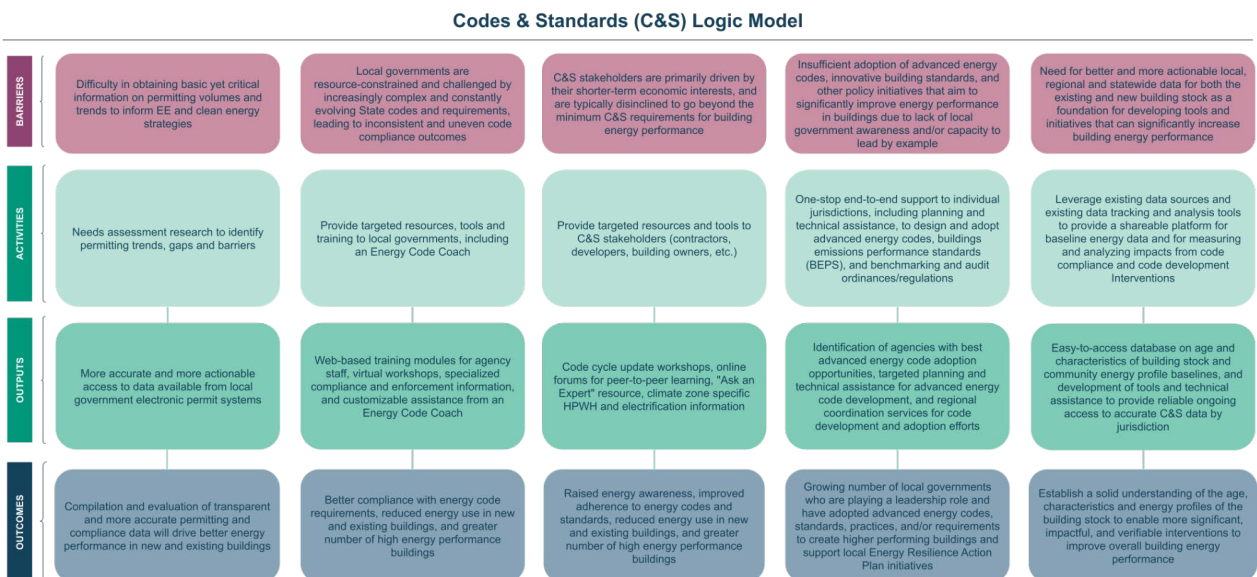
Supporting Documents

Program Manual and Program Rules

Program manual and program rules will be provided upon approval of the program.

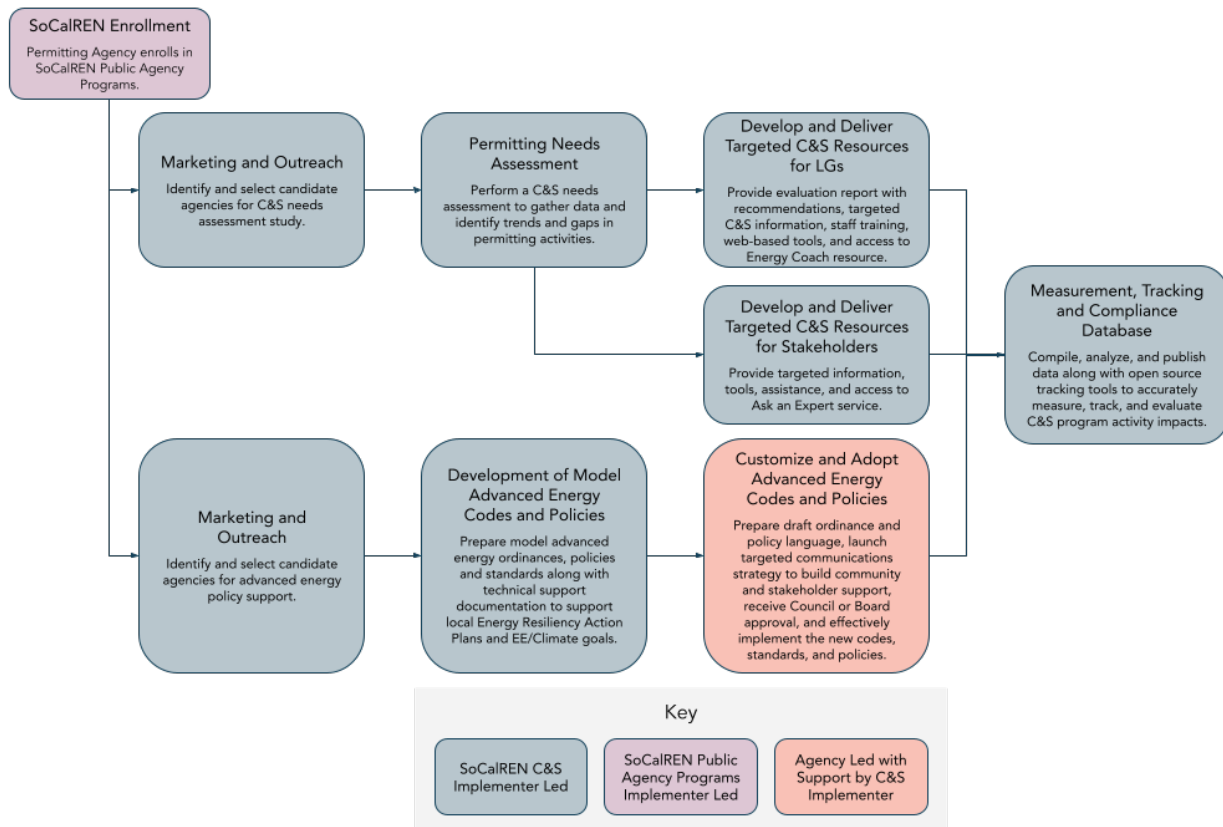
Program Theory and Program Logic Model

Figure 1: Program Theory and Program Logic Model



Process Flow Chart

Figure 2: Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

This section is not applicable.

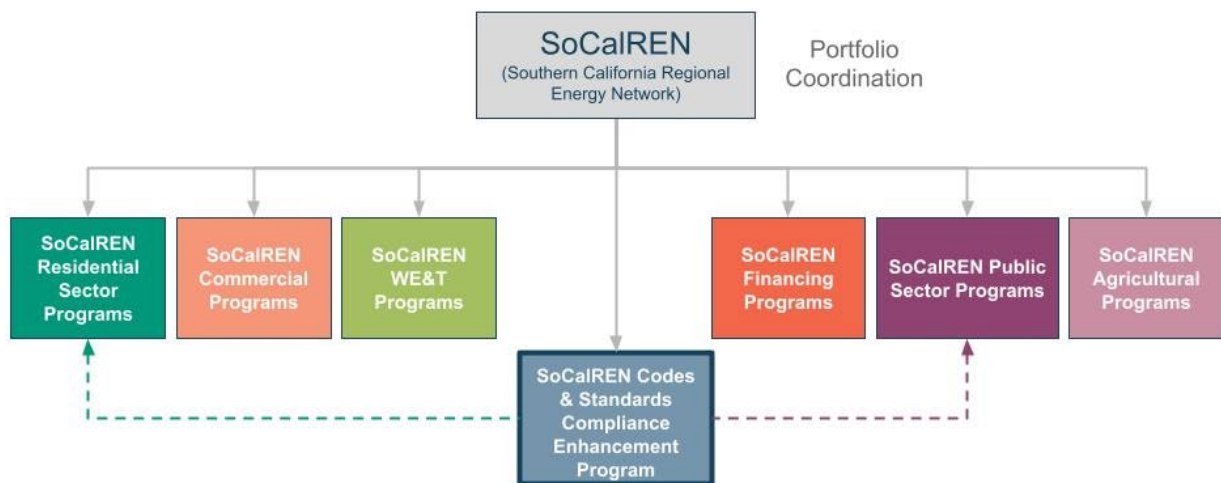
Quantitative Program Targets

Table 6: Four Year Totals

Metric	4 Year Target
# of jurisdictions receiving C&S services and assistance	72
% of increased code compliance and permit closeout in participating jurisdictions	15%
# of local governments adopting advanced energy codes, standard, or policies	20
# of local governments using SoCalREN data evaluation tools & assistance to enhance C&S activities and policies	78

Diagram of Program

Figure 3: Diagram of Program



Evaluation, Measurement, and Verification (EM&V)

The SoCalREN C&S program is a cross-cutting program, but SoCalREN's C&S interventions should nonetheless result in energy savings that will benefit the SCE and SoCalGas C&S programs. SoCalREN's C&S EM&V efforts will focus on qualitative metrics associated with established goals. The specific goals of the SoCalREN C&S Program are to:

- Provide C&S community members with actionable resources that address their specific role in enhancing energy code compliance, reducing energy use in buildings, and advancing the state's energy efficiency and GHG reduction goals;
- Support public agencies and external C&S stakeholders to adopt, implement, and enforce advanced energy codes, standards, and policies that pave the way for improved building energy performance and promote ZNE new construction, and;
- Assist public agencies in collecting and using C&S-related data to inform adoption and implementation of advanced energy codes and policies and to evaluate their impacts.

To ascertain the needs of C&S community members, SoCalREN will perform a needs assessment as a first step. Assessing specific gaps in code compliance and enforcement capacity among local governments and C&S stakeholders will establish a baseline on which EM&V can be calibrated in subsequent years. As SoCalREN begins to develop resources to develop a data baseline and address the identified gaps, the following will be tracked:

- The number and percent of SoCalREN jurisdictions receiving C&S services;
- The specific amount of outreach, education, tools, materials, and training (i.e., resources) provided to C&S stakeholders;
- The number and percent of local governments in SoCalREN territory that consistently use the resources provided;
- Increase in code compliance and permit closeout, and;
- The number and percent of local governments in SoCalREN territory that adopt and implement advanced codes and/or policies.

EM&V of SoCalREN compliance enhancement activities will involve establishment of a baseline for compliance capacity among the C&S community members in the region via survey and direct measurement of compliance activities, followed by establishment of specific, actionable goals and deliverables that will help move the region toward increased compliance. SoCalREN will conduct

ongoing EM&V to assess progress toward goals and adjust tactics as necessary to ensure continued, verifiable success.

SoCalREN's C&S team will work collaboratively with other C&S PAs to inform statewide EM&V roadmaps and plans to ensure they are informed by C&S stakeholders. Similarly, SoCalREN's C&S team will work with C&S PAs, the Energy Division, and the California Energy Commission to determine the best ways to evaluate and learn from SoCalREN C&S activities as the state continues on the path to high performance and ZNE buildings. SoCalREN is interested in working with fellow C&S implementers to develop appropriate expectations and processes for conducting EM&V in the C&S landscape.

Normalized Metered Energy Consumption (NMEC)

This section is not applicable.



ENERGY EFFICIENCY PROGRAMS

SoCalREN Public Sector

**Public Agency Distributed Energy Resources
Disadvantaged Communities (DER DAC) Project
Delivery Program**

Publicly Known as Pathway to Zero Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
October 2021

Contents

Program Overview	3
Program Budget and Savings	3
Implementation Plan Narrative.....	5
Program Description	5
Program Delivery and Customer Services	6
Program Design and Best Practices	9
Innovation	12
Metrics	13
To-Code Savings Claims	14
Pilots	15
Workforce Education and Training.....	15
Workforce Standards	15
Disadvantaged Worker Plan	15
Additional Information	15
Supporting Documents	16
Program Manual and Program Rules	16
Program Theory and Program Logic Model.....	16
Process Flow Chart.....	17
Incentive Tables, Workpapers, and Software Tools.....	17
Quantitative Program Targets.....	18
Diagram of Program.....	19
Evaluation, Measurement, and Verification (EM&V).....	20
Normalized Metered Energy Consumption (NMEC).....	21

Program Overview

To support the Public Sector and to expand on lessons learned from the Southern California Regional Energy Network's (SoCalREN) existing public sector strategies, in 2019 the SoCalREN expanded its energy efficiency (EE) project delivery with the Public Agency Distributed Energy Resources Disadvantaged Communities (DER DAC) Project Delivery Program, publicly known as Pathway to Zero. DER DAC includes distributed energy resources (DER) and sustainability strategies during project identification and provides educational information and resources for integrating DERs in energy efficiency projects. This Program is offered within DACs, rural, and low-income communities. Similar to SoCalREN's Public Agency Energy Efficiency Project Delivery Program, the DER DAC Program will provide energy efficiency project management and education, but it will also provide information and subject matter expertise on DER and sustainability strategies for underserved public agencies. The goal of the program is to maximize energy efficiency opportunities while driving the integration of DERs to help public agencies achieve zero net energy (ZNE). SoCalREN has learned that for most public agencies in the program, energy efficiency retrofits are just the beginning. Many want to achieve deeper energy savings, water efficiency savings, and greater energy resiliency through renewable generation, energy storage, and sophisticated energy management systems. The DER DAC program will support underserved public agencies and address comprehensive resiliency strategies to achieve their climate and sustainability goals.

Program Budget and Savings

1. Program and/or Sub-Program Name
SoCalREN Public Agency Distributed Energy Resources Disadvantaged Communities Project Delivery Program
2. Program / Sub-Program ID number
SCR-PUBL-B2
3. Program / Sub-program Budget Table
Table 1. Program Budget Breakdown

Budget Category	2021
Administration	\$359,083
Marketing	\$215,450
Direct Implementation - Non-incentive	\$3,016,300
Direct Implementation - Incentive	\$0
Total	\$3,590,833

4. Program / Sub-program Gross Impacts Table
This section is not applicable.
5. Program / Sub-Program Cost Effectiveness
This section is not applicable.
6. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)
Third party-delivered
7. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)
Public
8. Program / Sub-program Type (i.e., Non-resource, Resource)
Non-resource
9. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.
Market Channel: Downstream

Intervention Strategies: Technical Assistance

Implementation Plan Narrative

Program Description

The Southern California Regional Energy Network's (SoCalREN) mission is to bring together a variety of services with one common goal: achieving unprecedented levels of energy savings throughout Southern California. SoCalREN's Public Sector Programs believe in the power of public agencies to lead their communities towards a safe, secure, resilient, affordable, and sustainable clean energy future. SoCalREN offers comprehensive services to public agencies to identify energy efficiency projects that yield electricity and gas savings, overcome common barriers to implementation, and deliver energy efficiency projects. A key initiative for this sector is to serve communities who are most in need of energy services to ensure equitable access to resources and expertise.

In addition to energy efficiency, many public agencies have indicated interest in deeper energy savings and greater self-reliance through local renewable energy generation, energy storage, energy management systems, and water efficiency technologies. While customers may have the interest and motivation to pursue these types of DER strategies, they often lack the knowledge needed to take action. In response, the SoCalREN developed a Public Agency Distributed Energy Resources Disadvantaged Communities (DER DAC) Project Delivery Program, publicly referred to as Pathway to Zero, to address this market gap. Services from this program will increase energy efficiency savings, increase involvement in Investor Owned Utility (IOU) and state programs, reduce carbon emissions, and offset energy consumption through renewables and other technologies. The program will contribute to SoCalREN's vision of supporting communities on their path to zero net energy (ZNE) and customers will optimize energy and cost savings by taking a comprehensive approach to facility energy projects.

In order to achieve this goal, the DER DAC Program aims to achieve the following objectives:

1. Fill market gaps in the public sector and provide public agencies serving DAC, rural, and low-income with an integrated, objective, and comprehensive EE and DER solution for their facilities and non-facility infrastructure;
2. Increase the percentage of DAC, low-income, and rural public agencies that engage their communities in DER energy actions and strategies, reducing overall community energy consumption;
3. Increase the number of public agencies participating in SoCalREN's EE programs, with an emphasis on DACs, rural, and low-income communities;
4. Encourage DAC, rural, and low-income public agencies to engage their constituents about energy and DER programs and strategies;
5. Expand the implementation of energy efficiency projects and integrate EE as a standard business practice for underserved public agencies, and;

6. Position public agencies and strategic regional partners to lead community awareness campaigns, engage stakeholders, build public awareness of local, regional, and state efforts, develop energy action plans, and drive participation in PA resource programs.

At no cost to agencies, the DER DAC Program identifies energy-saving measures and works side-by-side with public agency staff throughout the project lifecycle, from performance specification to construction completion, to implement energy strategies. In addition to the DER DAC Program offerings, agencies also receive energy benchmarking and DER technical audit services through the Benchmarking Call to Action (BMCTA) sub-program, which is funded by the CEC.

Program Delivery and Customer Services

SoCalREN's DER DAC Program offers public agencies serving DACs, low-income, and rural communities customized project management and technical engineering services through a third party implementer to implement cost-effective and streamlined projects. The DER DAC Program aligns with IOU downstream intervention strategies and programs and actively works to ensure other Program Administrator offerings, such as the upstream, midstream, direct install, and IOU third party programs, are leveraged when feasible. After enrollment in the SoCalREN Public Sector Programs, each agency is assigned a dedicated project manager and engineering firm. The project delivery team works with the agency to address project challenges and proactively identify solutions.

The DER DAC Program uses a phased project delivery process to move projects from planning and identification to execution and completion. Each phase includes activities to ensure industry best practices, agency alignment, utility coordination, and cost-effectiveness throughout the project. The following is a high-level overview of the project delivery process and services deployed by SoCalREN's DER DAC Program.

Enrollment and Project Identification: An agency is enrolled in the SoCalREN Public Sector Programs once it signs a non-binding enrollment form that acknowledges program participation, responsibilities, and services. The enrollment process begins with a presentation to introduce SoCalREN Public Sector Programs in coordination with the IOUs, local government partnerships, regional partners, and any other applicable partners. The enrollment form is presented to the agency during this meeting; services are not offered until the form is signed and returned. Only agencies with facilities co-located in DAC, low-income, and rural communities can participate in the DER DAC Program. Once enrolled, a project manager is assigned to the agency to begin the identifying and developing projects.

After enrollment, the project manager prepares an agency-wide energy analysis for the agency. The analysis provides a portfolio-wide snapshot of energy consumption and cost by sector (i.e. water and wastewater pumping, street lighting, facilities, and outdoor lighting), and estimates the energy and financial impacts of potential energy efficiency retrofits. The analysis indicates which facilities are located within communities that are eligible for the DER DAC Program and helps identify energy efficiency and DER project opportunities.

Audit: Once a project is identified, the agency signs a project commitment form that records the agency's commitment to pursue the project, if viable, before the program invests limited

resources in conducting an audit. The DER DAC Program project manager then works with the designated engineer to complete a detailed facility or site visit and to identify a preliminary list of recommended energy efficiency measures to present to the agency. Leveraging the BMCTA sub-program, the preliminary list of measures (and all audit phase activities) includes applicable DER measures. After the agency selects which energy efficiency and DER measures to implement, the DER DAC Program prepares audit calculations and a project proposal with operational and maintenance improvements and/or upgrades to equipment and controls. The proposal details the business case for the recommended energy measures by providing estimated project costs, energy bill savings, available incentives, and financing solutions for the package of measures. The DER DAC Program team prepares and submits an IOU incentive application package to reserve applicable incentives and financing. For DER-only measures, the project proposal will include a comprehensive list of financing and program resources as well as potential next steps for the agency to pursue; additional program support may be provided for these measures through BMCTA.

When possible, the audit phase is completed in coordination with applicable program partners, such as regional partners, IOUs, and third-party programs. Coordination among partners ensures that the agency receives a robust array of service offerings, while improving cost-effectiveness across programs and avoiding duplication of efforts. Other SoCalREN Public Sector program offerings are integrated during this phase if applicable.

Design and Procurement: The engineer completes technical performance specifications for the selected energy efficiency measures. If the agency releases a bid for construction services, the DER DAC Program can provide supplementary bid package materials and sample language to support procurement. If the agency uses the DER DAC Program's simplified procurement, SoCalREN schedules a joint scope walk at the site with the pre-qualified contractor, agency representative, and SoCalREN's DER DAC project team. The contractor provides feedback on the draft technical specifications and, if necessary, revises and finalizes them before SoCalREN presents a cost proposal to the agency.

Agency Approval: The DER DAC project manager prepares a detailed project proposal to help agency staff obtain approval for the energy efficiency project. The proposal package may include a staff report and draft resolution, scope of work, cost proposal, and utility incentives and/or financing documents. The agency's relevant approval authority approves the project, then the agency submits the necessary signed documentation and issues a purchase order to the contractor for construction services.

Construction: During construction, the agency is the "project owner of record" responsible for all construction contracts and costs and for designating a construction manager. The agency may choose to manage the construction on its own or can access construction management services through Sourcewell. SoCalREN's DERDAC project management team provides construction management support throughout the process, including review of contractor submittals and verification that work is performed in accordance with the design specifications so that energy savings are achieved and incentives are captured.

Completion: Once the project is installed and verified, the DER DAC team will work with the agency and contractor to collect project close-out information for the applicable resource program. This allows the agency to receive incentives and allows the program administrator to accrue

savings (if applicable). The contractor transfers all appropriate documentation, knowledge, and training to the agency and the facility management personnel for new equipment and/or operational changes. After project completion, the agency receives a survey to provide feedback on the program.

Capacity Building: Enrolled agencies can access the SoCalREN networks’ collective expertise, resources, shared procurement strategies, best practices, and lessons learned to reduce costs and address common barriers. The DER DAC Program provides access to resources including project managers, technical advisors, engineering firms, contractors, financial advisory services, utilities, other industry participants, and peer-to-peer sharing through workshops, newsletters, and other outreach.

BMCTA Sub-program

The Benchmarking Call to Action (BMCTA) sub-program integrates seamlessly into the existing SoCalREN DER DAC Program. Public agencies that serve DAC, low-income, and rural communities are eligible for the BMCTA sub-program. The sub-program has three phases, as outlined below, aligning with and complementing the existing DER DAC Program project delivery process. Each phase includes several steps that ensure industry best practices are applied, utilities are kept informed, and solutions are cost-effective.

BMCTA will provide the following services:

- **On-site Benchmarking and Data Analysis.** BMCTA will perform on-site benchmarking services and screening for EE and DER project opportunities. This phase enhances the DER DAC Program energy analysis services. The goal of this phase is to assess energy savings opportunities, identify viable projects, and educate agency energy champions and facility staff.
- **DER Audit.** BMCTA will coordinate with the agency to determine the DER strategies they want to pursue and to perform a DER audit. The DER audit phase supports the DER DAC Program EE audit phase by providing in-depth technical analysis of DER strategies. The task will culminate in a project proposal, which integrates the DER audit findings with the EE measures and analysis from SoCalREN’s DER DAC Program. Combining the EE and DER audit findings into a project proposal report provides public agencies with a comprehensive business case for projects to obtain staff buy-in and move to implementation. Program services for each DER strategy are described below.

Table 2. DER Strategies

Strategies	Program Services
Demand Response (DR)	Analyze savings, benefits and costs for potential DR measures and available SCE DR programs, support accessing SCE rebates, and provide advisory services
Electric Vehicles (EV) Charging Stations	Provide information regarding general cost estimates for charging stations, information and support with accessing SCE rebates, and advisory services

Solar Water Heating	Analyze savings, benefits, costs, and rebates for SoCalGas and SCE solar water heating systems
Photovoltaic (PV) and Battery Storage Systems	Analyze savings, benefits, costs, and rebates for solar PV and battery storage, and provide information and support for participation in SCE pilots and programs
Greenhouse Gas Emission (GHG) Reduction Options	Educate customers on their options to reduce GHG through SCE or local Community Choice Aggregation provider renewable energy tariff programs
Permanent Load Shifting via energy storage	Analyze savings, benefits, costs, and rebates for facility peak demand and possible load shifting benefits
Water Efficiency	Analyze savings, benefits, costs, and rebates for water efficiency measures

- DER Strategies Development.** SoCalREN will present the DER audit to the agency and review the findings and recommendations with them. Based on agency feedback and energy goals, SoCalREN’s project management team will finalize DER strategy recommendations and update the DER audit and project proposal with final measures and detailed project savings, costs, available incentives, and financing solutions. This phase enhances the DER DAC Program EE audit phase by providing agencies with an in-depth DER project feasibility analysis.

In addition to the services above, the DER DAC Program will offer project management support for each strategy as long as support is tied to the implementation of energy efficiency measures. This includes working with third parties and programs to identify and secure additional resources to move the project through implementation. For example, the program will educate customers on utility and non-utility financial options and support them with the applications if needed. The program will help agencies obtain technical assistance to develop the project, including submitting applications for audits or technical assistance through programs such as the California Energy Commission Energy Partnership Program¹, Bright Schools Program Technical Assistance² and the School Project for Utility Rate Reduction Program³.

Program Design and Best Practices

Market Barriers

The fragmented way the energy industry currently delivers services and incentives makes it challenging to achieve deep energy retrofits and clean energy self-reliance resulting in multiple barriers to whole building energy retrofits and a “project delivery gap” for the customer. Public agencies may have trouble recognizing the benefits of energy projects on a comprehensive scale and often lack in-house expertise and financial resources. These are important challenges to solve because public agencies are significant players in the energy field, both as consumers and as leaders of their communities. SoCalREN’s DER DAC Program addresses these barriers by

¹ www.energy.ca.gov/efficiency/partnership
² www.energy.ca.gov/efficiency/brightschoools
³ www.spurr.org

providing services to streamline energy efficiency project implementation and DER identification with sustained technical assistance and support accessing project funding.

While the existing SoCalREN Project Delivery Program supports energy efficiency, it lacks assistance for complementary technologies. As a result, public agencies either have to navigate these projects on their own or pay for services, both of which are deterrents to project completion. The DER DAC Program addresses these deterrents by providing information on DER technologies and supporting agencies as they secure financial and technical resources for project implementation. The SoCalREN DER DAC Program's comprehensive support educates and supports the agency as they pursue EE and DER projects and greenhouse gas (GHG) emission reduction goals. The Program works hand in hand with the agency and industry partners to support EE and DER project development and implementation through combined EE and DER benchmarking and audits.

Best Practices

To help public agencies meet key challenges, SoCalREN's DER DAC Program has identified several best practices and integrated them into the project delivery process. The DER DAC Program addresses the unique needs of the public agency customer and mitigates the need for agencies to acquire their own in-house expertise and resources. Through a "one stop" approach, SoCalREN's DER DAC Program delivers comprehensive energy retrofit services, customizable to the agency's needs. Participating public agencies can take advantage of the full suite of offerings or select only the services that fit their needs.

The DER DAC Program aims for continuous improvement of implementation practices and systems. Since the DER DAC Program's inception, it has leveraged best practices from the SoCalREN Project Delivery Program's on-the-ground experience to design more effective systems, tools, and techniques for project delivery. To improve cost-effectiveness, SoCalREN develops and evaluates program strategies to control costs and ensure that the most efficient methods are deployed for project implementation. Examples of cost-effective program strategies include:

- A project budget tool that ensures appropriate allocation of program resources based on project and agency characteristics;
- A streamlined pathway for engineers to enter project budgets for approval to ensure alignment on project scope and deliverables, and;
- Audit and project commitment forms to confirm agency buy-in as a project progresses and to ensure that DER DAC Program resources are carefully managed and delivered.

Furthermore, the DER DAC Program has incorporated the following best practices into the overall program design:

- Regional partner agency engagement: The regional partner strategy was initiated to mitigate gaps created by SCE's closing of local government partnership (LGP) programs and to leverage local experts to better serve diverse communities across SoCalREN's expansive territory. In 2019, SoCalREN began partnering with regional community-

based organizations and Councils of Government (COG) for on-the-ground outreach and engagement. Many regional partner organizations have established relationships with agencies working on energy efficiency efforts through LGPs. Through these regional partners, SoCalREN can connect with agencies across diverse climate zones, population sizes, population densities, and other demographic characteristics that are targeted for engagement in order to ensure comprehensive service to all eligible SoCalREN agencies.

Regional partner strategy goals:

- Demonstrate regional reach and deliver valuable services to the entire service territory;
- Increase impacts of energy efficiency through enrollments and enhance engagement;
- Increase energy projects and their associated savings;
- Find opportunities to customize and enhance services in subregions, and;
- Identify new opportunities, sub-programs, and strategies to meet specific sub region needs.

Regional partners enhance SoCalREN's expertise and reach with their local knowledge, relationships with member agencies, and professional relationships that often extend beyond energy efficiency.

- Utility coordination and stakeholder collaboration: SoCalREN's DER DAC Program promotes early and ongoing collaboration with utility partners, third-party program implementers, and stakeholders based on an agreed upon protocol. Coordination among partners ensures a robust array of service offerings are provided to the agency, while also improving cost-effectiveness across programs and avoiding duplication of efforts. A collaborative approach also improves the customer's experience and helps avoid confusion between programs.
- Standardized tools and templates: The DER DAC Program develops and implements standardized tools and templates, including a comprehensive Project Delivery Manual (PDM). The PDM guides project managers and engineers to ensure quality control and application of best practices through the project delivery process.
- Procurement assistance: Assistance during the procurement process helps public agencies to move projects into construction sooner and ensures the achievement and persistence of expected energy savings. SoCalREN's DER DAC Program offers access to a pool of highly qualified specialty contractors that have been selected through a competitive process, further driving down project costs. Procurement support is only available for EE projects or EE and DER combined projects.
- Financing support: To overcome the significant hurdle of project funding, SoCalREN's project team helps to identify and secure grant funding and project financing. The DER DAC Program helps agencies apply for a variety of funding and financing sources including Energy Lease Financing (ELF), IOU on-bill financing (OBF), the California Energy Commission (CEC) low interest loan program, local self-funded financing opportunities, and the SoCalREN's Revolving Savings Fund (RSF). Enrolled agencies

also have access to a financial advisor for additional expertise if needed. Financing support is only available for EE projects or EE and DER combined projects.

- Marketing and communications: SoCalREN uses proven marketing and communications strategies to drive program activities, encourage enrollment, and build agency capacity and expertise.
- Evaluation and reporting: SoCalREN's DER DAC Program completes ongoing evaluation to ensure goals and targets are met while keeping stakeholders fully informed of program operations and outcomes.
- Workforce development: The DER DAC Program supports workforce development initiatives by measuring and reporting on job creation metrics.
- Outreach to eligible public agencies: The DER DAC Program has identified and enrolled agencies serving DAC, low income, and rural communities, providing them with specialized services and deliverables.
- Customer satisfaction: SoCalREN's DER DAC Program monitors customer feedback to identify program enhancements and ensure customer satisfaction. Since the SoCalREN Public Sector Program's inception, annual customer satisfaction ratings have consistently been 90% or higher.
- Peer-to-peer learning: The DER DAC Program builds agency capacity and expertise in energy efficiency by providing customized tools and resources agencies would otherwise have to develop on their own, saving them time, money, and staff resources. The DER DAC Program shares strategies and best practices to overcome common barriers with enrolled agencies by hosting webinars and presenting at conferences and workshops.

SoCalREN's DER DAC Program will implement the following best practices consistent with the CPUC's DER Action Plan⁴, which highlights the importance of performing energy efficiency in conjunction with DERs to avoid unnecessary and costly grid infrastructure upgrades:

- Gather and ensure accuracy of available resources and programs to support project performance and savings persistence;
- Coordinate with IOU customer representatives to communicate the benefits of non-energy efficiency IOU programs for maximum impact;
- Create and leverage tools and templates to streamline program efficiency, and;
- Lead training and development workshops for public agencies to learn about DER topics and build expertise for EE and DER projects.

Innovation

SoCalREN aims to maximize energy savings while reducing implementation costs. Innovative

⁴ www.cpuc.ca.gov/General.aspx?id=6442458159

program elements include DER and sustainability measure support, start-to-finish customized energy project management support, streamlined data analytics, partnerships, and continuous improvement procedures.

DER and sustainability measure support: Ratepayer funds are utilized to provide underserved public agencies with educational information and resources on DER and sustainability measures at sites developing energy efficiency projects. These resources help drive comprehensive energy solutions at public agency sites. The CEC-funded BMCTA sub-program goes beyond high level information, offering agencies serving DAC, rural, and low-income communities technical assistance for DER and sustainability audits, design, and implementation.

Start-to-finish project management service delivery: Public agencies face unique barriers across all stages of an energy efficiency project’s lifecycle. SoCalREN offers comprehensive, customized project management support to overcome barriers at every project phase. SoCalREN integrates and coordinates with all applicable energy efficiency programs and services to avoid duplication and customer confusion. This integrated approach reduces customer touch points and enables public agencies to complete deeper and more comprehensive energy efficiency projects.

Streamlined data analytics: DER DAC leverages various energy analysis tools to compare agency-owned assets, such as buildings and streetlights, and to identify energy intensive infrastructure with energy efficiency project potential. SoCalREN’s comparative energy analysis report synthesizes energy usage data to increase public agency awareness of their energy usage and to identify potential projects. Additionally, ENERGY STAR Portfolio Manager® (ESPM) is used for benchmarking and additional analyses.

Partner with other program administrators and third parties: SoCalREN will partner with program administrators, regional partners, and third-party programs operating locally to coordinate program services that provide value to public agencies. These may include regional energy networks (RENs), community choice aggregators (CCAs), investor-owned utilities (IOUs), and municipally-owned utilities (MOUs).

Continuous improvement procedures: SoCalREN will employ a continuous improvement approach to all aspects of program implementation. This approach will include evaluation and development of program strategies to control costs and ensure that the most efficient methods are deployed for implementing projects. Regular evaluation of feedback and lessons learned from program staff, subconsultants (including regional partners), agency participants, and stakeholders will ensure SoCalREN is operating as cost effectively as possible.

Metrics

SoCalREN’s DER DAC Program is proposing the following key performance metrics to be tracked and reported on periodically throughout the program cycle.

Table 3. Program Performance Metrics

#	Metric	Method	Frequency
---	--------	--------	-----------

1	1st Year Gross kWh Savings Claimed	Savings submitted to CPUC through channeled resource programs	Annually
2	1st Year Gross kW Savings Claimed	Savings submitted to CPUC through channeled resource programs	Annually
3	1st Year Gross Therm Savings Claimed	Savings submitted to CPUC through channeled resource programs	Annually
4	Agency Enrollment	Number of agencies enrolled in SoCalREN Public Sector programs	Annually
5	Increased Pipeline	Energy savings identified through completed audits to be installed in future years	Annually
6	Program Savings Contribution to Market Share	Overall contributions of energy savings to IOU programs as measured by percentage of overall Public Sector savings	Annually
7	Job Creation	Number of new construction jobs as measured by construction costs	Annually
8	Capacity and Expertise	Number of informational and educational outreach activities conducted by SoCalREN	Annually
9	Customized Services	Reporting of services leveraged as a percentage of completed projects	Annually
10	Educational Materials	Number of fact sheets, newsletters, and case studies generated by the SoCalREN program	Annually
11	Customer Satisfaction	Enrolled agency satisfaction rating as reported in annual survey	Annually
12	Regional Environmental Benefits	Metric tons of greenhouse gas (GHG) emissions reduced regionally as measured by lifetime gross energy savings of completed EE projects	Annually
13	Number of EE and DER projects proposals developed	Number of EE and DER project proposals presented to agencies	Annually

SoCalREN's CRM will track this information to show the impact of the DER DAC Program. The program will work hand in hand with all SoCalREN Public Sector Programs to obtain updates from the customer on a quarterly basis and as needed. Once information is gathered, it will be entered in the CRM and used to generate reports.

To-Code Savings Claims

This section is not applicable.

Pilots

This section is not applicable.

Workforce Education and Training

This section is not applicable.

Workforce Standards

DER DAC does not directly install energy efficiency equipment. Nonetheless, the program will provide due diligence to ensure that energy efficiency projects supported by the program adhere to the workforce standards for heating, ventilation, and air conditioning (HVAC) and advanced lighting control programs as applicable. The program will integrate messaging and direction to public agencies during the project lifecycle to ensure projects installed comply with CPUC Workforce Standards as stipulated in D.18-10-008. These standards will be referenced and reiterated during various program services including the following touchpoints:

- Project proposal will highlight the importance and purpose of the standards.
- Technical specifications will include language that program participants will reference prior to project installation.
- Procurement kickoff meeting will include an agenda item to highlight the significance of the standards and requirements for agencies to submit applicable documentation and confirm adherence to the guidelines at project closeout.

DER DAC may request program participants share applicable documentation to demonstrate adherence to the Workforce Standards which may include any certifications, apprenticeship programs, accredited degrees, or other workforce training programs.

Disadvantaged Worker Plan

DER DAC coordinates with SoCalREN's Workforce, Education, and Training programs to present information on career opportunities for disadvantaged workers in the energy efficiency industry.

Additional Information

This section is not applicable.

Supporting Documents

Program Manual and Program Rules

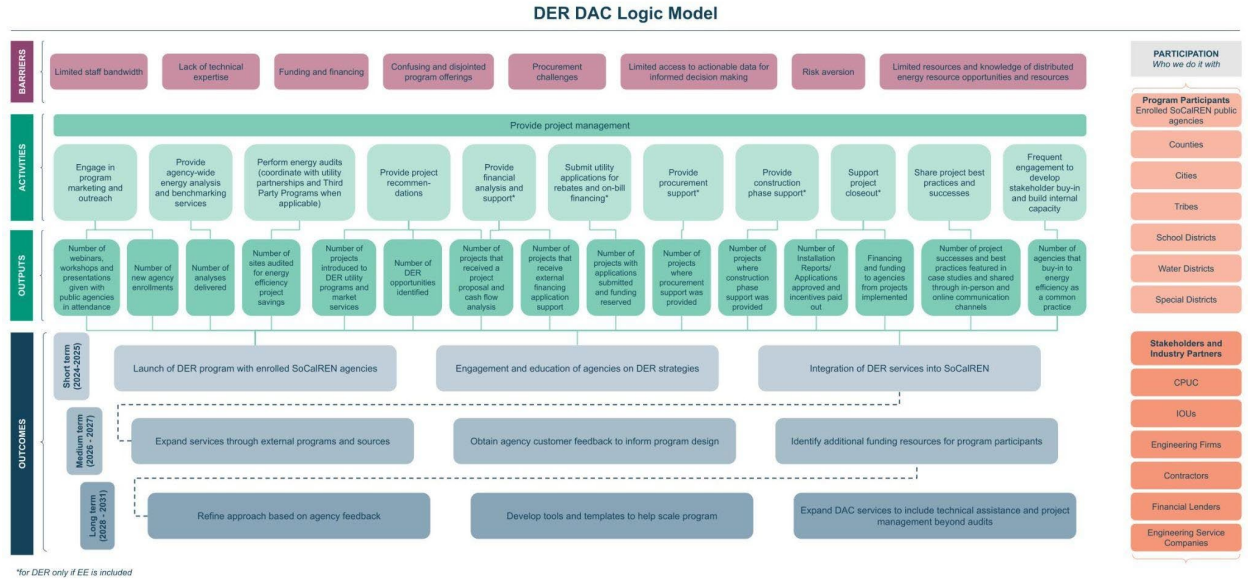
A short description of supporting materials is provided below. Greater detail is provided in the program manual.

Table 4. Supporting Materials

#	Information Required	Short Description
1	Eligible Measures or Measure Eligibility	Eligible measures pursued by public agencies through SoCalREN's DER DAC Program will adhere to program administrators' rules regarding measure eligibility. All savings will be transparent in supporting calculations as submitted to the program administrators.
2	Customer Eligibility Requirements	The DER DAC Program will work with eligible customers in the public sector who serve DAC, low-income, and rural communities. This includes cities, counties, school districts, tribes and special districts serviced by SCE and/or SoCalGas that pay Public Purpose Program charges.
3	Contractor Eligibility Requirements	The DER DAC Program will work with the contractor selected by the agency to ensure all incentive eligibility requirements are addressed and met.
4	Participating Contractors, Manufacturers, Retailers, Distributors	This is a downstream program offering project development and project implementation services, with post-installation incentives offered through EE resource programs.
5	Additional Services	SoCalREN's DER DAC Program will offer DER education and outreach to public sector customers in SCE and SoCalGas territories.
6	Audits	Pre and post installation audits, as required, will be conducted in a manner that aligns with EE resource program eligibility requirements.
7	Sub-program Quality Assurance Provisions	Quality assurance checks will be implemented throughout the process at various milestones to maintain data accuracy and customer satisfaction.
8	Eligible DER DAC Programs and Resources	Description of eligible IOU and State programs and resources on various EE and DER topics covered by the DER DAC Program.
9	Inputs and Assumptions for DER Strategy Assessments	Detailed description on the inputs and assumptions needed to conduct the high level assessment of PV and battery storage systems and water efficiency measures.

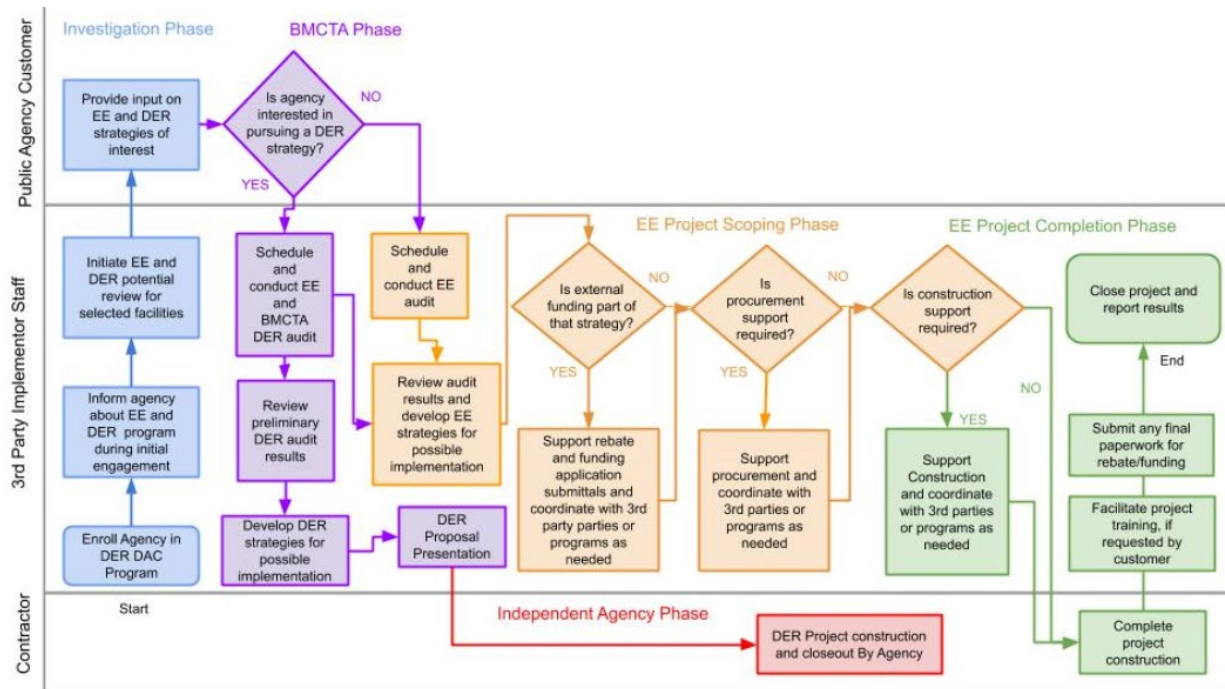
Program Theory and Program Logic Model

Figure 1: Program Theory and Program Logic Model



Process Flow Chart

Figure 2: Program Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

EE measures will channel through existing EE resource programs wherever possible. The below table describes other tools leveraged to support turnkey project delivery services.

Table 5. Program Tools

#	Tools	Short Description
1	Salesforce	Customer relationship management (CRM), used to track projects and generate customer reports
2	Google Data Studio	Platform used to collect and synthesize energy consumption data and deliver customer energy use analyses
3	Energy Star Portfolio Manager®	Online tool used to track energy consumption and greenhouse gas emissions; allows user to benchmark the performance of one building or a whole portfolio of buildings
4	GIS	Geographic Information System (GIS) tool allows users to pinpoint exact locations of facilities and tie usage characteristics to those facilities
5	ezIQC	Provides access to competitively awarded contractors through cooperative purchasing networks, expediting project delivery through a simplified procurement process

The SoCalREN DER DAC Program will utilize analysis tools to inform public agencies about solar PV, battery storage systems, and water efficiency measures options.

Table 6. Additional Tools

#	Tool Name	Short Description	URL Link or Location
1	REopt	REopt is a NREL developed decision support model used to optimize solar PV and battery storage systems for buildings	reopt.nrel.gov
2	Federal Energy Management Program (FEMP) Water Project Screening Tool	The FEMP Water Project Screening Tool is an Excel based tool that analyzes Facility water consumption data to identify applicable water efficiency measures	www.energy.gov/eere/femp/downloads/water-project-screening-tool

Quantitative Program Targets

The following targets are applicable to the combined savings delivered by SoCalREN's DER DAC Program and Energy Efficiency Project Delivery Program (PDP):

Table 7. Quantitative Program Targets

Year	(1st Year Gross) kWh Savings Claimed	(1st Year Gross) kW Savings Claimed	(1st Year Gross) Therm Savings Claimed
2020	10,000,000	500	18,000
2021 - 2023*	11,666,666	350	23,333
2024 - 2025**	12,000,000	540	24,000

* Mid-term targets are an average of 2021, 2022, and 2023 targets

** Long-term targets are an average of 2024 and 2025 targets

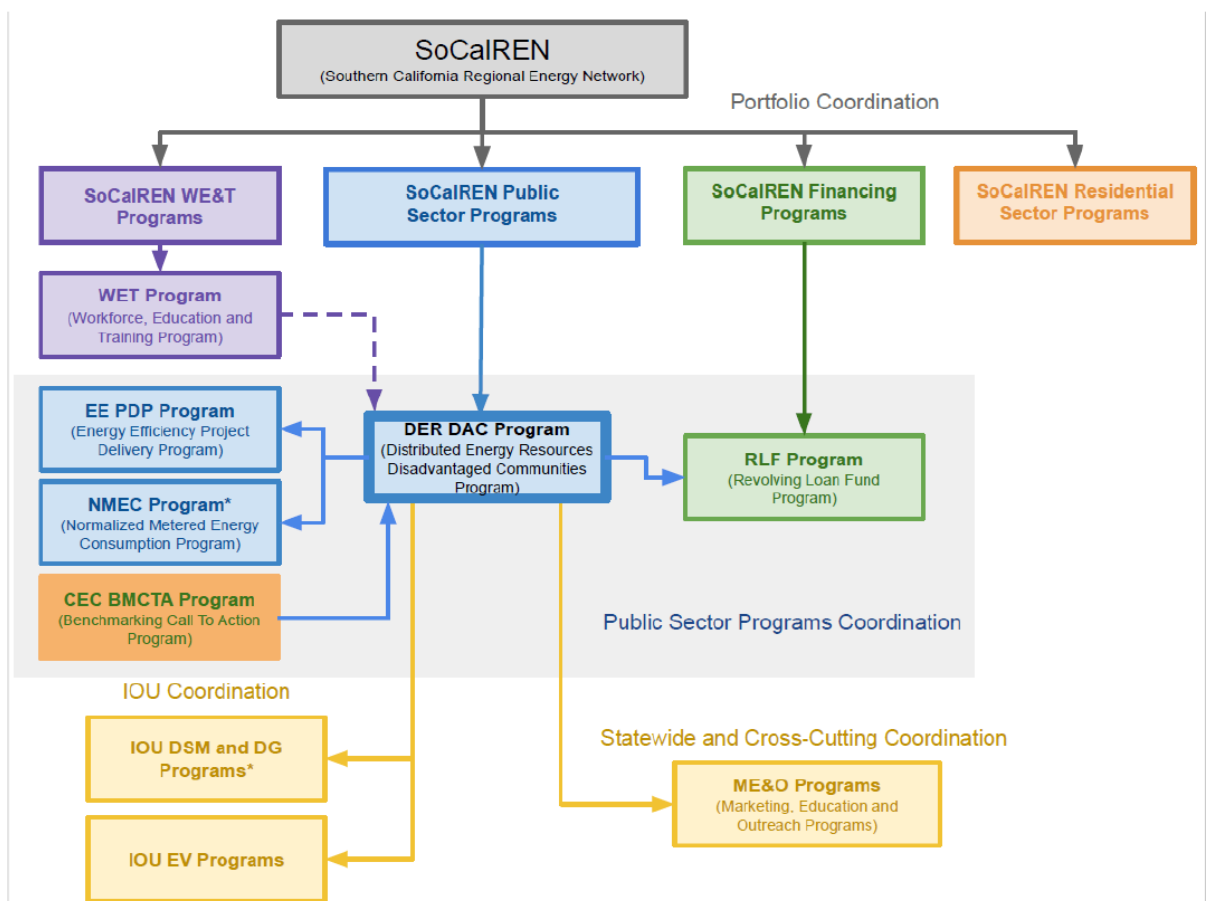
The following targets are specific to the DER DAC Program:

Table 8. Additional Targets

Year	Projects Supported with Informational and Educational Information
2020	20
2021	30

Diagram of Program

Figure 3: Diagram of Program



*Resource Program

Evaluation, Measurement, and Verification (EM&V)

SoCalREN's DER DAC Program is a non-resource program that channels energy savings through existing resource programs. As such, EM&V for the program focuses on customer energy savings claimed by the IOUs and program performance metrics for services offered in alignment with the CPUC's California Long Term Energy Efficiency Strategic Plan⁵. For data related to energy savings projects, the DER DAC Program works in close coordination with the IOUs to collect project measure data on a monthly basis through a data transfer process.

The DER DAC Program offers audits, which include estimated energy savings and a list of measures, for facilities and assets they serve. Energy savings are determined by calculating the energy consumption of the system or facility before (referred to as the "baseline" period) and forecasting savings after the measures are implemented, adjusted for any differences such as operating and weather conditions. Behavioral, retro-commissioning, and operational (BRO) strategies may use an existing conditions baseline and may require additional energy model or simulation data. Depending on the measure type, some calculations must use the most recent California Code of Regulations Title 24 (T24) Energy Efficiency Building Standards or standard practice for baseline operating conditions.

The Measurement and Verification (M&V) process built into SoCalREN's DER DAC Program procedures is in accordance with IOU downstream intervention program requirements and follows M&V standards as required by the resource program through which the project is implemented. For example, per the SCE Customized Calculation Savings Guidelines v. 22.0⁶, a full M&V plan is required for most custom projects with more than 250,000 kWh in savings, though custom projects with less than 250,000 kWh in savings may also require an M&V plan. If a full M&V plan is required for a project, it will be provided by the assigned engineer during development of the Project Feasibility Study. The full M&V plan is approved by SCE, or a third-party technical reviewer representing SCE, and includes the minimum required M&V data for the baseline and/or measure equipment and system performance.

The M&V plan methodology is based on the principles, procedures, and guidelines set forth in the International Performance Measurement and Verification Protocol (IPMVP) Options A-D⁷, and the Federal Energy Management Program (FEMP) M&V guidelines⁸. The full M&V plan can be used as the basis for project verification. The project M&V plan is submitted as an attachment to the Project Feasibility Study at the time of application submission, and attached to the Installation Report after project implementation.

⁵ California Energy Efficiency Strategic Plan, <http://www.cpuc.ca.gov/general.aspx?id=4125>

⁶ SCE Customized Calculation Savings Guidelines for Non Residential Programs v. 22.0, <https://sceonlineapp.com/DocCounter.aspx?did=670>

⁷ International Performance Measurement and Verification Protocol, http://www.eepperformance.org/uploads/8/6/5/0/8650231/ipmvp_volume_i__2012.pdf

⁸ Federal Energy Management Program (FEMP) M&V Guidelines, <https://www.energy.gov/eere/femp/downloads/mv-guidelines-measurement-and-verification-performance-based-contracts-version>

In addition to channeling projects through utility programs, SoCalREN's DER DAC Program also delivers non-resource benefits to the public sector. The following paragraph describes the data collected in support of continuous improvement and ongoing program evaluation.

The SoCalREN Public Sector Programs' customer relationship management (CRM) database is used to record program and project related information and to generate reports that indicate progress toward program goals. The DER DAC Program seeks feedback from its customers with a project-specific survey after each project closeout, via focus groups, and through an annual agency satisfaction survey. Focus group feedback and survey results are analyzed to understand the impact program services have on energy efficiency and DER projects and how the program can improve. Through data collected in the CRM and analysis of survey feedback, SoCalREN's DER DAC Program can evaluate its ability to deliver energy savings, build agency knowledge and expertise, conduct outreach activities, meet greenhouse gas (GHG) reduction targets, support job creation, and streamline processes and procedures. The DER DAC Program ensures customer satisfaction and effective service delivery by taking a nimble and adaptive approach to program implementation.

Normalized Metered Energy Consumption (NMEC)

This section is not applicable.



ENERGY EFFICIENCY PROGRAMS

**SoCalREN Workforce Education and
Training Sector**

**E-Contractor Academy
Program Implementation Plan**

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
March 2022

Contents

Program Overview	3
Program Budget and Savings	4
Implementation Plan Narrative	5
Program Description	5
Program Delivery and Customer Services	5
Program Design and Best Practices	5
Innovation	5
Metrics	5
To-Code Savings Claims	6
Pilots	6
Workforce Education and Training	6
Workforce Standards	6
Disadvantaged Worker Plan	7
Additional Information	7
Supporting Documents	8
Program Manual and Program Rules	8
Program Theory and Program Logic Model	8
Process Flow Chart	8
Incentive Tables, Workpapers, and Software Tools	8
Quantitative Program Targets	8
Diagram of Program	8
Evaluation, Measurement, and Verification (EM&V)	8
Normalized Metered Energy Consumption (NMEC)	9

Index of Tables

Table 1. WE&T Sector	Error! Bookmark not defined.
Table 2. WE&T Sector	5

Program Overview

The E-Contractor Academy Program prepares small and diverse contractors to compete for and perform energy efficiency projects throughout Southern California.

Program Budget and Savings

The CEDARS platform generates summary views of the following information, based on application tables that the PAs upload to CEDARS. The information is organized at the program level and, if applicable, sub-program level to enable multiple cross tabulations and outputs for stakeholders' review and consideration. Programs with subprograms will be displayed at subprogram level and will roll up to a program summary page.

1. Program and/or Sub-Program Name
 - a. E-Contractor Academy
2. Program / Sub-Program ID number
 - a. SCR-WET-D6
3. Program / Sub-program Budget Table

Budget Category	2024	2025	2026	2027
Admin	\$30,000	\$30,000	\$30,000	\$30,000
ME&O	\$30,000	\$30,000	\$30,000	\$30,000
Direct Implementation	\$440,000	\$440,000	\$440,000	\$440,000
Total	\$500,000	\$500,000	\$500,000	\$500,000

Table 1: Program Budget Table

4. Program / Sub-program Gross Impacts Table
 - a. This is not applicable for non-resource programs.
5. Program / Sub-Program Cost Effectiveness (TRC)
 - a. N/A
6. Program / Sub-Program Cost Effectiveness (PAC)
 - a. N/A
7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Program Implementer	Yes
SoCalREN Only	
SoCalREN – Statewide Lead	
Other PA – Statewide Lead	
Third Party	X
Other (Partnership)	

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Market Sector	Yes
Residential	
Commercial	
Industrial	
Agricultural	
Public	
Codes & Standards	
Workforce Education & Training	X
Finance	
Other	

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Program Type	Yes	No
Resource		X
Non-Resource	X	

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market Channels	Yes	No
Upstream		
Midstream		
Downstream	x	

Intervention Strategies	Yes	No
Direct Install		
Incentive		
Finance		
Audit		
Technical Assistance	X	

Implementation Plan Narrative

Program Description

The E-Contractor Academy Program is designed to prepare small and diverse contractors with the knowledge to compete for energy efficiency projects and increase their capacity. The program is designed to prepare small and diverse contractors to compete for and perform energy efficiency retrofit projects throughout Southern California. Training and technical assistance provides contractors access to bonding and capital resources and an introduction to sustainability, public contracting requirements, and how to bid on energy efficiency projects.

Contractors undergo training through a curriculum designed to achieve maximum outcomes and preparation. Curriculum includes:

- Bonding and Insurance
- Access to Capital
- Green Building/Construction Standards and Requirements
- Overview of Market Opportunities
- Worker and Site Safety Programs
- Project Management and Construction Administration
- Project Labor Agreements and Joint Venture
- Marketing/Networking
- GPRO Certification Training
- Fundamentals of Building Green



Program Delivery and Customer Services

Program Strategies

The program targets SMWDVBE contractors, those enrolled will benefit from the support and guidance offered by procurement managers, industry experts and technical assistance specialists.

Marketing and Outreach

The E-Contractor Academy Program will be promoted through a variety of tactics to target our primary audience.

Direct Outreach to Contractors

The E-Contractor Academy Program will perform direct outreach to contractors via contractor associations, minority organizations and industry partners. Contractors will learn first-hand from program staff the services offered once enrolled.

Training Sessions for Contractors

Contractors will have an opportunity to attend various training workshops on introductory and advanced topics and have an opportunity to enroll in our 5-7 weeklong Academy session.

Technical Assistance

Contractors will work with a Technical Assistance Specialist who will provide one on-one technical assistance and personalized coaching to prepare contractors to bid on energy efficiency projects. Technical Assistance Specialists will help contractors in developing a tailored capability statement highlighting their business capacity, as well as coaching them through a project's pre-qualification requirements.

Bid support

A Technical Assistance Specialist will meet with contractors to review all project bid documentation to ensure accuracy and provide suggestions, free of charge. Contractors will also receive the assistance needed to pre-qualify and perform energy efficiency projects.

Project support

As needed, SoCalREN can assist contractors during a project by providing in-the-field support.

Marketing and Advertising Engagement Channels

Marketing Collateral

Program overview and other materials (contractor collateral, resources, etc.) have been developed to provide potential participants information regarding the E-Contractor Academy Program and the benefits of participation.

Toll-Free Phone and Email Support

The E-Contractor Academy Program will provide toll-free phone and email support for program inquiries. The toll-free line is available on weekdays from 9:00 a.m. to 5:00 p.m.

Web-Based Digital ME&O

The SoCalREN website includes a section dedicated to the E-Contractor Academy Program. In addition, E-Contractor Academy Program is featured on SoCalREN social media platforms and in Quarterly SoCalREN E-Newsletters.

Public Relations

Campaign Goals

Program Goals	2024	2025	2026	2027
Cohort	100	100	100	100
Orientations/Trainings*	10	10	10	10

Table 2: E-Contractor Program goals for years 2024-2027

* Individualized coaching and assistance offered in addition to Orientations/Trainings

Program Design and Best Practices

Barrier	Solution
Lack of small, minority contractors with green building knowledge and skills	Host workshops to increase MWDVBEs basic information and knowledge
Access to Capital, bonding, and insurance	One-on-One technical assistance and workshops to increase contractors 'access to capital, bonding, and insurance
Access to green building technologies and equipment/materials	Participants will receive training options, certificated programs, access to construction technologies, and equipment materials
Challenging public procurement policies and requirements	One-on-One technical assistance and RFP development

Table 3: E-Contractor Program Barriers

Innovation

N/A

Metrics

The metrics to be gathered by the SoCalREN E-Contractor Academy program are as follows:

Table 4. WE&T E-Contractor Academy Program

Metric	Data Collected
Marketing	Number of E-Contractor website page visits; Number of interest forms completed
Direct Implementation	Number of enrolled participants in E-Contractor
Training	Number of technical assistance hours Number of industry certifications completed

Technical Assistance	Number of business certifications completed Number of pre-qualified contractors Number of bids submitted Number of contractors with increased bonding capacity
-----------------------------	---

To-Code Savings Claims

N/A

Pilots

N/A

Workforce Education and Training

Describe how the program will support workforce, education, and training to:

1. Expand/initiate partnerships with entities that do job training and placement;
 - a. Partnerships will include contractor associations, minority organizations and labor/trades for collaboration and training.
2. Require placement experience for any new partners in the workforce, education, and training programs and new solicitations;
 - a. N/A
3. Require “first source” hiring from a pool of qualified candidates, before looking more broadly, beginning with self-certification; and
 - a. N/A
4. Facilitate job connections, by working with implementers and contractor partners, and utilizing energy training centers.
 - a. Our collaboration with the IOUs provides participants the opportunity for further specialized training through the energy training centers.

Workforce Standards

N/A

Disadvantaged Worker Plan

N/A

No direct installation or modification.

Additional Information

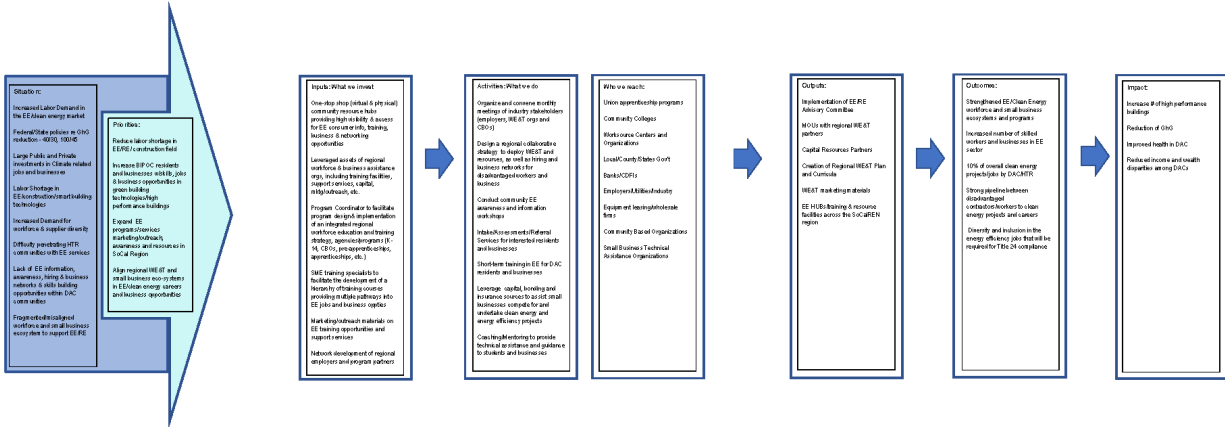
N/A

Supporting Documents

Program Manual and Program Rules

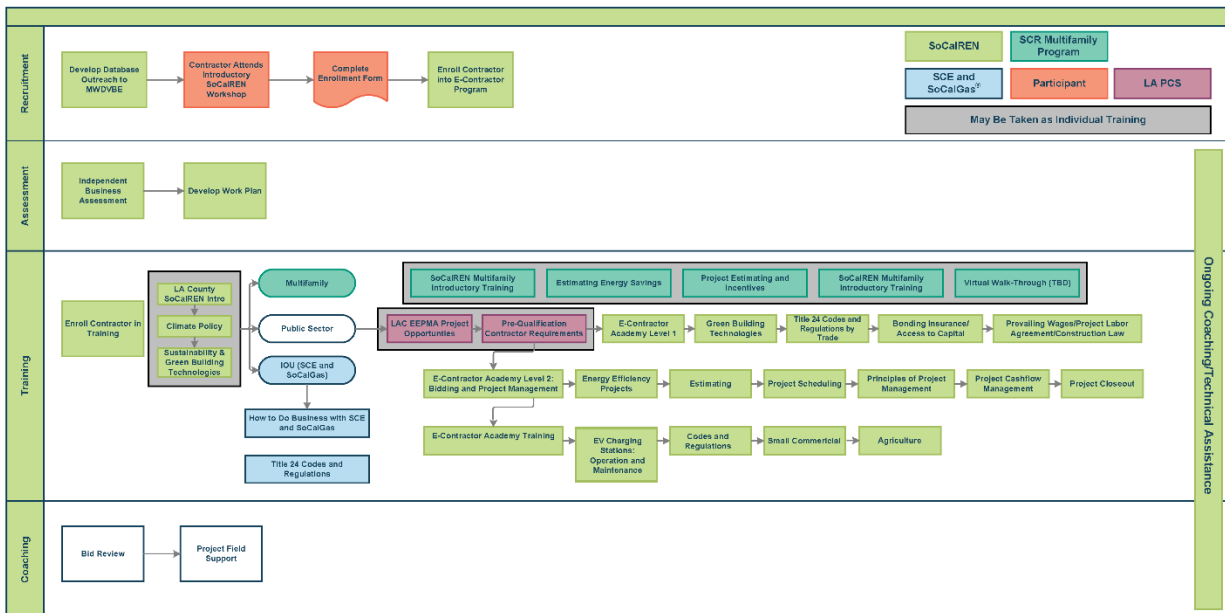
Program Manual will be prepared after approval of the Business Plan.

Program Theory and Program Logic Model



Process Flow Chart

SoCalREN Workforce Education and Training: Contractor Flowchart



Definitions:
 IOU Investor Owned Utility
 LAC Los Angeles County Energy Efficiency Project Services Master Agreement (EEPMA)
 LA PCS Los Angeles County Purchasing and Contracts Division
 SCE Southern California Edison

Incentive Tables, Workpapers, and Software Tools

N/A

Quantitative Program Targets

The E-Contractor Academy program goals are as follows:

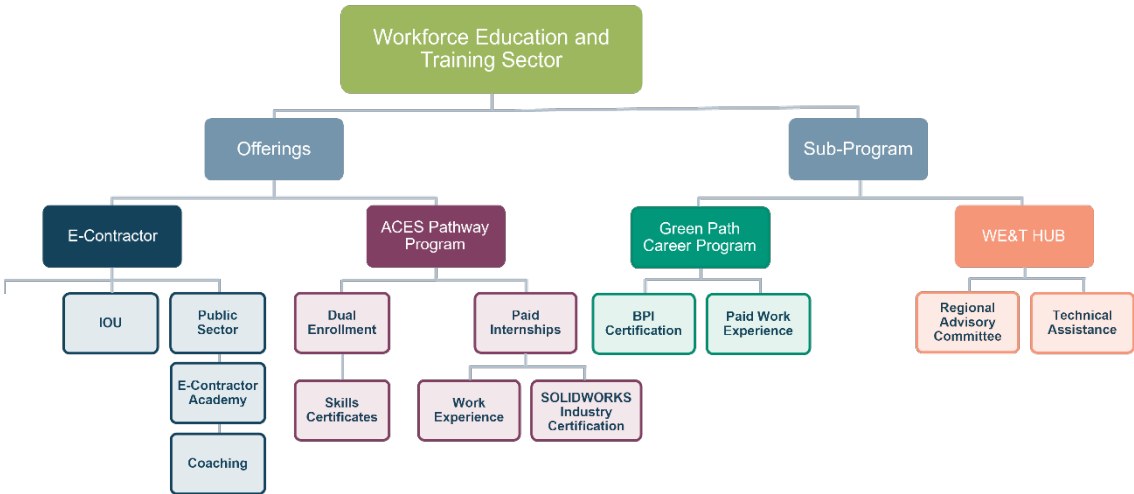
Program Goals	2024	2025	2026	2027
Cohort	100	100	100	100
Orientations/Trainings*	10	10	10	10

Table 5: E-Contractor Program goals for years 2024-2027

* Individualized coaching and assistance offered in addition to Orientations/Trainings

Diagram of Program

WE&T Sector Program Structure



Evaluation, Measurement, and Verification (EM&V)

The E-Contractor Academy program completes ongoing evaluation to ensure the goals and targets are met while keeping stakeholders fully informed of program operations and outcomes. A comprehensive workplan will be developed by SoCalREN’s third-party EM&V team at the beginning of each year to identify the study needs in the portfolio, determine the timeframe and allocate the budget per study.

Normalized Metered Energy Consumption (NMEC)

N/A



ENERGY EFFICIENCY PROGRAMS

SoCaIREN Public Sector **Energy Resiliency Action Plan** **Program Implementation Plan**

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
September 2021

Contents

Program Overview.....	3
Program Budget and Savings.....	3
Implementation Plan Narrative.....	5
Program Description	5
Program Delivery and Customer Services	6
Program Design and Best Practices	7
Innovation	7
Metrics	8
To-Code Savings Claims	8
Pilots	9
Workforce Education and Training	9
Workforce Standards	9
Disadvantaged Worker Plan	9
Additional Information	9
Supporting Documents.....	10
Program Manual and Program Rules	10
Program Theory and Program Logic Model	10
Process Flow Chart	10
Incentive Tables, Workpapers, and Software Tools	11
Quantitative Program Targets	11
Diagram of Program	12
Evaluation, Measurement, and Verification (EM&V)	12
Normalized Metered Energy Consumption (NMEC)	12

Program Overview

The Energy Resiliency Action Plan (ERAP) Program will provide public agencies with a consistent and systematic framework to guide their communities to a clean and resilient energy future.

The SoCalREN proposes to lead the development of Energy Resiliency Action Plans (ERAPs) to inform community-wide and regional activities that support energy, greenhouse gas, and resiliency goals at the local, regional, and state level. The program will provide public agencies with near-term to long-term energy resiliency strategies while leveraging data-driven analysis to develop actionable recommendations for capital projects to strengthen the energy resiliency of their community.

An ERAP goes above and beyond an Energy Action Plan by expanding the scope to include energy infrastructure and climate risks, taking a community-wide approach to inform strategies, and focusing on feasible projects to achieve established goals.

Program Budget and Savings

1. Program and/or Sub-Program Name:

Energy Resiliency Action Plan

2. Program / Sub-Program ID number

SCR-PUBL-B6

3. Program / Sub-program Budget Table

Table 1: Program Budget

Year	Admin	Marketing/Outreach	Direct Implementation	Total
2024	\$120,000	\$60,000	\$1,020,000	\$1,200,000
2025	\$128,000	\$80,000	\$1,392,000	\$1,600,000
2026	\$119,000	\$85,000	\$1,496,000	\$1,700,000
2027	\$90,000	\$90,000	\$1,620,000	\$1,800,000

4. Program / Sub-program Gross Impacts Table

This section is not applicable to this program.

5. Program / Sub-Program Cost Effectiveness (TRC)

This section is not applicable to this program.

6. Program / Sub-Program Cost Effectiveness (PAC)

This section is not applicable to this program.

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Third party-delivered

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Public Sector

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Non-resource (market support)

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market channel: Downstream

Intervention strategies: data collection, analysis and long-term planning

Table 2. Campaign Goals and Timeline

Phase	Key Deliverables	Dates
Launch Readiness	Implementation Plan Marketing Plan Program marketing materials Program Management Plan QA/QC Plan	Q1 2024
Program Ramp Up	Program launch to customers Marketing Plan implementation Program deliverable development	Q1 - Q2 2024
Program Steady State	Program deliverable implementation	Q3 2024 - Q2 2027
Program Ramp Down	Program Ramp Down Plan	Q3 2027 - Q4 2027

Implementation Plan Narrative

Program Description

The Energy Resiliency Action Plan Program will drive community-wide energy resiliency for public agencies through personalized Energy Resiliency Action Plans (ERAPs) and regional resiliency planning maps. All public agencies enrolled in the Southern California Regional Energy Network will be eligible for the program, with prioritization given to environmental justice communities¹.

Participating agencies will receive a roadmap they can share with their governing boards. The roadmap will contain concrete recommendations for implementing energy efficiency and distributed energy resources to establish or strengthen the resilience of critical community infrastructure. In addition to the roadmap, agencies will receive access to an interactive regional map to help prioritize projects and investments based on climate threats and socioeconomic conditions. The program will rely on engagement from community stakeholders and will leverage existing data platforms to inform the goals and strategies developed for each agency.

ERAPs will leverage agency and community-wide energy and greenhouse gas inventories to develop targets and recommended strategies. The program will also include an internal database, serving as a repository for agency and region-wide baselines and inventories.

The ERAP Program will strive to integrate cost-effective energy implementation strategies into resiliency action planning to help public agencies avoid lost opportunities and stranded savings. In a time of tightening budgets and rising energy costs, an ERAP will accomplish the following:

Program Objective	ESJ Action Goal Alignment	SoCalREN Core Value
Supply public agencies with a pipeline of shovel-ready EE and DER project opportunities targeted at critical facilities and infrastructure	<ul style="list-style-type: none"> - Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health. - Goal 4: Increase climate resiliency in ESJ communities. 	Deliver energy and climate impacts; Build energy capacity and economic resilience; Expand access to EE benefits
Position public agencies to efficiently and effectively capture future resiliency grant funding opportunities	<ul style="list-style-type: none"> - Goal 4: Increase climate resiliency in ESJ communities. - Goal 7: Promote economic and workforce development opportunities in ESJ communities. 	Build Energy Capacity and economic resilience; Expand access to EE benefits
Provide education and outreach resources to position public agencies as resiliency leaders among peers and in their communities	<ul style="list-style-type: none"> - Goal 4: Increase climate resiliency in ESJ communities. - Goal 5: Enhance outreach and public participation opportunities for ESJ communities to meaningfully participate in the 	Deliver energy and climate impacts; Expand access to EE benefits

¹ Environmental Justice communities include public agencies with census tracts that are classified as disadvantaged communities as defined by CalEnviroScreen, low-income communities, or rural communities.

	CPUC's decision-making process and benefit from CPUC programs.	
Provide agencies with a guiding document to protect facilities and communities from climate and energy-related threats	Goal 4: Increase climate resiliency in ESJ communities.	Build Energy Capacity and economic resilience; Expand access to EE benefits

Program Delivery and Customer Services

The ERAP Program is a downstream program that relies on a customized report and interactive regional resiliency planning map developed for participating public agencies.

The ERAP report will contain data and analysis related to energy demand, energy supply, energy efficiency, and distributed energy resource (DER) opportunities. The report will propose scenarios for energy efficiency and DER implementation and showcase the energy and greenhouse gas reduction targets that can be achieved by selecting one of the proposed scenarios. The report will focus on recommending capital improvement strategies at critical facilities and will include preliminary scope and financial metrics to help agencies with implementation. The ERAP Program will produce an interactive map with agency facilities and their intersection with climate hazards and socioeconomic factors to help agencies prioritize investments, to provide context to regional efforts, and to promote interconnectivity.

The report will contain suggested goals and milestones that agencies will be encouraged to institutionalize through a governing board commitment. Once the report has been delivered, SoCalREN Project Delivery Program and Pathway to Zero Program teams will support agencies with the implementation of the proposed energy efficiency and DER projects.

The ERAP Program will achieve economies of scale by leveraging the suite of public and private data tools that National Research Laboratories, non-governmental organizations (NGOs), and local governments have developed specifically for public agencies. The suite of tools will help the ERAP Program to establish energy baselines, understand climate hazards and risks, identify broad strategies for energy efficiency and DERs, and conduct granular analysis of energy grid infrastructure.

SoCalREN regional partner organizations will play a key role in identifying agencies to receive ERAPs based on eligibility criteria. Agencies located in or serving environmental justice communities, especially those without pre-existing resilient facilities or infrastructure, will be prioritized. Regional partner organizations' strong relationships with agencies in their region will also support data coordination, inventory development, and stakeholder outreach activities either in-person or virtually. In addition to leveraging regional partners, the ERAP Program will employ traditional marketing strategies for enrolled public agencies.

To successfully deliver the program, SoCalREN will provide public agencies with project management for all aspects of plan development, technical assistance for scoping and design of recommended strategies, and resources and support for peer-to-peer training and workshops, an online community, shared case studies, best practices, and training.

Program Design and Best Practices

Public agencies need tools and support services to increase community awareness, change behaviors, and drive resiliency projects forward. The Energy Resiliency Action Plan Program will provide an actionable roadmap with personalized energy efficiency and DER project recommendations and insights that public agencies can put into effect immediately.

This program removes the burden for participating agencies to create their own tools, and enables agencies to share resources on a community-wide scale. It also helps ensure that scarce staff and financial resources are used effectively by using data to understand which opportunities are best to pursue and what regional efficiencies can be leveraged to achieve strategic local and regional energy goals.

Public agencies currently lack a tool to assist with community-scale energy resilience planning. To overcome this, the program will provide an interactive regional mapping tool to participating agencies to assist with project prioritization based on economic feasibility, climate-related threats, and socioeconomic factors. This map feature will revolutionize how agencies approach regional resilience planning by eliminating silos where current planning might only occur at a single facility or agency level.

As a key component of the program, community leaders, local grassroots organizations, and other stakeholders will be engaged to provide feedback related to their community's resiliency priorities. Priorities may include promoting the economic well-being of the community, lowering individual utility bills, protecting vulnerable members of the community, creating jobs, increasing energy security and resilience, helping stabilize electricity prices and volatility, and supporting local greenhouse gas reduction goals. These actions are of particular importance in underserved and environmental justice communities where the impact of high energy costs can be detrimental.

Through community awareness campaigns, engaging stakeholders, and building public awareness of action strategies and impacts, public agencies can generate enthusiastic support for energy efficiency and distributed energy resources while driving greater participation in SoCalREN's energy programs.

Innovation

The primary focus of an ERAP is to provide public agencies with an actionable tool to make cost-effective energy decisions and avoid lost opportunities or stranded energy savings.

Energy planning at the local level, if done at all, is typically part of a local climate action plan (CAP) or energy action plan (EAP). Variability of scope and specificity of CAPs and EAPs, combined with incomplete information and subjectivity across jurisdictions, reduces understanding of broad impacts from energy and climate programs. ERAPs will build upon the foundation of CAPs and EAPs but with a focus on interconnected regional planning and priorities, an increased emphasis on actionable scope, and an expanded vision for the future of critical energy infrastructure.

SoCalREN's approach is also unique because it will both provide the plan outlining EE and DER strategies and offer support to implement strategies and drive progress and action toward their goals. An ERAP will provide the information agencies need to develop strong applications for resiliency grant opportunities with minimal effort.

SoCalREN’s ERAP implementation strategy positions public agencies as drivers to mobilize communities to take energy actions by communicating the value of clean energy, energy efficiency, and greenhouse gas reductions. With a higher risk of failure on energy systems due to climate-related extreme events, disruptions that disproportionately impact environmental justice communities and other vulnerable groups, public agencies need data access and personalized recommendations to address resilience in their communities.

SoCalREN collects agency-level and community-wide data to inform the development of ERAPs. The interactive map component provides a streamlined and inexpensive way for agencies to develop energy baselines and assess the vulnerability of assets. The components of the ERAP support prioritization of actions and provide the foundation for analytical work investigating city morphologies and their energy and emission profiles.

An ERAP is not static. SoCalREN will provide long-term support for the necessary and ongoing adaptations that emerge as a result of changing resiliency threats and opportunities.

Metrics

The ERAP program will use the following metrics to track progress.

Table 2. Public Sector

Metric	Method	Frequency
Reports Adopted	Number of ERAPs adopted by public agency	Annually
Reports Developed	Number of ERAPs developed for public agency	Annually
Reports Initiated	Number of ERAPs initiated for public agency	Annually
Stakeholder/Community Outreach Events	Number of events held to engage with community stakeholders about ERAP development	Annually
Number of Stakeholders Engaged in ERAP Process	Number of individuals engaged about ERAP development	Annually
Agencies Included in Energy Usage Data Database	Number of public agencies for which data is collected	Annually

The ERAP Program will also be tracking the below indicators:

- Number of agency introductions to Program services
- Number of underserved and non-underserved agencies participating in Program
- Number of identified projects funneled through SoCalREN Public Agency Programs
- Metric tons of GHG emissions tracked and targeted for reduction

To-Code Savings Claims

This section is not applicable to the ERAP program.

Pilots

This section is not applicable to the ERAP program.

Workforce Education and Training

This section is not applicable to the ERAP program.

Workforce Standards

This section is not applicable to the ERAP program.

Disadvantaged Worker Plan

This section is not applicable to the ERAP program.

Additional Information

No additional information is required.

Supporting Documents

Program Manual and Program Rules

To be developed before program launch.

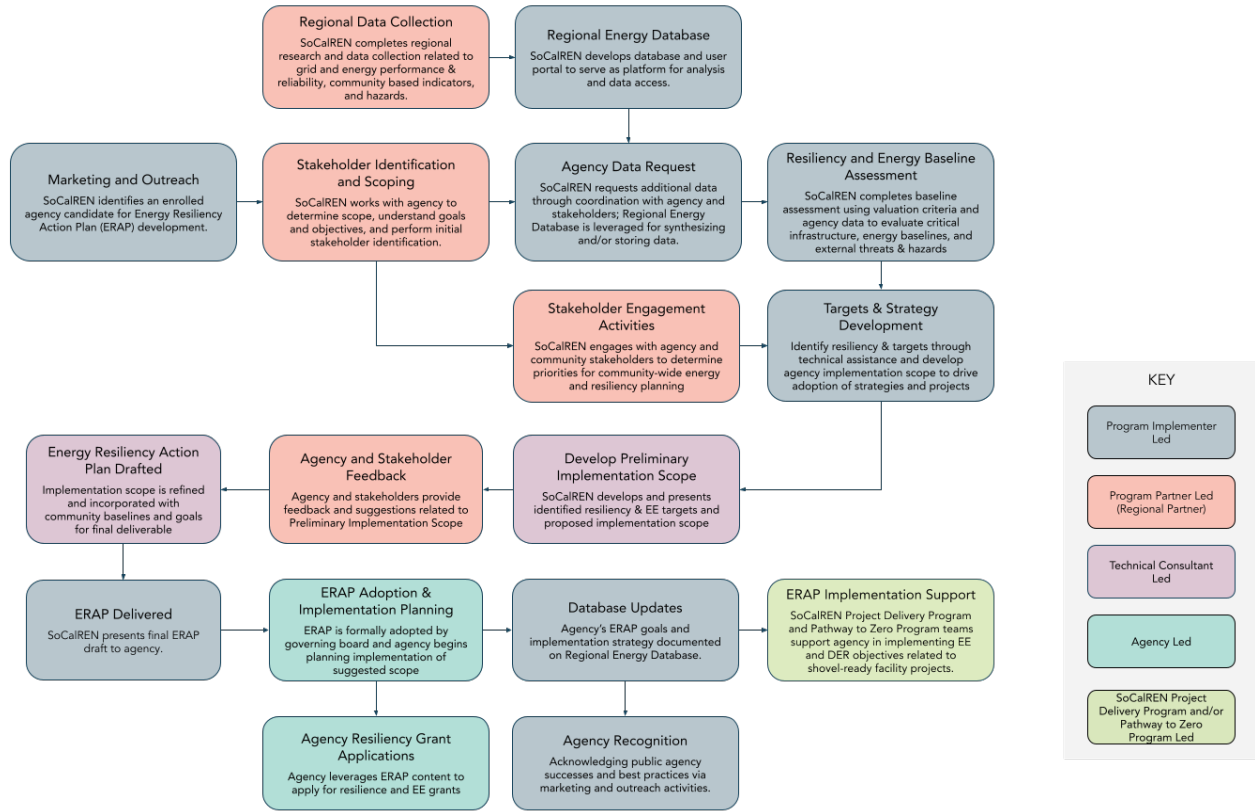
Program Theory and Program Logic Model

Figure 1: Program Theory and Logic Model



Process Flow Chart

Figure 2: Program Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

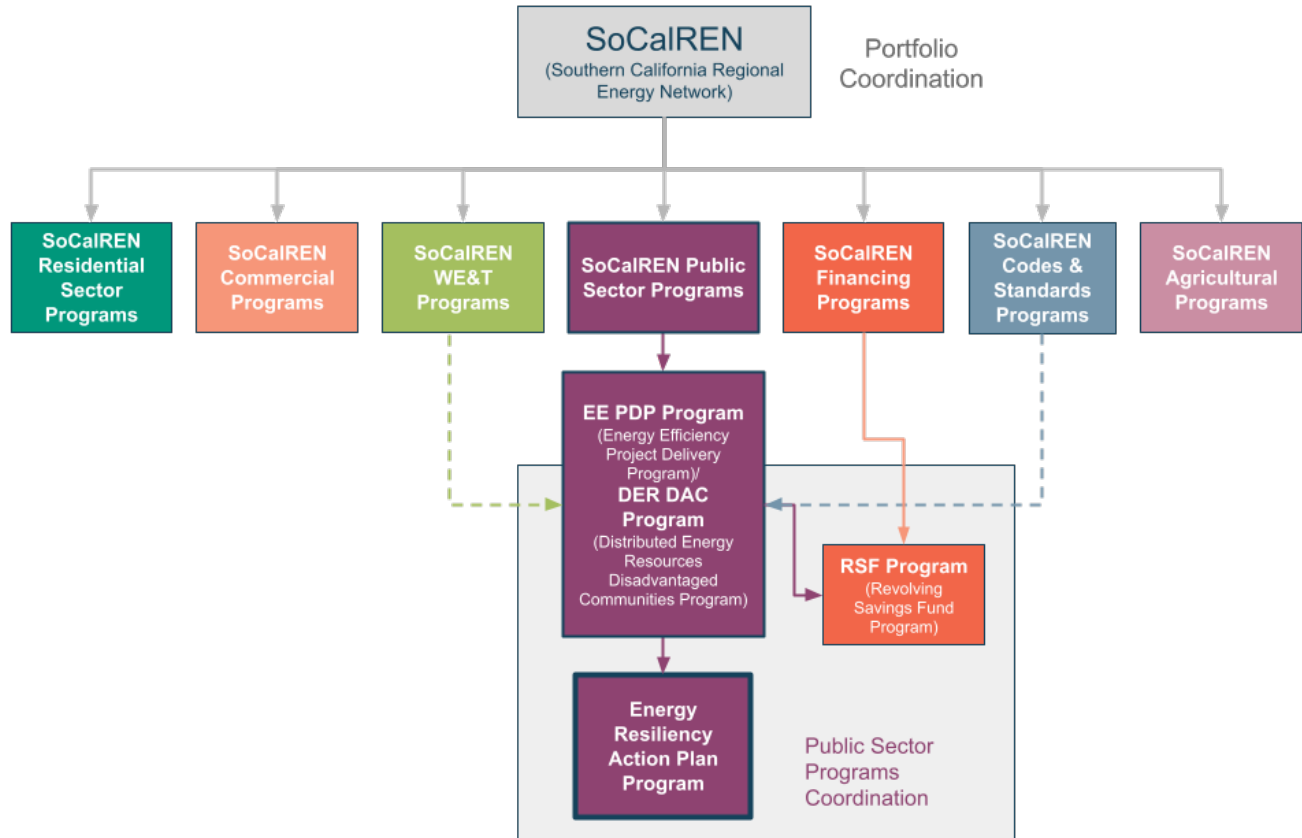
This section is not applicable to the ERAP program.

Quantitative Program Targets

Table 3: Quantitative Program Targets

Period	Metric	Target
2024 - 2027	ERAPs adopted	30
2024 - 2027	ERAPs developed	50
2024 - 2027	ERAPs initiated	65
2024 - 2027	Stakeholder/community outreach events	80
2024 - 2027	Number of stakeholders engaged in ERAP process	1,450
2024 - 2027	Agencies included in energy usage data database	50

Diagram of Program



Evaluation, Measurement, and Verification (EM&V)

The ERAP Program will comply with all CPUC directives, activities, and requests regarding the program and project evaluation, measurement, and verification (EM&V). Project information will be gathered through a series of discussions and verification checks with each public agency and program partner. The program will leverage an internal database to house information gathered related to energy baselines and greenhouse gas inventories. A separate database within a customer relationship management (CRM) system will be used to track information about the customer, report content, identified projects and goals, and other details that will help show the impact of this program. Once information is gathered, it will be entered in the database and used to generate reports. Data will be shared on a quarterly basis or ad-hoc as requested.

Normalized Metered Energy Consumption (NMEC)

This section is not applicable to the ERAP program.



ENERGY EFFICIENCY PROGRAMS

SoCalREN Commercial Sector
Food Desert Energy Efficiency Equity
Program
Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
November 2021

Contents

Program Overview	3
Program Budget and Savings	3
Implementation Plan Narrative	5
Program Description	5
Program Delivery and Customer Services	8
Program Design and Best Practices	10
Innovation	12
Metrics	12
To-Code Savings Claims	13
Pilots	13
Workforce Education and Training	13
Workforce Standards	13
Disadvantaged Worker Plan	13
Additional Information	14
Supporting Documents	14
Program Manual and Program Rules	14
Program Theory and Program Logic Model	14
Process Flow Chart	14
Incentive Tables, Workpapers, and Software Tools	15
Quantitative Program Targets	16
Diagram of Program	17
Evaluation, Measurement, and Verification (EM&V)	17
Normalized Metered Energy Consumption (NMEC)	18

Program Overview

In advancement of the Commission’s Environmental and Social Justice (ESJ) Action Plan, the primary purpose of the Food Desert Energy Efficiency Equity (FDEEE) program is to provide meaningful opportunities and access to the benefits of energy efficiency to equity targeted, small and medium commercial business owners. FDEEE aims to improve access for equity targeted customers (hard-to-reach, disadvantaged, and/or underserved individuals, households, businesses, and communities) to energy efficiency by funding energy-efficient refrigeration units in equity-targeted corner stores (or their equivalents, such as neighborhood stores, bodegas, convenience stores, or mom and pop stores – all called “corner stores” for purposes of this program), small business grocers, food distribution centers, small restaurants, and cafes in food deserts throughout the SoCalREN territory.

Consistent with the purpose of the Equity Segment, the program will directly address disparities in access to energy efficiency programs for this hard-to-reach equity-targeted customer through no-cost energy-efficient retrofits, education, technical support, and coaching services through related commercial programs. FDEEE seeks to maximize benefits for participants while working to establish trust with this customer base that will support long-term participation in energy efficiency and resilience programs. Retrofits include refrigeration upgrades where old, inefficient equipment is recycled and the refrigerant is recovered. Eligible entities who wish to take advantage of this opportunity will be encouraged and supported to use the new refrigeration units to offer healthy food options. The FDEEE program will work with a network of trusted, local partners to help establish relationships with business owners, build trust, and create meaningful access to energy savings, health benefits of energy efficiency upgrades and stocking healthy food, and community benefits including reduced energy-related greenhouse gas and criteria pollutant emissions and overall climate resilience. Although the FDEEE’s primary purpose is to directly support the Equity Segment vision, program functions also produce energy savings that contribute to TSB, and provide support for commercial customers and disadvantaged workers consistent with the Market Support segment.

Furthermore, the program will work to engage with and provide educational opportunities to community members on energy efficiency and demand response actions through in-store signage, pop-up events, and other activities in coordination with store owners that support customer-facing engagement. To further drive even deeper energy savings within these priority communities, this program will seek to leverage utility partner energy-efficient small business programs (i.e., Southern California Gas Company Small Business Direct Install programs) that will couple additional energy efficiency upgrades, where applicable per project.

Program Budget and Savings

1. Program and/or Sub-Program Name
 - a. Food Desert Energy Efficiency Equity Program
2. Program / Sub-Program ID number

a. SCR - COMM - E3

3. Program / Sub-program Budget Table

Table 1. Program Budget Table

	2024	2025	2026	2027	Total
Administration	\$179,585.00	\$464,329.40	\$276,534.80	\$631,494.00	\$1,551,943.20
Marketing/ Outreach	\$107,751.00	\$278,597.64	\$165,920.88	\$378,897.00	\$931,166.52
Direct Implementation	\$359,171.00	\$928,658.80	\$553,069.60	\$1,262,989.00	\$3,103,888.40
Incentives	\$1,149,347.00	\$2,971,708.16	\$1,769,822.72	\$4,041,564.00	\$9,932,441.88
Total	\$1,795,854	\$4,643,294	\$2,765,348	\$6,314,944	\$15,519,440

4. Program / Sub-program Gross Impacts Table

Table 2: Program Gross Impacts

Year	Gross First Year kWh Savings Claimed	Gross First Year kW Savings Claimed
2024	415,607	5
2025	1,368,981	9
2026	1,713,329	12
2027	2,053,471	13.5

5. Program / Sub-Program Cost Effectiveness (TRC)

Table 3: Program Cost-Effectiveness (TRC)

Year	TRC
2024	0.03
2025	0.06
2026	0.14
2027	0.07

6. Program / Sub-Program Cost Effectiveness (PAC)

Table 4: Program Cost Effectiveness (PAC)

Year	TRC
2024	0.03
2025	0.06
2026	0.14
2027	0.07

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)
 - a. Third party-delivered
8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)
 - a. Commercial
9. Program / Sub-program Type (i.e., Non-resource, Resource)
 - a. Non-resource (Equity)
10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.
 - a. Market channel: downstream
 - b. Intervention strategies: direct install, education

Implementation Plan Narrative

Program Description

The Food Desert Energy Efficiency Equity (FDEEE) program is an initiative designed to support corner stores and small businesses within food deserts across the SoCalREN region by providing more healthy food options and funding new energy-efficient refrigerators. Through this initiative, store owners save on energy usage and utility bills while providing fresh and healthy food options for the communities they serve.

FDEEE addresses the current challenges within food deserts, reduces GHG emissions while promoting healthy food options in low-income communities, and provides education, outreach, and support to small businesses regarding energy efficiency upgrades and the benefits of offering healthy food options. FDEEE also provides store owners with educational materials and training to successfully source, market, and sell healthy, perishable products such as locally-grown fresh fruits, nuts, vegetables, and minimally processed prepared foods. FDEEE offers a variety of ENERGY STAR®-rated, natural refrigerant, refrigerator models for the small business store owners to select. The program then installs the refrigerator(s), properly recycles old refrigerators, and identifies healthy food options, all at no cost to the store owner.

FDEEE aims to change consumer food behaviors by educating and incentivizing store owners and consumers to stock and select fresh, local, and healthy foods. Program participants are an engaged and captive audience and are primed to mobilize energy efficiency and conservation actions and behaviors. FDEEE is committed to the equitable distribution of services and understands the unique and complex challenges that communities of color, low-income families, those with disabilities, and those that experience immigration issues face when trying to access energy programs. FDEEE is designed to be inclusive, accessible, and uplift underserved populations so they can participate in the future of energy and experience the financial, community, and health benefits of energy efficiency. Many existing energy efficiency programs do not meet the needs of small, local businesses that continue to struggle financially and serve as an important resource to underserved communities. There are many challenges to meet the needs of these small businesses, but the benefits of working with these communities extend well beyond the energy savings.

The program objectives for the FDEEE Program fall into two categories: performance and process. The performance objectives of the FDEEE Program are objectives that will be used to assess the performance of the program to ensure it is meeting expectations and is on a path to success. The performance objectives will be carefully tracked and will be reported to the Commission through the SoCalREN annual report so that SoCalREN can ensure the program progress is conveyed properly. The process objectives are aimed at ensuring a strong infrastructure for program implementation and evaluation to help support the scaling up of the FDEEE Program in the future. Consistent with the ESJ Action Plan, and the overall goals of the Equity Segment, the FDEEE’s planned objectives directly supports the following ESJ Action Plan 2.0 goals:

Objectives	ESJ Action Plan Goal	SoCalREN Core Value
Objective #1: Addressing the current challenges that exist within food deserts.	Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Expand access to EE benefits
Objective #2: Installing energy efficiency measures that would reduce peak demand savings including the removal of old, inefficient refrigerators that are costly to operate and maintain and require higher demands from the electricity grid than necessary.	Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Expand access to EE benefits; Build energy capacity and economic resilience
Objective #3: Reducing GHG emissions, eliminating hydrofluorocarbons (HFCs) while simultaneously promoting options for healthy food options within low-income neighborhoods, DACs, and food deserts.	Goal 4: Increase climate resiliency in ESJ communities.	Deliver energy and climate impacts; Expand access to EE benefits
Objective #4: Providing education, outreach, and support to hard-to-reach small commercial businesses and food distribution centers regarding	Goal 5: Enhance outreach and public participation opportunities for ESJ communities to meaningfully participate in	Build energy capacity and economic

energy-efficient upgrades and the benefits of offering healthy food options.	the CPUC's decision-making process and benefit from CPUC programs.	resilience; Expand access to EE benefits
Objective #5: Assisting small commercial businesses to overcome common barriers within their energy efficiency segment by offering no-cost energy efficiency upgrades and supporting connections to other energy programs.	Goal 1: Consistently integrate equity and access considerations throughout CPUC proceedings and other efforts.	Build energy capacity and economic resilience; Expand access to EE benefits
Objective #6: Assessing intervention strategies and promoting strategies to align financial, energy, and community benefits for small commercial owners.	Goal 7: Promote economic and workforce development opportunities in ESJ communities.	Build energy capacity and economic resilience

Proposed program offerings and behavior change strategies will target two distinct groups: store owners and store customers. Store owners that enroll in FDEEE are uniquely positioned to take advantage of commercial energy program offerings. One of the biggest incentives for stores to participate in the program is the reduction of energy consumption and costs associated with new energy-efficient refrigeration. FDEEE will offer information and technical assistance for stores to take advantage of SoCalREN's Small Commercial Direct Install and related commercial programs to maximize savings potential for each store owner. Many old refrigerator units contain harmful refrigerants that emit high levels of GHGs that contribute to climate change if not evacuated and recovered properly. Additionally, rooftop condensing units are bulky and expensive to move and recycle. Through low or no-cost services facilitated by the program, FDEEE will help eligible store owners safely and efficiently recycle their old refrigeration units.

Store-owner engagement will take place in-person (where possible and with COVID-19 safety protocols in place as needed), in language, and in coordination with highly-trained local, community-based partners and staff that understand the unique needs of the targeted regions. Customer engagement will take place through a variety of strategies, including (but not limited to):

- Providing stores with educational signage such as decals on the new refrigeration units with a QR code that links to information about energy-efficient appliances, residential programs, and at-home energy conservation and efficiency education and activities to save energy and money. Additionally, educational signage could explain and highlight the health benefits of fresh, healthy food and a diversified diet.
- Providing stores with flyers/handouts for customers that detail available residential energy programs and opportunities to save on their utility bills.
- Coordinating pop-up shops at participating stores to give customers energy-saving collateral (LED light bulbs, showerheads, showertimers, etc.) along with information about energy efficiency and the water-energy nexus, water conservation, healthy food, and grow-at-home food kits. In coordination with local partners, these events could also distribute healthy food bags to customers.

In addition to energy conservation behavior change among store owners and customers, the education and outreach funded by the program will incur a wide range of other sustainability benefits. Benefits include (but are not limited to):

- Empower store owners to **source** healthy food by developing relationships with local food distributors, farmers’ markets, and urban agriculture initiatives.
- Empower store owners to **stock** healthy food by developing educational resources ([like this one](#)) on how to keep produce fresh.
- Empower store owners to **sell** healthy food by developing educational resources around best practices for selling produce (i.e. food display and placement, pricing, specials, etc.).
- Provide nutritious food and educational materials about healthy food to store customers in “food desert” zones.
- Minimize waste by replacing packaged foods with fresh produce.
- Minimize emissions in food distribution by helping stores source produce from local vendors.
- Prevent harmful refrigerants from entering the atmosphere through proper evacuation and recovery.
- Educate store owners and customers about proper refrigeration recycling and available programs.

Program Delivery and Customer Services

Strategies & Tactics

Outreach and business engagement: The SoCalREN FDEEE proposed program will develop marketing and education materials that are grounded in authentic community engagement best practices will serve as outreach and engagement communications tools. These materials will include electronic communications as well as hard-copy materials. Initial contact will be made through targeted outreach, including in-person store visits, direct mail, paid media, and community-based outreach organizations and local governments. Additionally, to maximize program potential, FDEEE will partner with organizations that share the program’s mission of bringing healthy food options and smart energy practices to under-resourced communities.

Table 5. Marketing and Outreach Materials

Marketing Material Type	List of Outreach Materials
Informational materials	<ul style="list-style-type: none"> ● In-language program participant materials <ul style="list-style-type: none"> ○ Fact sheets ○ Interest form/application ○ Case studies ● Web pages on socialren.org
Educational materials	<ul style="list-style-type: none"> ● In-language materials ● Healthy food education <ul style="list-style-type: none"> ○ Proper food storage and display opportunities ○ Procurement options ● Energy management education <ul style="list-style-type: none"> ○ Proper management of equipment ○ Actions to further reduce peak demand ● Eligible DER programs <ul style="list-style-type: none"> ○ Highlighting additional saving opportunities

Community-facing educational materials	<ul style="list-style-type: none"> ● Decals for store refrigerators <ul style="list-style-type: none"> ○ Highlighting healthy food options/energy-efficient equipment/healthy communities ○ QR code to direct customers to healthy food information ● Sandwich boards <ul style="list-style-type: none"> ○ Promoting healthy food and smart energy actions options post-installation ● Community giveaways (ex: magnets) <ul style="list-style-type: none"> ○ Highlighting healthy choices at home ○ Highlighting energy- efficiency actions at home ○ Recipes and takeaway food demonstration kits featuring healthy food found in participating stores
--	--

Store engagement: The FDEEE will target eligible stores through grassroots, onsite outreach to store owners. FDEEE will also utilize online marketing such as websites, social media, and e-blast outreach to engage potential stores. Working with outreach partners, including local government, chambers of commerce, nonprofits supporting the distribution of food, etc. The FDEEE will collaborate with trusted community-based organizations and actors to reach stores.

Pre-Install site visit and refrigerator selection: Following confirmation that an eligible store is interested in the program, FDEEE will conduct an onsite site visit and walk-through to help determine what products will work best for the store site. FDEEE will measure entrance openings, store space, and review current equipment to help store owners select the units that make sense for their business. Additionally, FDEEE will help identify potential high-level measures the store could take to maximize savings.

Enrollment: Through onsite visits, events, and other outreach methods, FDEEE will engage and enroll eligible stores in the program. Through the process of enrollment, FDEEE will determine eligibility, help the store owner select compatible products, provide education regarding healthy food and energy efficiency, and will support the introduction of other SoCalREN programs to the store owner. Stores will remain “enrolled” until installation is complete and a post-survey is completed.

Refrigerator installation: Working with a partner vendor, the FDEEE will coordinate the installation of the unit(s) as identified by the store owner.

Post-install visit: Following the successful installation of one or more new refrigerators, the FDEEE will conduct an onsite visit to ensure proper use of the unit(s), address concerns or questions for the store owner, provide information to funnel customers to other available programs, and to help the store owner maximize the placement and marketing of healthy foods.

Marketing support: The FDEEE program will provide customized marketing support to participating stores to help promote the value, benefits, and availability of fresh and healthy food within their stores. Materials could include sandwich boards, decals, signage, and other materials as identified by the store owner as being effective for their target customer. Materials will include in-language messaging and other customized, community-specific information as appropriate.

Targeted Market Segment

Regional Energy Networks, such as SoCalREN, have been recognized by the California Public

Utility Commission (CPUC) as being well-positioned to serve hard-to-reach or under-served markets and disadvantaged communities (DACs). SoCalREN, through the FDEEE program, will address hard-to-reach businesses and DACs through the deployment of initiatives and actions specifically developed to respond to underserved constituents. The targeted market segment is as follows:

1. Corner stores: a small-scale store, cafe, or grocery market, either independent or chain, that sells a limited selection of foods and other products and that is located in a food desert¹ in a rural, urban, or suburban area. Corner stores do not need to be located on street corners.
2. Small business grocers: independently owned, with 100 or fewer employees, average annual gross receipts of \$15M or less and must be authorized to accept EBT/SNAP/CalFresh benefits.
3. Food banks and food distribution centers that serve low-income residents or people experiencing homelessness.
4. Cafes and small-scale independent restaurants.

Under this program, the SoCalREN will target corner stores and/or small commercial businesses with applicable refrigerant units located throughout the region of SoCalREN and will **only be eligible** for properties in low-income neighborhoods and DACs based on the definitions described above.

Program Design and Best Practices

This program overcomes several common barriers faced by small commercial businesses and the communities they serve:

Barrier	Program Intervention Strategies
High cost of time and effort to research, purchase and install EE equipment	Offering no-cost EE upgrades and supporting connections to other energy programs. Dedicated program staff to lead coordination of installation and recycling and support store owners from engagement to installation.
High cost of time and effort to ensure proper recycling and management of inefficient equipment	Offering no-cost recycling and decommissioning services for old, inefficient equipment. Dedicated program staff to lead coordination of installation and recycling and support store owners from engagement to installation.
Stores have limited staff bandwidth and training	Dedicated program staff to lead coordination of installation and recycling and support store owners from engagement to installation. Training and education for store-owners on EE, marketing, food storage and environmental impact.
Stores have limited funding available for EE upgrades	A suite of no-cost services, dedicated program staff and demonstrable energy and non-energy benefits for upgraded equipment.

¹ Food desert: a low-income census tract with low access to a full-service grocery store

Limited understanding and/or access to EE programs due to lack of coordination between EE programs and fragmented messaging for customers.	Energy Coaching services and coordination through the SoCalREN Small Medium Business Energy Advisor program and SoCalREN Commercial programs to drive additional EE upgrades and streamline messaging.
Challenging to engage under resourced small/medium businesses in sustainability improvements	Dedicated program staff, training for store-owners and on-site engagement will provide step-by-step support for businesses to maximize their time and efforts.
Limited or no EE refrigerator space dedicated to healthy food options in markets within food deserts	Offering no-cost EE refrigeration units dedicated to healthy food options along with training and education for store-owners on EE, marketing, food storage, sourcing healthy foods and environmental impacts.
History of marginalization, environmental racism, and/or other negative interactions with government or utility programs that leads to skepticism or distrust.	Working with community-based partners and stakeholders, program staff will build rapport with store-owners based on their needs and experiences.

The Food Desert Energy Efficiency Equity Program aims to achieve the following outcomes:

1. Reduce the energy cost burden by providing low or no-cost high-efficiency refrigeration appliances for small and medium, hard-to-reach businesses operating in Environmental and Social Justice (ESJ)² communities, where predominantly communities of people of color and low-income residents have been subjected to disproportionate impacts from environmental hazards and socio-economic burdens.
2. Improve access to healthy food options in food desert regions by incorporating the availability of fresh food items as a condition of program participation.
3. Provide significant non-energy benefits to small/medium businesses such as reduced operating costs, improved safety, GHG reductions through simplified access to equipment upgrades, and refrigeration recycling.
4. Encourage the adoption and proliferation of energy efficiency measures and practices in the commercial sector by recognizing local business leaders for excellence in facility energy management.
5. Prioritize program resources for the delivery of services to small and medium local businesses operating in ESJ communities with the goal of improving business sustainability through reduced energy costs, increasing energy efficiency workforce opportunities for local communities, and establishing local business leaders in energy and climate action.

²Environmental Social Justice Communities: <https://www.cpuc.ca.gov/news-and-updates/newsroom/environmental-and-social-justice-action-plan>

Innovation

This program will increase the uptake of energy efficiency within small to medium businesses through the innovations described below.

Trusted local partners: Local regional partners that have been supporting energy programs deliver a customized outreach approach with in-language marketing to target hard-to-reach businesses. Using best practices of authentic community engagement, FDEEE will look for opportunities to build trust and relationships with equity targeted commercial customers, so that program offerings can be adjusted and customized to fit community needs.

Connections to other programs: In addition to the direct resources offered through this program, the FDEEE would connect businesses and facilitate participation in other energy programs to support deeper energy savings and minimize lost opportunities. Complicated and fragmented program offerings create barriers to access for time and resource-strapped Equity targeted customers. FDEEE will funnel customers to coaching and support services that will increase their likelihood of participating in other EE or climate resiliency programs.

Health-energy nexus connection: The FDEEE addresses a store's ability to offer healthy food options in food desert communities by replacing and recycling old, inefficient refrigeration units. Equity targeted stores that participate in FDEEE will be more likely to offer healthier, nutritious food long-term in communities that lack access, and may be at higher long-term risks of diet-related conditions, such as obesity, diabetes, and cardiovascular disease³.

Metrics

Similar to the programs within the existing SoCalREN portfolio, the FDEEE will be reported monthly, quarterly, and annually through CEDARs. In addition to the CPUC required common metrics, the SoCalREN FDEEE proposed program will include the collection and tracking of the following data/performance metrics:

Table 6: Program Data & Performance Metrics

Metric	Method
Number of equity-targeted stores enrolled	Count of stores
Number of new energy-efficient refrigerators installed and replaced	Count of refrigerators installed and replaced
Number of refrigerators properly recycled	Count of refrigerators confirmed recycled through vendors
Number of equity-targeted store owners and/or employees that receive training	Count of store owners and/or employees engaged in training
Number of equity-targeted customers engaged	Count of customers reached through pop-up events and other onsite educational or outreach activities
Number of stores surveyed pre/post refrigeration	Count of completed pre and post-surveys collected via onsite,

³ Food Equity: https://cleanlabelproject.org/blog-post/food-equity-our-social-awakening/?qclid=Cj0KCQjwwY-LBhD6ARIsACvT72OQtNbCtLHnPLzJrhbRF0b0QIO5BPw8IsGAs3TR9veVOVWqUt25MNYaAp67EALw_wcB

installation	online, phone, or other mediums
Number of walk-throughs completed	Count of walk-throughs completed at each store site
Number of sq. ft. per project offering food products	Count of store site square footage assigned to food
Number of sq. ft. per project offering “healthy food options” (before and after interventions)	Count of store site square footage assigned to healthy food
Number of projects within low-income and DACs	Count of installed units within designated areas
Number of events where FDEEE was marketed	Count of activities (pop-up events, farmer’s markets, etc.) that include FDEEE outreach to store owners and customers
Program satisfaction survey results (via post-survey)	Analysis of satisfaction data collected from stores who have completed installation

To-Code Savings Claims

This section is not applicable.

Pilots

This section is not applicable.

Workforce Education and Training

FDEEE will coordinate with SoCalREN’s Workforce, Education, and Training programs to present information on career opportunities that result from this program. Additionally, FDEEE will provide and/or funnel ongoing educational opportunities to equity targeted customers to ensure long-term adoption of EE behaviors and changes. See “Disadvantaged Worker Plan” for further information related to training and employment opportunities for disadvantaged workers.

Workforce Standards

FDEEE does not implement measures that require adherence to Workforce Standards for Heating, Ventilation, and Air Conditioning (HVAC) or Advanced Lighting Control Programs as stipulated in D.18-10-008.

Disadvantaged Worker Plan

FDEEE will coordinate with SoCalREN’s Workforce, Education, and Training programs, specifically the Green Path Careers Program, to present information and support training and placement of paid work experience candidates and those seeking on-the-job training (OJT) career opportunities for disadvantaged workers in the energy efficiency industry. In partnership with workforce investment boards (WIBS) county departments of economic development and workforce development, the FDEEE will prioritize the engagement and placement of disadvantaged workers in opportunities for employment and training created through this program.

Additional Information

This section is not applicable.

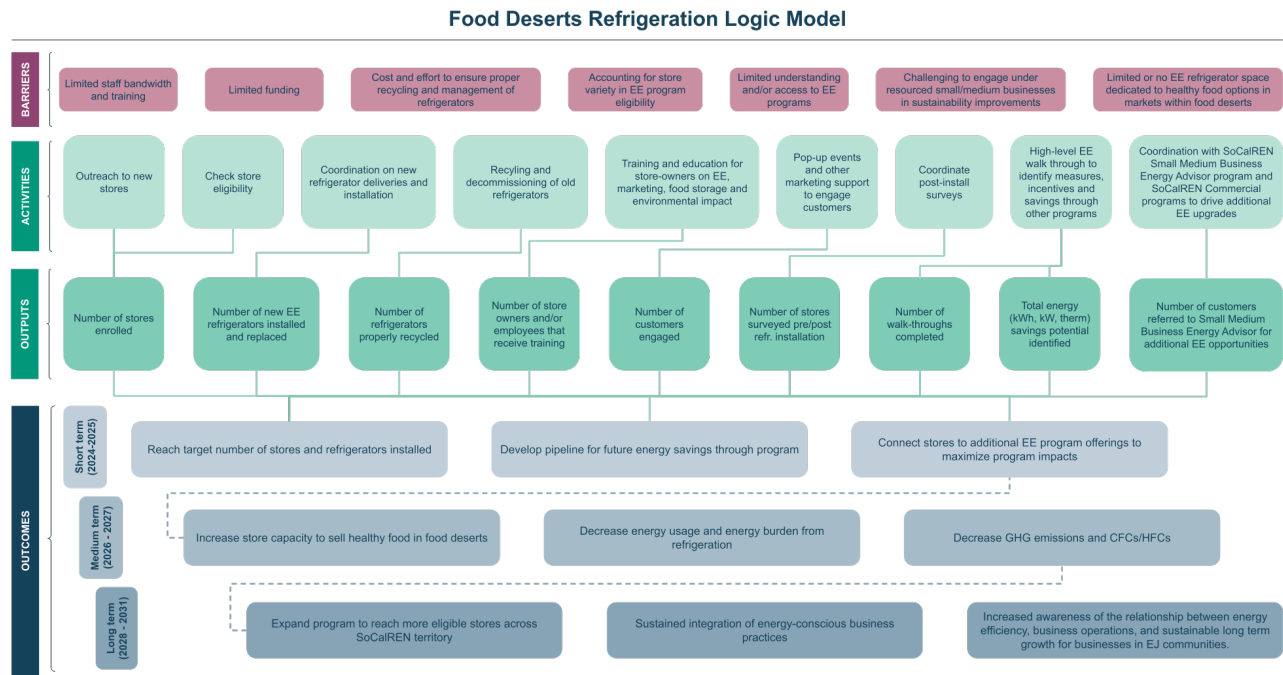
Supporting Documents

Program Manual and Program Rules

The Program Manual and Program rules will be developed when the program is approved.

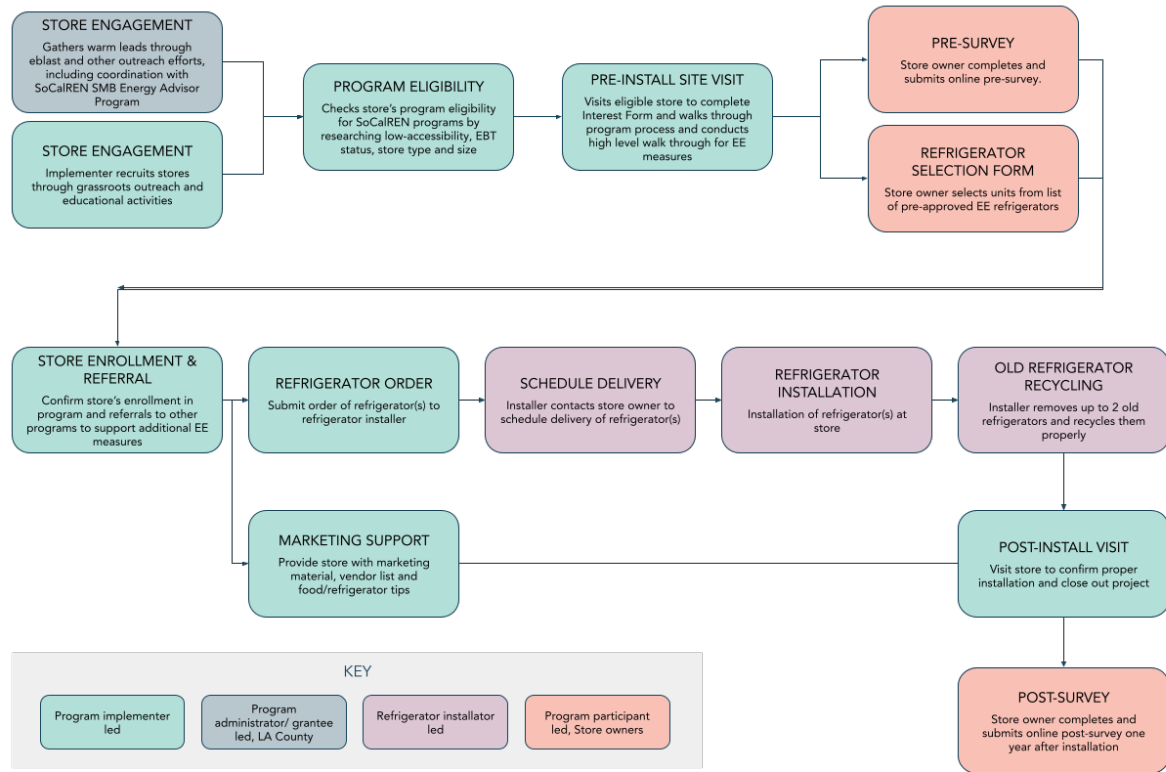
Program Theory and Program Logic Model

Figure 1: Program Theory and Logic Model



Process Flow Chart

Figure 2: Program Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

Eligible products must be ENERGY STAR® certified and within California Energy Commission’s (CEC) Title 24 energy efficiency compliance standards. Products that are ENERGY STAR® certified and within energy efficiency Title 24 compliance with the lowest global warming potential (GWP) will be prioritized for refrigerator unit upgrades. Savings claimed will be based upon deemed measures in the adopted Database for Energy Efficient Resources (DEER) and through approved work papers.

Table 7. Measures Applicable to the FDEEE program

End Use	Measure	Intervention Strategy	Savings Category
Small commercial refrigeration	Qualified glass door refrigeration units	Deemed	Electric
Small commercial refrigeration	Qualified solid door refrigeration units	Deemed	Electric

The table below describes other tools leveraged to support program services.

Table 8. Definition of tools used to support program services

Tools	Short Description
Salesforce	Customer relationship management (CRM) is used to track projects and generate customer reports.
Google Studio	Platform used to collect and synthesize energy data to produce reports.
GIS	Geographic Information System (GIS) tool allows users to pinpoint locations of eligible stores within layers of target market information such as hard-to-reach, rural, food desert, DAC, and other classifications as identified.

Quantitative Program Targets

Table 9: Energy Targets

Year	Gross First Year kWh Savings Claimed	Gross First Year kW Savings Claimed
2024	415,607	5
2025	1,368,981	9
2026	1,713,329	12
2027	2,053,471	13.5

Table 10: Non-Energy Program Targets

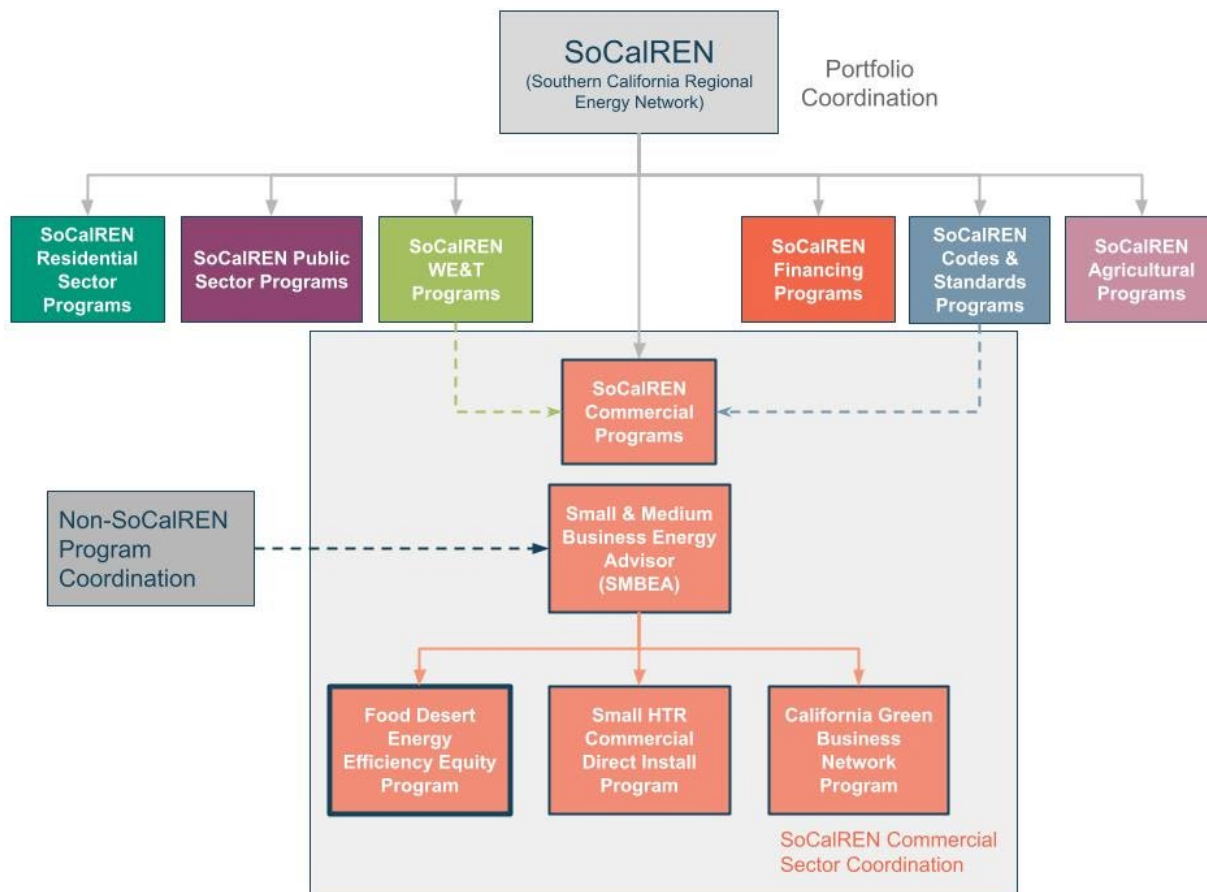
Target	2024-2027 Target
# of Stores Receiving Services (high engagement)	900
# of New EE Refrigerators Installed	1800
Number of community members engaged through events (low engagement) <ul style="list-style-type: none"> Community engagement activities during program implementation 	4,000
Expected first-year bill savings in total \$	Target to be added after the first year of tracking

Program-specific indicators:

- # refrigerators recycled
- # of refrigerants collected/offset
- # stores/employees that receive training
- # stores surveyed
- # walkthroughs completed
- % of disadvantaged contractors who perform installations and EE walkthroughs

- # of community engagement/education activities
- % of DAC/HTR/Food Desert businesses enrolled
- # of businesses that are funneled to other programs
- Amount of reduction in participant energy burden
- Direct savings from program (GHG, kWh, kW)

Diagram of Program



Evaluation, Measurement, and Verification (EM&V)

The Food Desert Energy Efficiency Equity Program is a resource program. As such, data collected on the program focuses on both store owner energy savings as well as program performance metrics for services offered in alignment with the CPUC's California Long Term Energy Efficiency Strategic Plan⁴. The FDEEE conducts onsite walk-throughs for eligible facilities to identify refrigeration units that are eligible for recycling and replacement. The program works with a vendor to facilitate installation of the unit(s) and then continues coordination with the store owner to assess savings, identify additional opportunities through other programs and ensure quality.

⁴ California Energy Efficiency Strategic Plan, <http://www.cpuc.ca.gov/general.aspx?id=4125>

Products that are ENERGY STAR® certified or within energy efficiency Title 24 compliance with the lowest global warming potential (GWP) will be prioritized for refrigerator unit upgrades. Savings claimed will be based upon deemed measures in the adopted DEER and through approved work papers.

In addition to energy savings realized through the recycling and replacement of refrigeration units, the FDEEE also delivers non-resource benefits to the commercial sector. The following describes the approaches and data that is collected in support of continuous improvement and ongoing program evaluation.

The SoCalREN customer relationship management (CRM) database is used to record most program and project-related information and to generate reports that indicate progress toward program goals.

In addition, the FDEEE will seek feedback from store owners with a project-specific pre-survey before installation and a post-survey after each project closeout. Survey results are analyzed to understand the impact program services have on energy efficiency projects and how the program can improve. Through data collected in the CRM database and analysis of survey feedback, ongoing customer service by the store owner's dedicated project manager, the FDEEE has the capacity to evaluate its effectiveness and ability to deliver energy savings, build store-owner knowledge and capacity, conduct outreach and educational activities, meet HFC reduction targets, and streamline processes and procedures. The FDEEE ensures program participant satisfaction and effectiveness in the delivery of its services by taking a nimble and highly adaptive approach to program implementation.

Normalized Metered Energy Consumption (NMEC)

This section is not applicable.



ENERGY EFFICIENCY PROGRAMS

SoCalREN Workforce Education and Training Sector

Green Path Careers (GPC) Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
March 2022

Contents

- Program Overview..... 1
- Program Budget and Savings..... 1
- Program Description..... 3
- Program Delivery and Customer Services..... 5
- Program Design and Best Practices 7
- Supporting Documents..... 9

Program Overview

The Green Path Careers (GPC) program’s overarching objective is to help opportunity youth and adults’ ingress emerging, thriving, and rewarding careers of the sustainable economy, by teaching them skills required in the high-growth energy efficiency industry.

Program Budget and Savings

Program and/or Sub-Program Name

Green Path Careers

Program/Sub-Program ID number

SCR-WET-D3

Sub-Program Budget Table

	2024	2025	2026	2027
Admin	\$51,000	\$54,000	\$54,000	\$54,000
ME&O	\$51,000	\$54,000	\$54,000	\$54,000
Direct Implementation	\$748,000	\$792,000	\$792,000	\$792,000
Total	\$850,000	\$900,000	\$900,000	\$900,000

Table 1: Sub-Program Budget Table

Program/Sub-Program Gross Impacts Table

This is not applicable for non-resource programs.

Program/Sub-Program Cost Effectiveness (TRC)

N/A

Program/Sub-Program Cost Effectiveness (PAC)

N/A

Type of Program/Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Program Implementer	Yes
SoCalREN Only	
SoCalREN – Statewide Lead	
Other PA – Statewide Lead	
Third Party	X
Other (Partnership)	

Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Market Sector	Yes
Residential	
Commercial	
Industrial	
Agricultural	
Public	
Codes & Standards	
Workforce Education & Training	X
Finance	
Other	

Program/Sub-program Type (i.e., Non-resource, Resource)

Program Type	Yes	No
Resource		X
Non-Resource	X	

Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market Channels	Yes	No
------------------------	------------	-----------

Upstream		
Midstream		
Downstream	x	

Intervention Strategies	Yes	No
Direct Install		
Incentive		
Finance		
Audit		
Technical Assistance	X	

Program Description

The Green Path Careers (GPC) Program provides opportunity youth and adults access to the emerging Energy Efficiency (EE) sector by offering education, training, and work experience in the field. This initiative is made possible through collaboration between the SoCalREN and the Los Angeles County Department of Workforce Development, Aging and Community Services (WDACS).

The program is designed to address the barriers opportunity youth and adults face when moving into the growing workforce, while addressing the EE workforce expansion needs. GPC aims to assist opportunity youth and adults by eliminating the barriers of the EE workforce sector, by providing certification training, supportive services, and the coaching needed to emerge successful by providing the resources and support needed to begin their EE career.

The Green Path Careers program provides a multi-step approach that assists a participant in entering the Energy Efficiency workforce from the initial recruitment phase to becoming Job/Career Ready.



I. Recruitment

Early and continuous outreach to partner organizations to identify potential list of participants. Opportunity youth and adults are often geographically dispersed due to their lack of permanent housing. In addition, many lack the initial skill set to seek out workforce programs or training. Recruitment of opportunity youth and adults in Homelessness or at risk of homelessness would be led by Regional Workforce Development Community Service organizations, with the support of SoCalREN’s regional partners.

A list of candidates will be provided to the program implementer. This list of candidates will be contacted and provided all necessary materials to apply to the program and begin the scheduling of the initial step. The Implementer enters this first phase and remains the primary contact throughout the entire program to ensure that the participant has continuous point of contact.

II. Personal Enrichment Training

Personal Enrichment Training (PET) would be offered in preparation of the participant transitioning into the workforce, this will include financial literacy, work ethics, life skills, career exploration and goal setting. PET is offered when enrolling in a WDACS America’s Job Center of California (AJCC) which provides training and support into the workforce.

III. Certification

Three pathways of training would be offered to participants: 1) Initial BPI Building Analyst Certifications Training, where participants would be prepared to perform residential energy audits on single family units; and 2) Multifamily Building Analyst Certification Training, where participants would learn more advanced energy auditing requirements for multifamily housing 3) Infiltration and Duct Leakage, where participants will be prepared to comply with mandatory state building codes for blower door and duct leakage testing. Providing an industry-recognized certification and credential will help opportunity youth and adults progress into successful careers in the EE workforce.

Opportunity youth and adults undergo additional training through curriculum designed to achieve maximum outcomes and preparations. Additional certificated curriculum includes:

- OSHA 30
- LEED Green Associate
- Construction Management/Project Management Software
- Customer Service

IV. On Job Training

The program would establish an employee referral program to help GPC participants obtain work experience. GPC participants would be connected to EE contractors participating in SoCalREN's EE programs and employer partners in EE sector. To incentivize EE contractors to hire GPC participants, the first 120 hours of employment would be funded through WDACS Paid Work Experience Program.

V. Job/Job Ready:

In the final stage of the program, participants would be offered significant step-by-step support to enter the workforce. Supportive services to be offered include:

- Resume and Cover Letter Development
- Career coaching and planning
- Individualized career plan
- Job Application support
- Interview preparation coaching
- Post Interview follow -up coaching
- Thank you letter development
- Document proofing support
- Job application tracking
- Career and job connections support

The overarching end-goal is to prepare the participant to go into the EE sector workforce pipeline.

Program Delivery and Customer Services

Program Strategies

The program targets opportunity youth and adults who are not pursuing a higher education by attending college. The program will offer multi-level certification training that will lead to a career pipeline in the Energy Efficiency sector. The program will be offered with support from the Workforce Development Aging Community Services (WDACS).

Marketing and Outreach

The GPC Program will be promoted through a variety of tactics to educate primary target audiences— opportunity youth and adults and potential employers—about the program, how to get involved, and how to best support opportunity youth and adults in their educational and career goals. Individual tactics are described below.

Direct Outreach to Participants

The GPC Program will perform direct outreach to opportunity youth and adults via schools, agencies, and organizations that work with and support them. During this outreach activity, GPC Program staff will provide information about the educational and work experience offering available, and the opportunities available with careers in the energy efficiency sector.

GPC Orientation Meetings

SoCalREN will present orientation training to opportunity youth and adults who would like to enroll in the GPC Program. During this orientation, opportunity youth and adults will receive more information on the program and participation expectations and will complete an initial assessment and intake form.

Marketing and Advertising Engagement Channels

Marketing Collateral: A program overview and other materials (e.g., fact sheets, FAQs, etc.) will be developed to provide opportunity youth and adults and potential employers information about the GPC Program and the benefits of participation. All materials will be provided in, at a minimum, English, and Spanish, with other languages available as needs arise.

Toll-Free Phone and Email Support: The GPC Program will provide toll-free phone and email support for program inquiries. The toll-free line is available on weekdays from 9:00 a.m. to 5:00 p.m. The toll-free phone number and hours of operation will be prominently featured in program collateral.

Web-Based Digital ME&O: The SoCalREN website includes a section dedicated to the GPC Program. In addition, the GPC Program will be featured on SoCalREN social media platforms and in Quarterly SoCalREN E-Newsletters.

Public Relations: Information about the launch and subsequent activities of the GPC Program may be shared with local media outlets.

Campaign Goals

The GPC Program, campaign efforts will support the goal of enrolling opportunity youth and adults in GPC:

Program Goals	2024	2025	2026	2027
Train TAY cohort	90	90	90	90
Orientations	4	4	4	4

Table 2: GPC Program goals for the years 2024-2027.

Program Design and Best Practices

The goal of the GPC program is to provide participants a direct career pipeline into the Energy Efficiency sector by offering BPI Certification training. Participants will go through an individual assessment in order to identify their individual barriers. Once those barriers have been identified such as access to technology, transportation, or clothing; the participants will receive supportive services in order to eliminate or mitigate those barriers.

Barrier	Solution
Access to Technology	Participants enrolled in the program will receive a laptop and access to hotspots in order to complete online certification training; participants will have access to computer lab via one of our partners.
Transportation	Participants will receive bus pass or gas reimbursement to travel to and from training site.
Clothing	Participant will receive clothing stipend for training/work site attire.

Table 4: GPC Program barriers.

Participants will use the SoCalREN website in order to fill out an interest form for the program and to also be able to enroll them in the Learn Upon platform to keep them engaged and track their progress throughout. Once the participant is identified they will enroll with WDACS through their Youth Virtual Resource Room which will give them access to resources such as Job Search Tools and Community Partners. Sightline will be used for all data tracking metrics for reporting.

Innovation

N/A

Metrics

Metric	Data Collected
Marketing	Number of GPC website page visits; Number of Interest forms completed.

Direct Implementation	Number of enrolled participants in GPC; Number of enrolled participants in America's Job Center of California (AJCC)- WDACS.
Training	Number of participants who completed program orientation training; Number of participants enrolled in PET; Number of participants completing PET; Number of participants enrolled in BPI trainings; Number of participants obtaining BPI certification.
Supportive Services	Number of participants receiving supportive services per category.
Employment	Number of participants who completed 120-hour work experience; Number of participants who completed On the Job Training (OJT); Number of Job placements.

Table 5: GPC Program metrics.

For Programs claiming to-code savings

N/A

Pilots

N/A

Workforce Education and Training

1. Expand/initiate partnerships with entities that do job training and placement;
 - a. Our partnership through WDACS and the AJCCs provides job training and placement in a variety of fields for participants.
2. Require placement experience for any new partners in the workforce, education, and training programs and new solicitations;
 - a. N/A
3. Require "first source" hiring from a pool of qualified candidates, before looking more broadly, beginning with self-certification; and
 - a. N/A

4. Facilitate job connections, by working with implementers and contractor partners, and utilizing energy training centers.
 - a. Our collaboration with the IOUs provides participants the opportunity for further specialized training through the energy training centers.

Workforce Standards

N/A

Disadvantaged Worker Plan

N/A

No direct installation or modification.

Supporting Documents

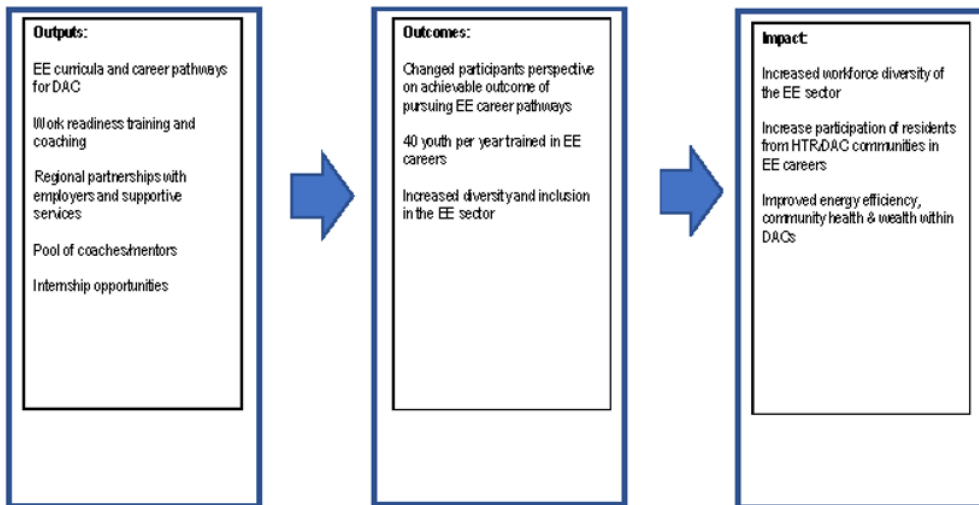
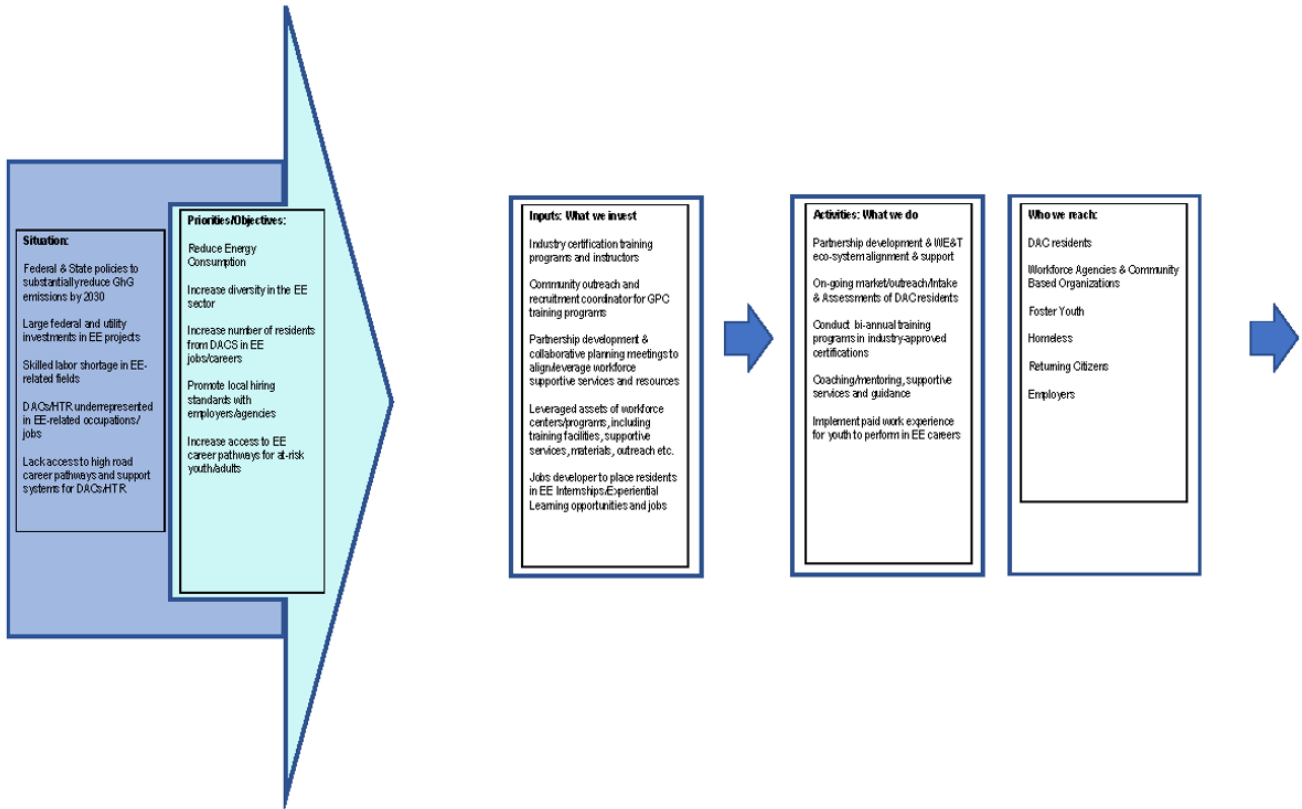
1. **Program Manuals and Program Rules**

Program Manual will be prepared after approval of the Business Plan.

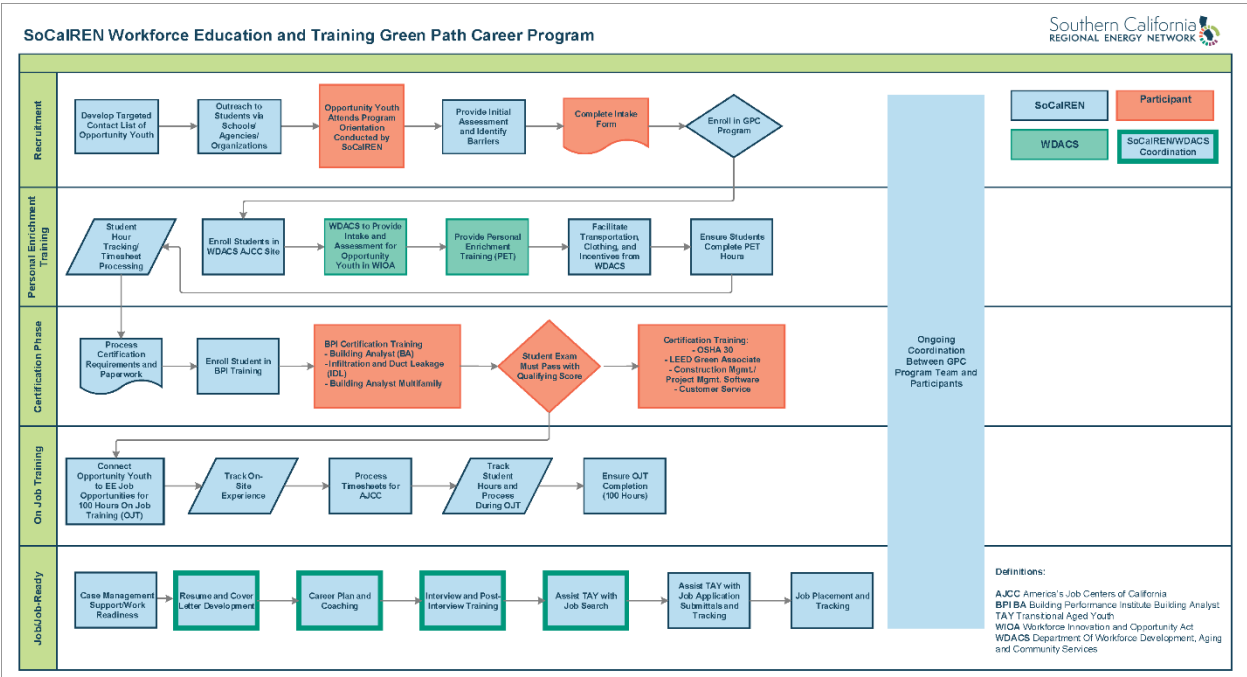
2. **Program Theory¹ and Program Logic Model²:**

¹The expected causal relationships between program goals and program activities in a way that allows the reader to understand why the proposed program activities are expected to result in the accomplishment of the program goals. A well-developed program theory can (and should) also describe the barriers that will be overcome in order to accomplish the goals and clearly describe how the program activities are expected to overcome those barriers. California Evaluation Framework, June 2004.

²The graphical representation of the program theory showing the flow between activities, their outputs, and subsequent short-term, intermediate, and long-term outcomes. California Evaluation Framework, June 2004.



3. Process Flow Chart



4. Incentive Tables, Workpapers, Software Tools: N/A

5. Quantitative Program Targets:

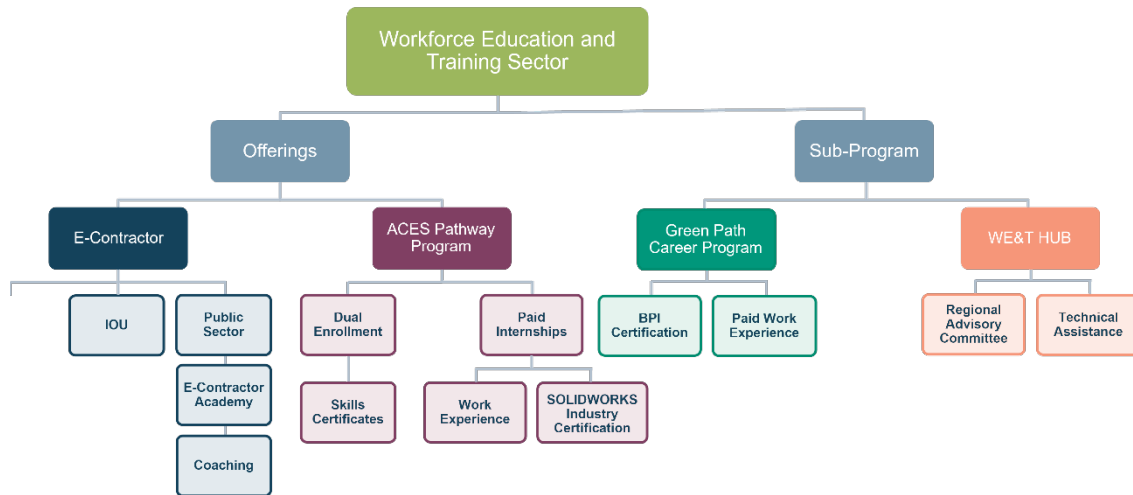
The SoCalREN GPC program aims to achieve the following goals:

Program Goals	2024	2025	2026	2027
Train TAY cohort	90	90	90	90
Orientations	4	4	4	4

Table 6: GPC Program goals for the years 2024-2027.

6. **Diagram of Program:**

WE&T Sector Program Structure



7. **Evaluation, Measurement & Verification (EM&V):**

Performance and outreach metrics are collected throughout the GPC Program process for all participants. SoCalREN gathers information during the outreach phases, collecting data on potential participants and the effectiveness of outreach methods. Participants will go through a series of introductory orientations and assessments in order to collect all necessary data and they will be tracked through the life of the program.

8. **Normalized Metered Energy Consumption (NMEC):**

N/A

Population-level NMEC Programs:

N/A



ENERGY EFFICIENCY PROGRAMS

**SoCalREN Workforce Education and
Training Sector**

**WE&T Opportunity HUB
Program Implementation Plan**

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
March 2022

Contents

Program Overview	3
Program Budget and Savings	4
Implementation Plan Narrative	5
Program Description	5
Program Delivery and Customer Services	5
Program Design and Best Practices	5
Innovation	5
Metrics	5
To-Code Savings Claims	6
Pilots	6
Workforce Education and Training	6
Workforce Standards	6
Disadvantaged Worker Plan	7
Additional Information	7
Supporting Documents	8
Program Manual and Program Rules	8
Program Theory and Program Logic Model	8
Process Flow Chart	8
Incentive Tables, Workpapers, and Software Tools	8
Quantitative Program Targets	8
Diagram of Program	8
Evaluation, Measurement, and Verification (EM&V)	8
Normalized Metered Energy Consumption (NMEC)	9

Index of Tables

Table 1. WE&T Sector	3
Table 2. WE&T Sector	5

Program Overview

The WE&T Opportunity HUB serves to organize the infrastructure needed to connect SoCalREN's small and minority contractors and disadvantaged workers to capacity-building resources and opportunities.

Program Budget and Savings

The CEDARS platform generates summary views of the following information, based on application tables that the PAs upload to CEDARS. The information is organized at the program level and, if applicable, sub-program level to enable multiple cross tabulations and outputs for stakeholders' review and consideration. Programs with subprograms will be displayed at subprogram level and will roll up to a program summary page.

1. Program and/or Sub-Program Name
 - a. WE&T Opportunity HUB
2. Program / Sub-Program ID number
 - a. SCR-WET-D4
3. Program / Sub-program Budget Table

	2024	2025	2026	2027
Admin	\$33,600	\$36,600	\$37,200	\$37,800
ME&O	\$33,600	\$36,600	\$37,200	\$37,800
Direct Implementation	\$492,800	\$536,800	\$545,600	\$554,400
Total	\$560,00	\$610,000	\$620,00	\$630,00

Table 1: Program Budget Table

4. Program / Sub-program Gross Impacts Table
 - a. This is not applicable for non-resource programs.
5. Program / Sub-Program Cost Effectiveness (TRC)
 - a. N/A
6. Program / Sub-Program Cost Effectiveness (PAC)
 - a. N/A
7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Program Implementer	Yes
SoCalREN Only	
SoCalREN – Statewide Lead	
Other PA – Statewide Lead	
Third Party	X
Other (Partnership)	

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Market Sector	Yes
Residential	
Commercial	
Industrial	
Agricultural	
Public	
Codes & Standards	
Workforce Education & Training	X
Finance	
Other	

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Program Type	Yes	No
Resource		X
Non-Resource	X	

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market Channels	Yes	No
Upstream		
Midstream		
Downstream	x	

Intervention Strategies	Yes	No
Direct Install		
Incentive		
Finance		
Audit		
Technical Assistance	X	

Implementation Plan Narrative

Program Description

The WE&T Opportunity Hub is a one-stop shop (virtual and physical) community resource providing high visibility and access to energy efficiency (EE) consumer information, training, and networking opportunities. This initiative will leverage the assets of regional workforce and business assistance organizations, which include training facilities, supportive services, capital, marketing, and outreach.

This program is designed to address the growing labor shortage in the EE/RE construction field by increasing Black Indigenous People of Color (BIPOC) residents with skills, jobs, and business opportunities in green building/technologies/high performance buildings. Furthermore, the WE&T Opportunity Hub is intended to regionally align the WE&T workforce and small business eco-systems in EE/Clean energy careers and business opportunities. This will include implementing and deploying a regional WE&T strategy of resources as well as increasing business networks for disadvantaged workers and businesses.

The WE&T Opportunity Hub provides a multistep approach that assists participants and businesses in entering or continuing in the energy efficiency workforce from the initial recruitment phase to becoming job, career, and bid ready.

Alignment EE Industry Workforce and Regional Workforce Alliance

The most essential part of the WE&T Opportunity Hub is to strengthen the regional EE industry workforce and business ecosystem. Currently, the system is fragmented and misaligned to support disadvantage workers and businesses. By investing in the coordination and alignment of regional workforce and business systems, this will assist in developing a training curriculum to employer specifications and establishing employer hiring networks for participants. The Regional Workforce Alliance's mission is to provide disadvantaged communities with equitable access to training and employment opportunities generated by investments in energy efficiency. Membership consists of utilities, CBOs, workforce boards, labor unions, industry leaders, employers, and local governments. In addition, the Regional Workforce Alliance will be formed and convened to assist ongoing information regarding and support for career/business pathways. The Regional Workforce Alliance helps with mentoring and coaching with participants. As a result, the Regional Workforce Alliance will serve as a co-location of physical HUBs to receive EE information on training, job, and project opportunities for contractors and DAC workers.

The Regional Workforce Alliance convenes bi-annually to strengthen and align public, private, and community-based programs to develop quality career jobs and business opportunities for disadvantaged communities of color in the clean energy sector. This includes workforce, education, and training programs for in-and-out of school youth, community college students, unemployed and underemployed individuals, incumbent workers and contractors in ACE professional services, construction and maintenance and operations. This regional alliance will address the following:

- Forecast labor market demand and energy efficiency jobs and contracting opportunities;
- Identify occupations and skills requirements for workers performing energy efficiency work;

- Develop of curricula and workforce development pathways for youth, disadvantaged adults and incumbent workers;
- Develop of a shared online platform/brokerage system for skilled workers and contractors to identify jobs and contracting opportunities;
- Identify opportunities for targeted local workers or small contractors to participate in energy efficiency projects;
- Provide training options, certificated programs, access to construction technologies, equipment/materials, and capital, bonding, and insurance for small and diverse businesses;
- Provide input to public agencies and institutions to help achieve local clean energy goals, such as the Los Angeles Community College Sustainability Vision 2040 Plan;
- Provide resources such as training, expertise, and marketing/outreach strategies to achieve shared goals;
- Marketing and outreach to maximize program awareness via partner websites and social media;
- Forum for sharing lessons learned and best practices; and
- Opportunities for joint initiatives.

Member Roster: (Partial Listing)

- California Hispanic Chamber of Commerce
- California State University, Long Beach, Institute for Innovation & Entrepreneurship
- California Conservation Corps.
- Crenshaw Chamber of Commerce
- East Los Angeles Community College, Engineering and Technologies Department
- Greater Los Angeles African American Chamber of Commerce (GLAAAC)
- Hub Cities Consortium
- Los Angeles Department of Water and Power
- Los Angeles Community College District
- Los Angeles County Department of Consumer and Business Affairs, Office of Small Business
- Los Angeles County Workforce Development Aging & Community Services, America's Job Centers of California (AJCC)
- Los Angeles Local Development Corporation

- National Association for the Advancement of Colored People of Inglewood/South Bay Chapter
- National Association of Minority Contractors-Southern California
- National Electrical Contractors Association (NECA)
- Southern California Edison
- Southern California Gas Company
- SOLIDWORKS/GoEngineer
- Swinerton Builders
- US Green Building Council-Los Angeles Chapter (USGBC-LA)
- YouthBuild

Recruitment

In the initial phase of the WE&T Opportunity Hub, the implementation will need to rely heavily on current and proposed programs to identify potential participants and businesses. Minority businesses and disadvantage workers/youth often need additional pathway services. In addition, the WE&T sector programs already have a database of participants from prior programs and a curated outreach list of potential participants. Recruitment of participants would be led by the program implementer and established partners from the Regional Workforce Alliance.

Once the list is curated by the program implementer and partners, candidates will be contacted and provided with all the necessary materials to enroll and begin the scheduling of the initial step. The implementer enters this first phase and remains the primary contact throughout the entire program to ensure that the participant has a continuous point of contact.

Implementation of the WE&T Opportunity Hub (Physical and Virtual)

The initial phases of the HUB will focus on developing a virtual platform. WE&T needs a strong virtual infrastructure to train and connect with its trainees and contractors on an on-going basis and to connect them to the larger eco-system for success. During the business plan period the WE&T program will develop regional HUBs co-located within existing workforce centers throughout the SCE/SoCalGas region. The physical locations will serve as training centers, networking opportunities, and general supportive services for workers and contractors in the clean energy space.

The primary role of the HUB, however, is to connect participants to each other and to employers for jobs and contracting opportunities, and supportive services.

The HUB virtual platform will include four major offerings:

1. Resource Library to include up-to-date EE/Climate/Construction information nationally and in SCE/SoCalGas region,
2. Training Center - on-line training resources which will include the HUB training curricula outlined

3. Business services Center – access to consulting services, financing, bonding, insurance, health care, materials & equipment
4. The Marketplace/Opportunity clearing house including RFPs/RFQs, contractor profiles/prospective, and resumes of skilled workers

Coaching and Career Pathway

Coaching and Career Pathway would be offered in preparation and continuous of the participant transitioning into the workforce, this will include technical assistance and guidance to students, youth and businesses for EE careers advancements and careers. Coaching and Career Pathway is offered when enrolling in WDACS America's Job Center of California (AJCC), Title I schools, and the implementer programs which will be enhanced to create outcomes of training and success in the EE sector.

Job/Bid Ready

In the final stage of the program, participants would be offered significant step-by-step support to enter the EE workforce. Supportive services to be offered include:

- Resume and Cover Letter Development
- Contractor Capability Statements
- Career coaching and planning
- Contractor Coaching and Planning
- Individualized career plan
- Contractor business plan
- Job Application support
- Bid Application support
- Interview preparation coaching
- Public Bid Interview coaching
- Post Interview follow -up coaching
- Post Bid Interview follow up
- Thank you letter development
- Document proofing support
- Job application tracking
- Bid application tracking
- Field Project Support and Follow Up
- Career and job connections support
- Network Development support

The overarching end-goal is to prepare each participant to go into the EE sector workforce pipeline.

Program Delivery and Customer Services

Program Strategies

The program targets hard to reach (HTR) and those in disadvantaged communities (DAC) in the Southern California Region in the quest to reducing the labor shortage in EE, RE and construction field. The program will offer multi-level training and services that will lead a career

pipeline in the Energy Efficiency sector. The program will be offered in collaboration with members of the Regional Workforce Alliance.

Marketing and Outreach

The WE&T Opportunity Hub will be promoted through a variety of tactics to educate primary target audiences --- Disadvantage workers, youth, and businesses --- about the Hub, how to get involved, and how to best support disadvantage workers, youth, and businesses in their educational, career and business goals. Individual tactics are described below.

Direct Outreach

The WE&T Opportunity Hub will perform to direct outreach to schools, agencies, and organizations that work with and support DAC residents and students. During this outreach activity, WE&T Hub staff will provide information about the educational, training and work experience offering available to participants, and the opportunities available with careers and project opportunities in the energy efficiency sector.

Training Sessions

The WE&T Opportunity Hub will host training sessions quarterly on new green opportunities, careers, and technology for outreach purposes. During this outreach activity, the WE&T Opportunity Hub staff will provide information and resources about the educational, coaching services and work experience offering by DAC residents, and the opportunities available with careers in the energy efficiency sector.

One-on-One

The WE&T Opportunity Hub and Regional Workforce Alliance members will already have a database and a connection to DAC residents from previous services received. DAC/HTR residents will receive more information on the program and participation expectations and will complete an initial assessment and intake form.

Marketing and Advertising Engagement Channels

Marketing Collateral: A program overview and other materials (e.g., fact sheets, FAQs, etc.) will be developed to provide participants and partners information about the WE&T Opportunity Hub and the benefits of participation. All materials will be provided in, at a minimum English and Spanish, with other languages available as needs arise.

Toll-Free Phone and Email Support: The WE&T Opportunity Hub will provide toll-free phone and email support for program inquiries. The toll-free line is available on weekdays from 9:00 a.m. to 5:00 p.m. The toll-free phone number and hours of operation will be prominently featured in program collateral.

Web-Based Digital ME&O: The initial phases of the WE&T Clean Energy Opportunity HUB will focus on developing a virtual platform within the existing SoCalREN website.

Public Relations: Information about the launch and subsequent activities of the WE&T Opportunity Hub may be shared with local media outlets.

Campaign Goals

During the initial launch year for the WE&T Opportunity Hub, campaign efforts will support the goal of enrolling (10) organizations as members of the Regional Workforce Alliance.

Program Goals	2024	2025	2026	2027
Partner Organizations	10	15	20	25
Orientations/Trainings*	2	2	2	2

Table 2: HUB Program goals for years 2024-2027

* Community EE Awareness Workshops

Program Design and Best Practices

The goal of the WE&T Opportunity Hub is to provide participants a direct pipeline into the Energy Efficiency sector by offering certifications, Training, (BPI, IOUs, GPRO, etc.), and business services. Participants will go through an individual assessment in order to identify their individual barriers. Once those barriers have been identified such as access to support services (technology, transportation, or clothing etc.), access to capital, bonding and insurance, or capacity; the participants will receive supportive services in order to eliminate or mitigate those barriers.

Barrier	Solution
Support Services	Participants enrolled in the program will receive access to support services from partners such as technology, transportation, or clothing.
Access to Capital, bonding, and Insurance	Participants enrolled in the program will receive help with capital, bonding, and insurance. The program goal is to partner with banks, CDFIs, and other associations to assist with the barrier.
EE/RE Outreach to DAC	Participants enrolled in the program will be informed through outreach measures set in place.
Lack of Peer Exchange	The development of a shared online platform/brokerage system for skilled workers and contractors to identify jobs and contracting opportunities.
Lack of EE Information	Participants in the program will receive ongoing training in new building codes, construction materials and equipment, project management software and estimating technologies, labor standards,

	construction administration, and project delivery methods (for example, P3s).
Fragmented workforce ecosystem	ECC entered into partnership alliance agreements with industry, community, and institutional partners to collectively address barriers to entry and growth and define strategies to maximize economic opportunity for communities of color.

Table 3: HUB Program Barriers

Innovation

N/A

Metrics

The metrics to be gathered by the SoCalREN WE&T Opportunity HUB program are as follows:

Table 4. WE&T Opportunity HUB Metrics

Metric	Data Collected
Marketing	Number of WE&T website page visits; Number of Interest forms completed.
Direct Implementation	Number of enrolled members in Regional Workforce Alliance; Number of enrolled participants in America's Job Center of California;
Training	Number of participants receiving current WE&T Program offerings;
Supportive Services	Number of participants receiving supportive services per category.
Employment/Project Opportunities	Number of jobs placements; Number of bids submitted; Number of awarded projects; Number of completed projects.

To-Code Savings Claims

N/A

Pilots

N/A

Workforce Education and Training

Describe how the program will support workforce, education, and training to:

1. Expand/initiate partnerships with entities that do job training and placement;
 - a. Partnership through WDACS and AJCCs provides job training and placement in a variety of fields for participants.
2. Require placement experience for any new partners in the workforce, education, and training programs and new solicitations;
 - a. N/A
3. Require “first source” hiring from a pool of qualified candidates, before looking more broadly, beginning with self-certification; and
 - a. N/A
4. Facilitate job connections, by working with implementers and contractor partners, and utilizing energy training centers.
 - a. Our collaboration with the IOUs provides participants the opportunity for further specialized training through the energy training centers.

Workforce Standards

N/A

Disadvantaged Worker Plan

N/A

No direct installation or modification.

Additional Information

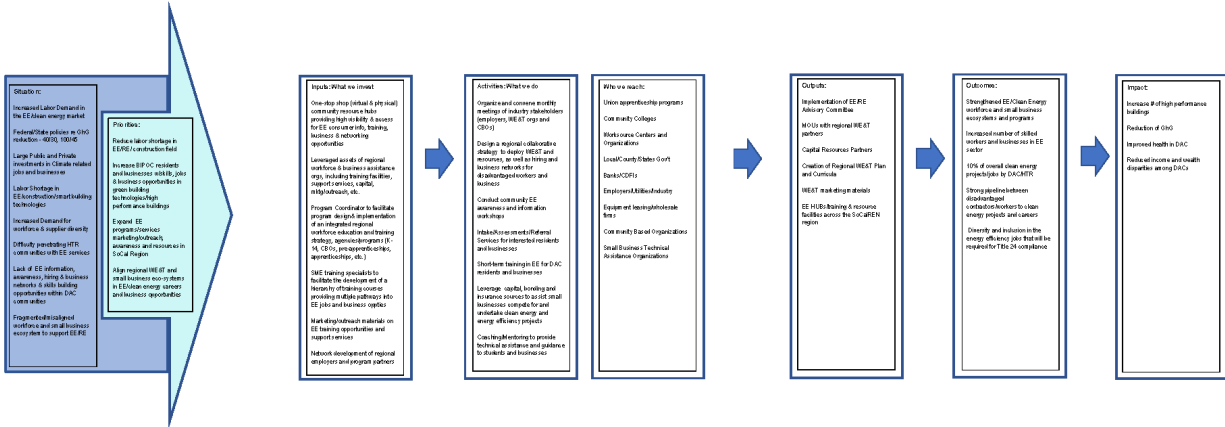
N/A

Supporting Documents

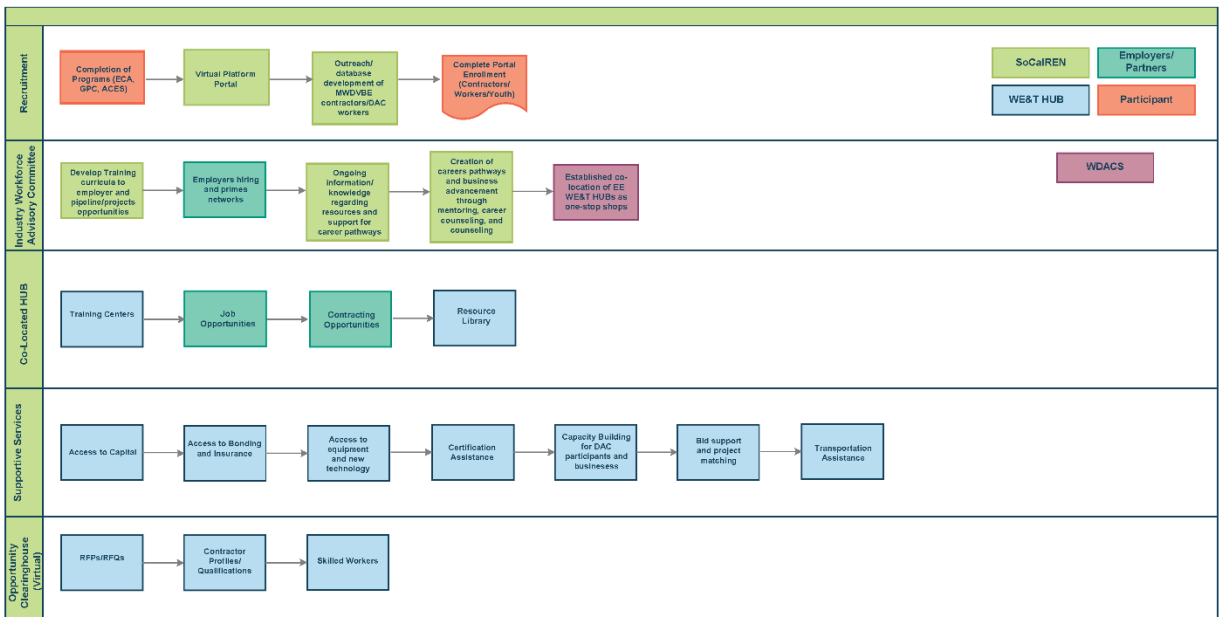
Program Manual and Program Rules

N/A

Program Theory and Program Logic Model



Process Flow Chart



Definitions:
 DAC Disadvantaged Communities
 HTR Hard-to-Reach Audiences
 WDACS Department of Workforce Development, Aging and Community Services

Incentive Tables, Workpapers, and Software Tools

N/A

Quantitative Program Targets

The SoCalREN WE&T Opportunity HUB program aims to achieve the following goals:

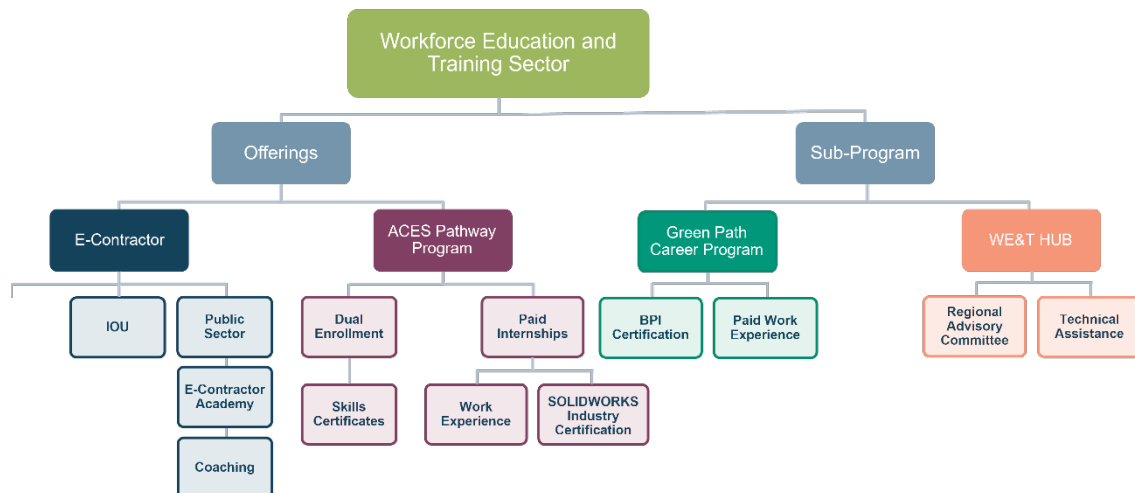
Program Goals	2024	2025	2026	2027
Partner Organizations	10	15	20	25
Orientations/Trainings*	2	2	2	2

Table 5: HUB Program goals for years 2024-2027

* Community EE Awareness Workshops

Diagram of Program

WE&T Sector Program Structure



Evaluation, Measurement, and Verification (EM&V)

The WE&T Opportunity HUB completes ongoing evaluation to ensure the goals and targets are met while keeping stakeholders fully informed of program operations and outcomes. A comprehensive workplan will be developed by SoCalREN's third-party EM&V team at the beginning of each year to identify the study needs in the portfolio, determine the timeframe and allocate the budget per study.

Normalized Metered Energy Consumption (NMEC)

N/A

ENERGY EFFICIENCY PROGRAMS

**SoCalREN Residential Sector
Kits4Kids Program
Implementation Plan**

Contents

Program Overview.....	3
Program Budget and Savings.....	3
Implementation Plan Narrative.....	6
Program Description.....	6
Program Delivery and Customer Services.....	7
Program Design and Best Practices.....	7
Innovation.....	8
Metrics.....	9
To-Code Savings Claims.....	9
Pilots.....	10
Workforce Education and Training.....	10
Workforce Standards.....	10
Disadvantaged Worker Plan.....	10
Additional Information.....	10
Supporting Documents.....	10
Program Manual and Program Rules.....	11
Program Theory and Program Logic Model.....	12
Process Flow Chart.....	13
Incentive Tables, Workpapers, and Software Tools.....	14
Quantitative Program Targets.....	14
Diagram of Program.....	15
Evaluation, Measurement, and Verification (EM&V).....	16
Normalized Metered Energy Consumption (NMEC).....	16

Index of Tables

Table 1.....	Error! Bookmark not defined.
Table 2.....	Error! Bookmark not defined.

Program Overview

Southern California Regional Energy Network’s (SoCalREN) EE Kits4Kids program (Program) provides energy-saving measures to families within the SoCalREN service area who have third or fourth grade students attending schools and prioritizes schools meeting CPUC Hard to Reach criteria or are located within Disadvantaged Communities (DAC). A set of energy saving measures (contained in the Kit), along with energy efficiency information is provided at no cost to the students. The students take the kit home, and together with their family, install the measures in their home. In addition to the energy and cost savings achieved by the installed measures, the Program offers educators with a classroom incentive grant. Kits4Kids will generate energy savings and provide relief to families and educate future household decision-makers to continue practicing good energy management behaviors in their homes.

Program Budget and Savings

1. Program and/or Sub-Program Name
SoCalREN Kits-4-Kids Program
2. Program / Sub-Program ID number
SCR-RES-A4
3. Program/Sub-program Budget Table

<i>Budget Category*</i>	2024	2025	2026	2027
Administration	\$26,753	\$28,946	\$36,018	\$39,218
Marketing	\$33,574	\$36,327	\$45,201	\$49,217
Direct Implementation— Non-Incentive	\$410,554	\$444,218	\$552,734	\$601,844
Direct Implementation— Incentive	\$1,149,120	\$1,243,345	\$1,547,075	\$1,684,533
Total	\$1,620,001	\$1,752,836	\$2,181,028	\$2,374,812

*All sub programs included in totals shown above

4. Program/Sub-program Gross Impacts Table

Gross Impacts	2024	2025	2026	2027
kWh	1,443,349	1,605,503	1,997,701	2,175,198
kW	19	21	26	28
Therms	86,321	96,019	119,475	130,090
Total System Benefits (TSB)	\$638,639	\$773,322	\$1,035,219	\$1,191,942

5. Program/Sub-Program Cost Effectiveness (TRC)

Cost Effectiveness	2024	2025	2026	2027
TRC	0.40	0.44	0.47	0.49

6. Program/Sub-Program Cost Effectiveness (PAC)

Program Administration Cost	2024	2025	2026	2027
PAC	0.39	0.44	0.47	0.50

7. Type of Program/Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Program Implementer	Yes
SoCalREN Only	X
SoCalREN – Statewide Lead	
Other PA – Statewide Lead	
Third Party	
Other	

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Market Sector	Yes
Residential	X
Commercial	
Industrial	
Agricultural	
Public	
Codes & Standards	
Workforce Education & Training	
Finance	
Other	

9. Program/Sub-program Type (i.e., Non-resource, Resource)

Program Type	Yes	No
Resource	X	
Equity		X
Market Support		X

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market Channels	Yes	No
Upstream		X
Midstream		X
Downstream	X	
Direct Install		X

Intervention Strategies	Yes	No
Direct Install	X	
Incentive		X
Finance		X
Audit		X
Technical Assistance	X	

Campaign Goals

In addition to the program savings goals, the following goals have been established for 2024-2027:

- Enroll 1,200 3rd and 4th grade classrooms in SoCalREN territory
- Deliver kits to 35,000 households/apartments

Timeline



Implementation Plan Narrative

Program Description

Kits4Kids provides a model wherein families are provided with a home-based educational activity. The activity is designed to help the student make connections between concepts learned through third and fourth grade science class and how the members of their household use energy at home, in a fun, hands-on fashion.

The free measures are designed to help households save energy and money. Students will have access to a free, online home-based educational activity with games, puzzles, and a tip sheet. These are designed to educate the participating student and other household members about energy efficiency and the positive financial and environmental impacts associated with participating and committing to energy efficiency (EE) behaviors.

Rationale

Due to the COVID-19 pandemic, Residential customers are spending more time than ever at their homes, resulting in higher energy costs (average residential energy use has increased by

130% between February and December 2021). At the same time, many families are facing financial hardships due to unemployment. In addition, COVID-19 has significantly impacted the collected tax revenues for state and local governments, which have severely impacted school district budgets and their classrooms. As public educational budgets contract, so do the available services and resources provided to students.

In addition to the economic hardships, climate change is still creating significant and detrimental effects on our environment. Local and regional temperatures are increasing at the same time, water reserves and precipitation are decreasing, setting up severe resiliency issues across the state of California. SoCalREN's Kits4Kids program will help address the current economic hardships during a time when many are struggling due to the impacts of COVID-19 by helping families reduce monthly energy costs, through the measures provided. The program also includes an innovative incentive structure to assist local California classrooms with additional resources and drives real climate action leadership that will grow over the long term, driving energy savings over time (from youth to adulthood).

Objectives

The program objectives of Kits4Kids are as follows:

- Generate energy savings (kWh and therms) through the installation of measures in the homes of students participating in the Kits4Kids program.
- Provide financial relief to families/households through both energy cost savings and the no-cost measures provided to households.
- Educate students, parents, and guardians about energy efficiency to help household members make informed decisions now, and to encourage the continuation of EE behaviors by the students in the future.
- Drive climate action within residential communities.

Program Delivery and Customer Services

The Program will target teachers of third and fourth grade classrooms and their students to receive the EE Kits and classroom instruction. Schools that meet CPUC Hard to Reach criteria and/or located in Disadvantaged Communities (DAC) will be prioritized for participation.

The Program will be positioned as part of SoCalREN's portfolio of programs, coordinated with and promoted to school districts in coordination with SoCalREN's Public Agency Regional Partners, and local governments participating in the Public Sector Project Delivery Program.

These Regional Partners will facilitate classroom enrollment of the program for schools in SoCalREN's territory. After enrollment, teachers will be given instructions on the distribution of the kits. Upon completion of an introductory activity with their teacher, students will receive a free energy saving kit which will contain educational materials for all members of the household. Once the student and parent/guardian receives the Kit, they will have access to online activities to further their energy efficiency learning. In addition, the families will have instructions on how

¹ Balaraman, Kavya. (2021). *California moves to address 'extraordinarily frightening' energy debt amid COVID-19*. <https://www.utilitydive.com/news/california-moves-to-address-extraordinarily-frightening-energy-debt-amid/595054/>

to identify the measures to be installed, where to install them and guidance on how to install. Then, alongside the parent and/or guardian the measures will be installed. At the point of installation, the activity will also request the return of a postcard to participating students' teachers to verify the measures have been installed. The teachers will verify the number of postcards returned in an online submission form. Information gathered on this postcard will be used to verify existing conditions in the home (e.g., number of incandescent bulbs, etc.). This information will serve as key EM&V ex-post information and will assist in determining energy savings associated with the free measures provided for installation.

The SoCalREN Kits4Kids program implementation team will be responsible for collecting the participant data and installation verification. They will collect each classroom's information and collectively aggregate each submittal by participating classroom to determine the classes' eligibility for the classroom incentive grant. Once the SoCalREN Kits4Kids program implementation team verifies installation and class achievement, the classroom teacher will be notified of the incentive grant achieved and it will be mailed to the respective school which can then be distributed to the classroom.

The primary market participant for this program is the student themselves along with their Parent/Guardian and other members of their household. The household will be the recipient of the energy efficiency measures and will enjoy the cost saving benefits associated with installation and use. The student will benefit from the at-home activity through reinforcement of the concepts taught in school.

Participating elementary schools will enroll in the program, and third and fourth grade classrooms will be invited to participate in the Kits4Kids Program. Third and fourth grades were selected because the standards students are taught at this grade level align well with energy efficiency concepts. The at-home activity is intended to build on what has already been taught in the classroom. Existing school-based energy efficiency programs offered by investor-owned utilities (IOUs) focus on other grade levels. The Kits4Kids home-based energy efficiency education program is targeted at a different grade level and therefore does not duplicate IOU programs.

Finally, students in schools classified as DAC and/or HTR will be provided an alternative activity booklet if they do not have access to complete the online portion of the activity. In addition, when needed, the program will provide in-language content that will target specific communities that are often overlooked in energy efficiency programs. Providing educational materials, activity sheets, and measure instructions in key languages spoken throughout the region will help more customers directly connect with the content and concepts and will foster connections between parents/guardians and students who can work on the activities together. These communities will then adopt energy efficiency at a higher level than their historic participation levels.

Program Design and Best Practices

SoCalREN Kits4Kids offers education about EE and provides measures that overcome market barriers preventing households from making these types of improvements.

Market barriers faced by Residential customers in the SoCalREN service area are addressed through Kits4Kids:

- Households in the targeted areas have a historic lack of participation in energy efficiency programs and may be unaware of the availability of such programs. By providing a no-

cost entry point to energy efficiency that is accessible to all members of the household, Kits4Kids helps address this critical market barrier.

- For Multifamily customers, property owners and managers may be hesitant to perform upgrades or installations in tenant units due to the spread of COVID-19. Kits4Kids provides measures directly to tenant households, allowing them to enjoy the benefits of energy efficiency without the risk of coming into contact with a contractor or service provider.
- Due to high unemployment and increased energy costs, many households in the DAC and HTR areas served by SoCalREN currently face economic hardship. The measures and incentives provided by Kits4Kids can help alleviate this burden while providing information and guidance on how households can continue to save even more energy and money on an ongoing basis by implementing additional no-cost/low-cost strategies.

Students will learn about energy efficiency on an interactive website designed specifically for the SoCalREN Kits4Kids Program. Students will play a series of games that will teach EE and how to learn about saving energy in their home.

Innovation

Kits4Kids is an innovative program design that drives energy savings while educating young students about the benefits of energy efficiency, and in so doing, creating young ambassadors of energy and environmental stewardship.

A small incentive grant of either \$500 for classrooms with 10 or fewer students and \$1,000 for classrooms with more than 10 students. To receive the program incentive grant, classrooms must achieve 65 percent student household participation, as determined by the number of students who return a postcard to their teachers, certifying the measures have been installed in their home. This mechanism promotes deeper engagement and action through a simple gamification technique.

Metrics

The metrics to be gathered by the SoCalREN Kits4Kids Program are as follows:

- Number of school districts participating
- Number of classrooms enrolled
- Number of students participating
- Number of classrooms that have at least 65 percent of students install measures
- Location (in DAC and Non-DAC ZIP codes)
- Number of each measure installed
- Installation Savings
- Number of incentive grants and total funds distributed

To-Code Savings Claims

The Program Kit contains one measure that will have to-code savings. The Kit includes replacing one existing incandescent or CFLs with an LED A-lamp.

- a. **Where to-code savings potential resides:** The residential segment represents a significant opportunity for to-code savings potential, especially in DAC areas where access to information, first cost, and split incentive barriers prevent adoption of energy efficient measures.
- b. **Equipment types, building types, geographical locations, and/or customer segments promising cost-effective to-code savings:** LED A-lamp replacing incandescent or CFL base case are contained in the Kit. The Program will cause early replacement of the inefficient lamps.
- c. **Barriers that prevent code-compliant equipment replacements:** First cost, split incentive, and lack of information are the most prevalent barriers that prevent code-compliant equipment replacements. In the case of simple A-lamp replacements, as long as incandescent or fluorescent lamps are available at the local grocery or home improvement stores, the typical residential customer will opt for the least expensive option.
- d. **Issues preventing natural turnover:** Natural turnover takes much more time within the low to moderate income residential segment mainly because the high efficiency option is more expensive than less efficient options. Again, in this segment there is still a widespread lack of awareness of energy efficiency benefits and options, first cost barriers, and split incentive when the customer rents and does not own their home.
- e. **Program interventions to accelerate equipment turnover:** By providing the measures at no cost to the homeowner, and raising the visibility of participation in the classroom, replacement of the existing inefficient equipment is accelerated.

Pilots

No pilots within the Kits4Kids programs are proposed in the 2024-2027 cycle.

Workforce Education and Training

This section is not applicable to this program.

Workforce Standards

This section is not applicable to this program.

Disadvantaged Worker Plan

This section is not applicable to this program.

Additional Information

No additional information has been requested by any California Public Utilities Commission (CPUC) decision or ruling.

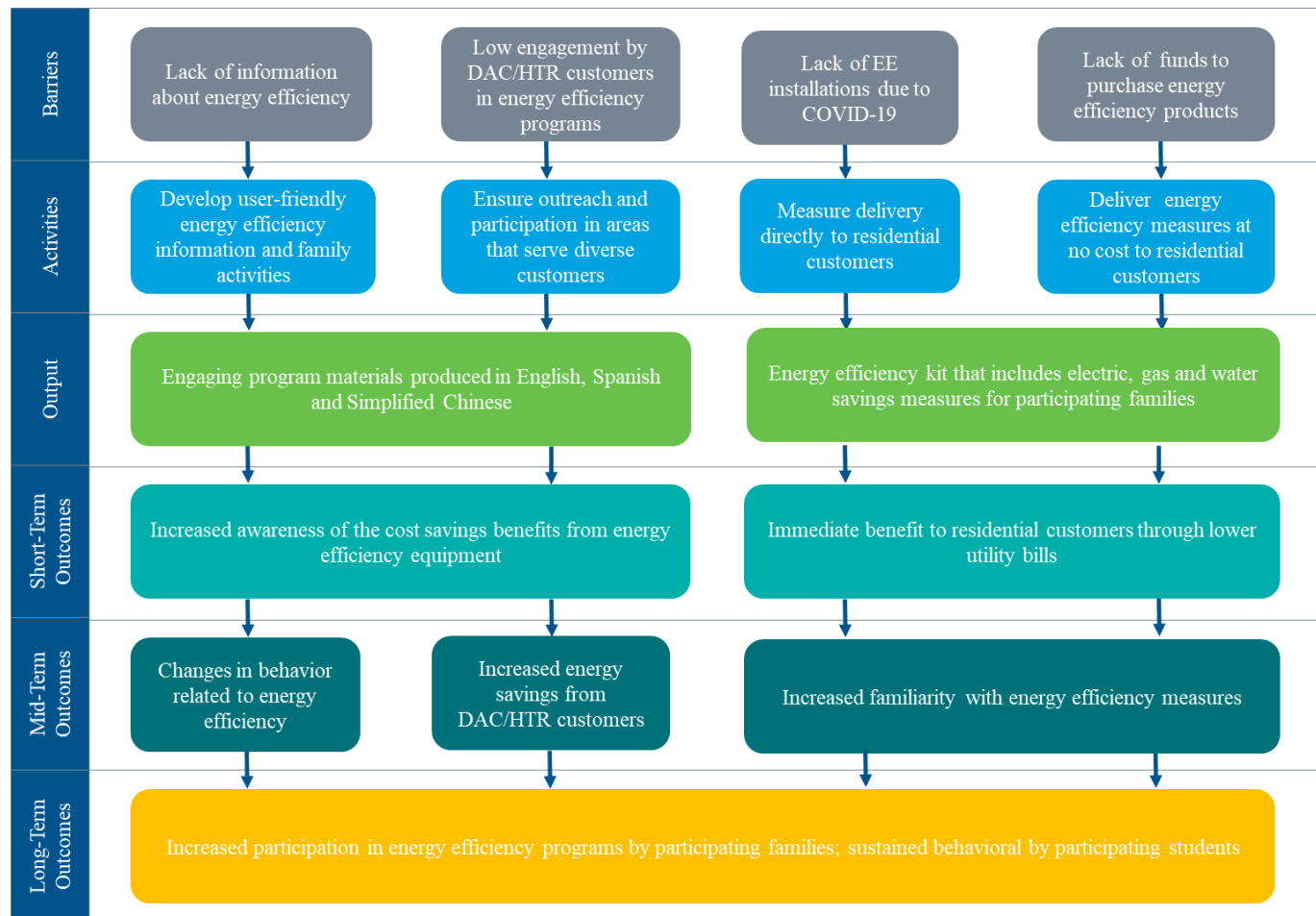
Supporting Documents

Program Manual and Program Rules

Program Manual will be prepared after approval of the Business Plan.

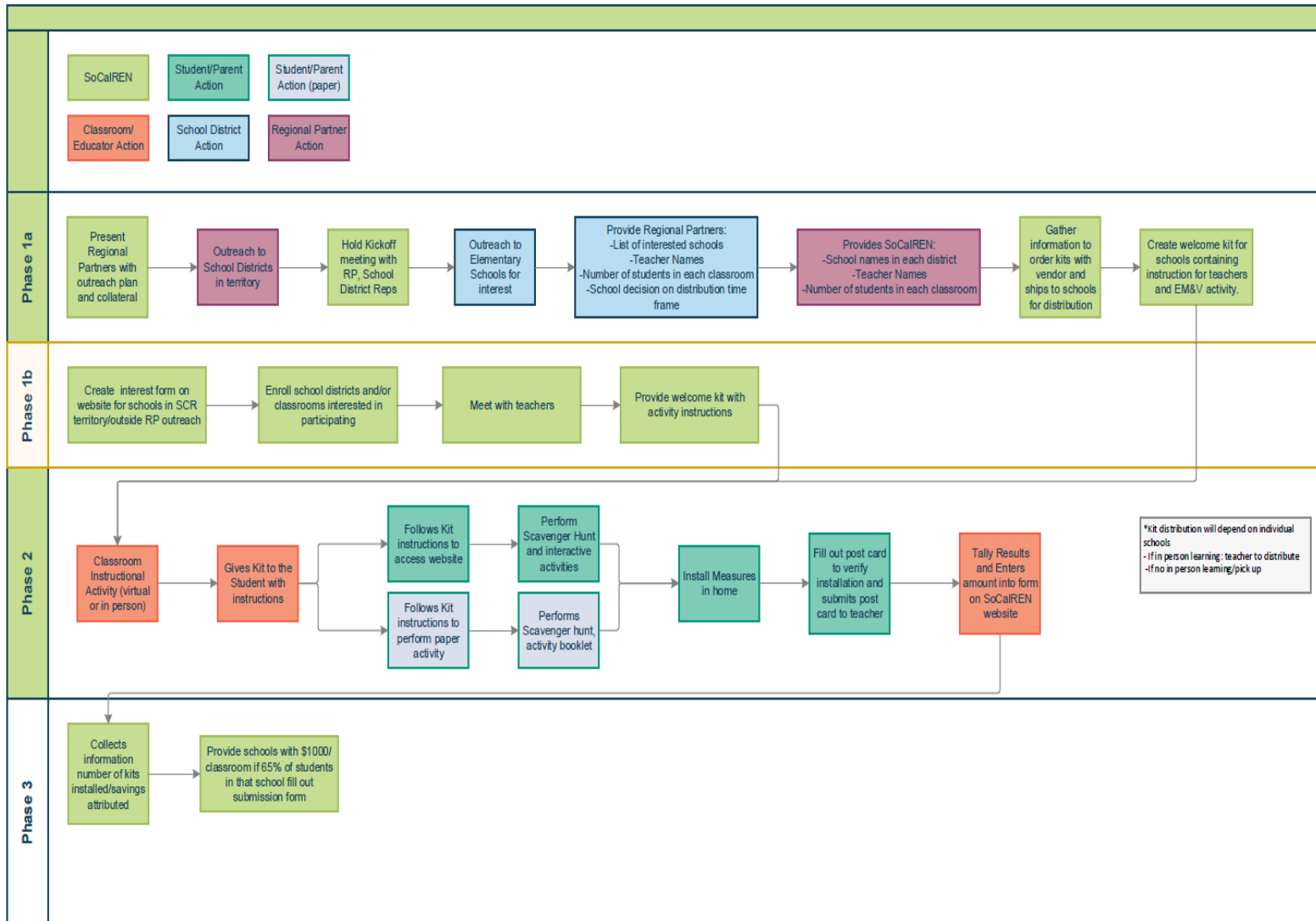
Program Theory and Program Logic Model

Through the implementation of Kits4Kids, SoCalREN expects that, in addition to generating immediate kWh and therm savings, the program can impact long-term behavior both by current impacted households and the future households of students educated about energy efficiency behaviors through the program.



Process Flow Chart

SoCalREN Kits For Kids



Incentive Tables, Workpapers, and Software Tools

The measures listed in the table below will be delivered to participating classrooms through pre-packaged kits. Energy savings will be documented as per the approved workpaper referenced in the table.

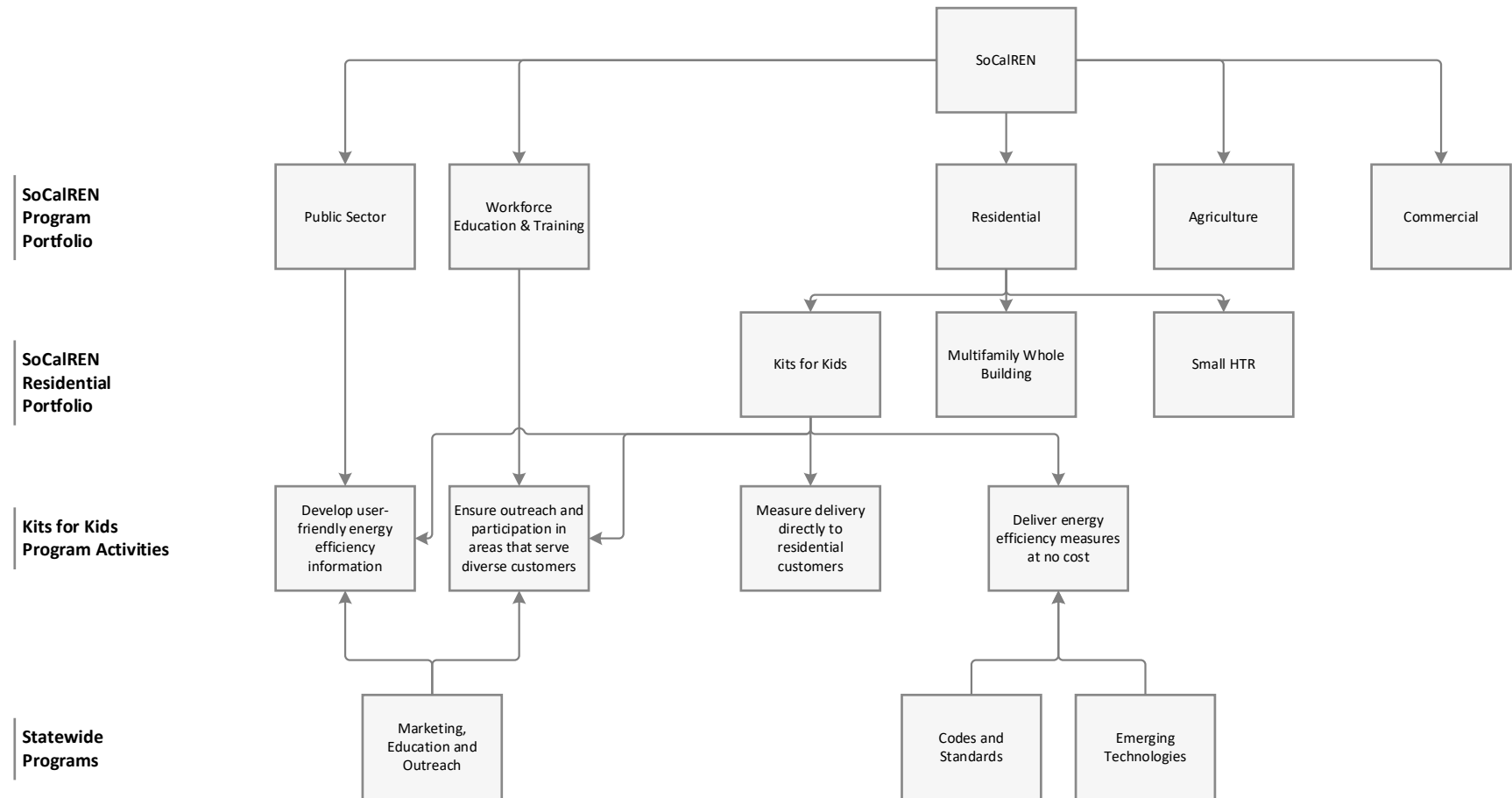
Measure Description	Workpaper
Tier 2 Advanced Power Strip	SWAP010-01
LED A-Lamps	SCE17LG133
Showerhead	SWWH002-02
Bathroom Aerator 1.0 GPM	SWWH002-02
Kitchen Aerator 1.5 GPM	SWWH002-02

Incentives will be provided in the form of an incentive grant awarded to classrooms that achieve 65% participation as measured by student participation. There are two incentive levels depending on class size. Classrooms with 10 students or less received \$500 and classrooms with more than 10 students receive \$1,000.

Quantitative Program Targets

SoCalREN Kits4Kids aims to enroll 250-330 classrooms annually.

Diagram of Program



Evaluation, Measurement, and Verification (EM&V)

Installed measures will be reported by teachers of enrolled classrooms in the Kits4Kids Program. Due to the young age of the target market (third and fourth grade students), no personally identifiable information of the students will be collected. Teachers will only report the number of measures installed in by the entire classroom in an online submission form.

Normalized Metered Energy Consumption (NMEC)

The Program will not be using the NMEC platform.



ENERGY EFFICIENCY PROGRAMS

SoCalREN Public Sector
Energy Efficiency Project Delivery
Program
Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
September 2021

Contents

Program Overview 3

Program Budget and Savings 4

Implementation Plan Narrative 6

 Program Description 6

 Program Delivery and Customer Services 7

 Program Design and Best Practices 9

 Innovation 11

 Metrics 12

 To-Code Savings Claims 12

 Pilots 13

 Workforce Education and Training 13

 Workforce Standards 13

 Disadvantaged Worker Plan 13

 Additional Information 13

Supporting Documents..... 14

 Program Manual and Program Rules 14

 Program Theory and Program Logic Model 15

 Process Flow Chart 16

 Incentive Tables, Workpapers, and Software Tools 17

 Quantitative Program Targets 17

 Diagram of Program 18

 Evaluation, Measurement, and Verification (EM&V) 18

 Normalized Metered Energy Consumption (NMEC) 19

Index of Tables

Table 1: Program Budget 4

Table 2: Public Sector Metrics..... 12

Table 3: Tools leveraged by PDP..... 17

Table 4: Quantitative Program Targets 17

Index of Figures

Figure 1: Program Theory and Program Logic Model..... 15

Figure 2: Process Flow Chart..... 16

Figure 3: Diagram of Program..... 18

Program Overview

The Southern California Regional Energy Network (SoCalREN) Energy Efficiency Project Delivery Program (PDP) fills market gaps and provides public agencies with an integrated, objective and comprehensive energy efficiency solution so that they can become proactive stewards and leaders in energy action. Program services include, but are not limited to, energy planning, energy use analysis, investment grade audits, design performance specifications, scope of work support, incentive and financing application support, financial analysis, procurement assistance, bid analysis, and construction management support. In addition, public agencies receive project management services through a dedicated Project Manager who acts as a single point of contact to guide them through the entire project implementation process. The dedicated Project Manager also supports the public agencies to navigate and gain access to SoCalREN's applicable resource and non-resource programs alike as well as Investor-Owned Utility (IOU) and third-party programs, unlocking and streamlining project implementation to realize a resilient, reliable, and clean energy future.

Program Budget and Savings

1. Program and/or Sub-Program Name

SoCalREN Public Agency Energy Efficiency Project Delivery Program

2. Program / Sub-Program ID number

SCR-PUBL-A1

3. Program / Sub-program Budget Table

Table 1: Program Budget

Budget Category	2021
Administration	\$540,070
Marketing	\$324,041
Direct Implementation - Non-incentive	\$4,536,583
Direct Implementation - Incentive	\$0
Total	\$5,400,694

4. Program / Sub-program Gross Impacts Table

N/A

5. Program / Sub-Program Cost Effectiveness (TRC)

N/A

6. Program / Sub-Program Cost Effectiveness (PAC)

N/A

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

SoCalREN PA delivered

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Public Sector

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Non-resource

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Downstream. Technical assistance.

Implementation Plan Narrative

Program Description

The SoCalREN PDP offers services to identify and complete public sector projects that are customized to meet the unique needs of each enrolled agency. The goal of PDP is to identify and implement cost-effective energy efficiency projects that yield electricity and gas savings for local governments and communities across the region. In order to achieve this goal, the PDP aims to achieve the following objectives:

1. Fill market gaps in the public sector and provide public agencies with an integrated, objective, and comprehensive EE solution for their facilities and non-facility infrastructure;
2. Increase the percentage of public agencies that engage their communities in energy actions and EE strategies, thereby reducing overall community energy consumption;
3. Increase the ability of public agencies to meet local, regional, and state energy targets and policy goals;
4. Increase the number of participating public agencies in the PDP across the entire regional territory;
5. Position public agencies and strategic regional partners to lead community awareness campaigns, engage stakeholders, build public awareness of local, regional, and state efforts, develop energy action plans with shovel ready project scopes, and drive participation in PA resource programs, and;
6. Expand the implementation of cost-effective EE projects.

The PDP offers energy efficiency services to over 700 eligible public agencies in the Southern California Edison (SCE) and Southern California Gas (SCG) service territories - including cities, counties, tribes, school districts, water districts, sanitation districts, and other special districts - to help agencies reduce energy and maintenance costs at public sites and facilities. This program is a continuation of the Southern California Regional Energy Center (SoCalREC) that was described in the Program Implementation Plans (PIP) filed¹ in 2013 and 2015. It is delivered through a third party implementer who designed the program and is responsible for securing and coordinating all program resources and services to meet all program objectives and targets. This implementer works closely with SCE and SCG for public agency engagement and funneling savings to investor owned utility (IOU) resource programs, as well as with the Local Government Partnerships and third-party programs, to drive cost-effective energy solutions.

At no cost to agencies, the PDP identifies energy saving measures and works side-by-side with public agency staff throughout the project lifecycle, from performance specification to construction completion, to implement energy efficiency strategies. To date, the PDP has 194 enrolled agencies, with over half of those served in disadvantaged communities² and has

¹ 2013 Program Implementation Plan (PIP), https://socalren.com/sites/default/files/Public_Agency_PIP.pdf

² Based on facility zip code leveraging CalEnviroScreen 3.0 criteria.

channeled over 70 million kilowatt hours (kWh), 2 megawatts (MW) and 39,000 therms³ to resource programs.

Program Delivery and Customer Services

The PDP delivers savings by offering public agencies comprehensive and customized project management and technical engineering services through a third-party implementer to implement cost-effective and streamlined energy efficiency projects. The PDP aligns with resource program downstream intervention strategies, and actively works to ensure other Program Administrator offerings, such as upstream, midstream, direct install, and third party programs, are leveraged when feasible. After enrollment into the program, each agency is assigned a dedicated project delivery team composed of project management staff and an assigned engineering firm. Throughout project identification and implementation, the project delivery team works with the agency to address project challenges and proactively identify solutions.

Beginning in 2019, SoCalREN launched the “Regional Partner” model to expand SoCalREN’s program reach across the service territory and provide on-the-ground outreach and engagement to promote and enhance program services. Regional Partners leverage their local knowledge and expertise to improve and increase the outcomes of SoCalREN’s comprehensive service offerings. Additional details on Regional Partners are included in the Best Practices section below.

The PDP utilizes a multi-phase project delivery process to move agency projects from planning and identification to execution and completion. Each phase is made up of sub-tasks to ensure industry best practices, agency alignment, utility coordination, and cost-effective solutions are implemented throughout the project life cycle. The following is a high-level overview of the program delivery process and customer services deployed by the PDP.

Enrollment and Project Identification: An agency is considered enrolled in the PDP once it signs a non-binding enrollment form that acknowledges PDP participation, responsibilities, and services. The enrollment process begins with an initial engagement presentation to introduce SoCalREN Public Agency Programs in coordination with the IOUs, Local Government Partnerships, Regional Partners, and other applicable program partners. The enrollment form is presented to the agency during this meeting; program services are not offered until the form is signed and returned. Enrollment in the PDP also gives Public Agencies access to other available SoCalREN Public Agency Programs. Once enrolled, a PDP project manager is assigned to the agency to begin the project development process.

After enrollment, an agency-wide energy analysis is prepared for the agency. The analysis provides a portfolio-wide snapshot of energy consumption and cost by sector (i.e. water and wastewater pumping, street lighting, facilities, and outdoor lighting), and estimates the potential energy and financial impacts of potential retrofits. The analysis is used as a tool to help identify and develop energy efficiency project opportunities.

Audit: Once a project is identified, the agency is asked to sign a project commitment form that communicates program services and records the agency’s commitment to pursue a viable project prior to the investment of limited program resources. The PDP project manager then works with the designated engineer to complete a detailed facility or site visit and identify a

³ Cumulative first year gross savings as reported by SCE and SCG from 2013 through 2018

preliminary list of recommended energy efficiency measures to present to the agency. After the agency selects which energy efficiency measures to implement, the engineer and PDP staff work together to prepare audit calculations and a project proposal that recommends operational and maintenance improvements and/or upgrades to equipment and controls. The proposal details the business case for the implementation of recommended energy measures by providing estimated project costs, energy bill savings, available incentives, and financing solutions for the package of measures. The PDP team then prepares and submits an IOU incentive application package to reserve incentives and on-bill financing (OBF) available to the agency if applicable. Other financing options may also be applied for and pursued at this time.

When possible, the audit phase is completed in coordination with applicable program partners, such as IOU Local Government Partnerships, Regional Partners, and third party programs. Coordination among partners ensures that a robust array of service offerings are provided to the agency, while also improving cost-effectiveness across programs and avoiding duplication of efforts. Other SoCalREN Public Program offerings are also integrated during this phase if applicable.

Design and Procurement: The assigned engineer completes technical performance specifications for the selected measures. If the agency releases a bid for project construction services, the PDP can provide procurement support in the form of supplementary bid package materials and sample language as required. If the agency is utilizing the PDP's simplified procurement method, a joint scope walk is scheduled at the site with the selected pre-qualified contractor, agency representative, and PDP project team. The contractor provides feedback on the draft technical specifications and, if necessary, revises and finalizes them before a cost proposal is presented to the agency.

Agency Approval: The PDP project manager prepares a detailed project proposal package to assist agency staff with obtaining the necessary approvals for the project, which may include a staff report and draft resolution, scope of work, cost proposal, and any identified utility incentives and/or financing documents. The agency's relevant elected approval authority approves the project, submits the necessary signed documentation, and issues a purchase order to the contractor for construction services.

Construction: During the construction phase, the agency is the "project owner of record" responsible for all construction contracts and costs, as well as designating a construction manager. The agency may choose to manage the construction on its own, or access simplified construction management services through the Program Partners. The PDP project management team provides construction management support throughout the process, including review of contractor submittals and verification that the work is performed in accordance with the design specifications to ensure the expected energy savings are achieved and incentives are captured.

Completion: Once the project is installed and verified, the PDP team will work with the agency and contractor to collect the information required to submit the appropriate project close-out information to the applicable resource program so the agency can receive incentives and the savings can be accrued for the project. The contractor is responsible for the transfer of all appropriate documentation, knowledge, and training to the agency and the facility management personnel for new installed equipment and/or operational changes. After project completion, the agency receives a survey to provide feedback on the impact of program services utilized to complete the energy efficiency project and how the program can improve.

Capacity Building: Outside of the project development services, enrolled agencies are able to access expertise, resources, shared procurement strategies, best practices, and lessons learned in order to leverage the collective knowledge and expertise of the SoCalREN to better reduce costs and address common barriers. The PDP provides access to resources including project managers, technical advisors, engineering firms, contractors, financial advisory services, utilities, and other industry participants. Regular peer-to-peer sharing is also offered through workshops, newsletters, and other outreach methods.

Program Design and Best Practices

Market Barriers

The fragmented way in which the energy industry currently delivers services and incentives makes it challenging to achieve deep energy retrofits. This results in multiple barriers to whole building retrofits and a “project delivery gap” for the customer. A key barrier for public agencies is understanding the benefits of implementing energy projects on a comprehensive scale. Further, agencies often lack sufficient in-house expertise and necessary financial resources. These are important challenges to solve because public agencies are significant players in the energy field, both as consumers and as leaders of their communities. The PDP addresses these barriers by providing services to streamline energy efficiency project implementation with sustained technical assistance, and support in accessing project funding.

Best Practices

To help fill the “project delivery gap” and better enable public agencies to meet key challenges, the PDP has identified several best practices that are integrated into the project delivery process to ensure continued success. The PDP addresses the unique needs of the public agency customer and mitigates the need for agencies to acquire their own in-house expertise and resources. Through a “one stop” approach, the PDP delivers comprehensive energy retrofit services, customizable to the agency’s needs. Participating public agencies can take advantage of the full suite of offerings or select only the services that fit their needs.

The PDP aims for continuous improvement of implementation practices and systems to further improve and enhance the services received by public agencies. Since the PDP’s inception, it has been modified and streamlined to incorporate lessons learned from on the ground experience to design more effective systems for project delivery and implement more efficient tools and techniques. In addition to continuous improvement, there have been significant efforts to improve upon cost-effectiveness. Program strategies are evaluated and developed to control costs and ensure that the most efficient methods are deployed for project implementation.

Examples of cost-effective program strategies include:

- A Project Budget Tool that ensures appropriate allocation of program resources based on project and agency characteristics
- Development of a streamlined pathway for engineers to enter project budgets for approval to ensure alignment on project scope and deliverables
- Project Commitment forms integrated into the program process to confirm agency buy-in more frequently as a project progresses and to ensure that PDP resources are carefully managed and delivered

Furthermore, the PDP has incorporated the following best practices into the program design:

- **Regional Partner Agency Engagement:** The Regional Partner strategy was initiated to mitigate gaps created by SCE's closing of Local Government Partnership (LGP) programs and to leverage local experts to better serve diverse communities across SoCalREN's expansive territory. In 2019, SoCalREN began partnering with regional community-based organizations and Council of Governments (COGs) to provide on-the-ground outreach and engagement to promote and enhance program services. Many of the regional partner organizations have previously established relationships with agencies working on energy efficiency efforts through LGPs. Through these regional partners, agencies across diverse climate zones, population sizes, population densities, and other demographic characteristics are targeted for engagement in order to ensure comprehensive service to all eligible SoCalREN agencies.

Regional Partner strategy goals:

- Demonstrate regional reach and delivery of valuable services to the entire service territory;
- Increase impacts of energy efficiency through enrollments and enhanced engagement;
- Increase energy projects and their associated savings;
- Understand and seek ways to deliver and enhance services in subregions, and;
- Identify new opportunities, sub-programs, and strategies to meet specific sub regional needs.

Regional partners enhance SoCalREN's expertise and reach by leveraging their local knowledge, existing relationships with member agencies, and professional relationships that often extend beyond energy efficiency.

- **Utility Coordination and Stakeholder Collaboration:** The PDP promotes early and ongoing cooperation and collaboration with utility partners, third-party program implementers, and stakeholders based on an agreed upon protocol. Coordination among partners ensures that a robust array of service offerings are provided to the agency, while also improving cost-effectiveness across programs and avoiding duplication of efforts. A collaborative approach also improves the customer's experience and helps avoid confusion between programs.
- **Standardized Tools and Templates:** A critical element to the PDP design is the continuous development and implementation of standardized tools and templates, including a comprehensive Project Delivery Manual (PDM). The PDM guides project managers and engineers to ensure quality control and application of best practices through the project delivery process.
- **Procurement Assistance:** Assistance during the procurement process enables public agencies to move projects into the construction phase sooner and ensures the achievement and persistence of expected energy savings. The PDP also offers access to a pool of highly-qualified specialty contractors that have been selected through a competitive process, further driving down project costs.

- **Financing Support:** To overcome the significant hurdle of project funding, the project team helps identify and secure grant funding and project financing. The PDP helps agencies access and apply for a variety of funding and financing sources that include, but are not limited to, Energy Lease Financing (ELF), IOU on-bill financing (OBF), the California Energy Commission (CEC) low interest loan program, local self-funded financing opportunities, and the SoCalREN's Revolving Loan Fund (RLF). Enrolled agencies also have access to a financial advisor for additional expertise on an as needed basis.
- **Marketing and Communications:** Successful marketing and communications strategies are leveraged to drive program activities and enrollment.
- **Evaluation and Reporting:** The PDP completes ongoing evaluation to ensure the goals and targets are met while keeping stakeholders fully informed of PDP operations and outcomes.
- **Workforce Development:** The PDP supports workforce development initiatives by measuring and reporting on job creation metrics that drive the local economy.
- **Outreach to Disadvantaged Communities:** The PDP has identified and enrolled agencies serving disadvantaged communities, providing them with specialized services and deliverables. As of April 2019, almost 60% of enrolled cities represent disadvantaged communities.
- **Customer Satisfaction:** The PDP continues to monitor customer feedback to identify program enhancements and ensure the highest level of customer satisfaction is achieved. Since the PDP's inception, annual customer satisfaction ratings have consistently been 90% or higher.
- **Peer-to-Peer Learning:** The PDP seeks to build agency capacity and expertise in energy efficiency by providing agencies with customized tools and resources that they would otherwise have to develop on their own, thereby saving time, money, and staff resources. The PDP also shares the strategies and best practices used by its agencies to overcome common barriers with other enrolled agencies by hosting webinars and presenting at conferences and workshops.

Innovation

SoCalREN aims to maximize savings opportunities while reducing implementation costs. Innovative program elements include start-to-finish customized energy efficiency project management support, streamlined data analytics, key partnerships, and continuous improvement procedures.

Start-to-finish Project Management Service Delivery: Public agencies face unique barriers across all stages of an energy efficiency project's lifecycle. SoCalREN offers comprehensive, start-to-finish customized project management support to overcome common barriers at every project phase. Additionally, SoCalREN seamlessly integrates and coordinates all available and applicable energy efficiency programs and services to avoid duplication and customer confusion. This integrated approach reduces customer touch points and enables public agencies to complete deeper and more comprehensive energy efficiency projects than would otherwise be feasible.

Streamlined Data Analytics: The PDP leverages various energy analysis tools to compare

agency-owned assets, such as buildings and streetlights, to identify energy intensive infrastructure with opportunities for cost-saving energy efficiency projects. SoCalREN's Comparative Energy Analysis report synthesizes energy usage data to increase public agency awareness of their facility energy usage and to also identify potential projects. Additionally, ENERGY STAR Portfolio Manager® (ESPM) is used for benchmarking and additional analyses.

Partner with Other Program Administrators and Third Parties: SoCalREN will partner and coordinate with program administrators and third-party programs operating locally to coordinate program services that provide additional value to participating public agencies. These may include Regional Energy Networks (RENs), Community Choice Aggregators (CCAs), Investor-Owned Utilities (IOUs), and Municipally-Owned Utilities (MOUs).

Continuous Improvement Procedures: SoCalREN will employ a continuous improvement approach to all aspects of program implementation. This approach will include evaluation and development of program strategies to control costs and ensure that the most efficient methods are deployed for implementing projects. The regular evaluation of feedback and lessons learned from program staff, subconsultants (including Regional Partners), agency participants, and stakeholders will also ensure that SoCalREN is operating as cost effectively as possible.

Metrics

The PDP reports out on the key performance metrics listed in Table 2 below on an annual basis and periodically throughout the program cycle. In addition to the metrics listed below, SoCalREN also reports out annually on Common Metrics as directed by the CPUC.

Table 2: Public Sector Metrics

Metric	Method	Frequency
1st Year Gross kWh Savings Channeled	Savings channeled to energy efficiency resource programs	Annually
1st Year Gross kW Savings Channeled	Savings channeled to energy efficiency resource programs	Annually
1st Year Gross therm Savings Channeled	Savings channeled to energy efficiency resource programs	Annually
GHG Reductions	Total GHG emissions avoided based on energy savings achieved	Annually
Agency Enrollments	Number of new public agency enrollments	Annually
Outreach Activities Completed	Number of outreach activities completed	Annually
Educational Materials Delivered	Number of unique informational and educational materials delivered	Annual

To-Code Savings Claims

This section is not applicable.

Pilots

This section is currently not applicable.

Workforce Education and Training

This section is not applicable to this program, as it does not involve workforce education and training.

Workforce Standards

The PDP does not directly provide the installation of energy efficiency equipment. Nonetheless, the program will provide due diligence to ensure that energy efficiency projects supported by the program adhere to the Workforce Standards for Heating, Ventilation, and Air Conditioning (HVAC) and Advanced Lighting Control Programs as applicable. The program will integrate messaging and direction to public agencies during the project lifecycle to ensure projects installed comply with CPUC Workforce Standards as stipulated in D.18-10-008. These standards will be referenced and reiterated during the delivery of various program services including the following touchpoints:

- Project Proposal will highlight the importance and purpose of the standards.
- Technical specifications will include language that program participants will reference prior to project installation.
- Procurement Kickoff meeting will include an agenda item to highlight the significance of the standards and requirements for agencies to submit applicable documentation and confirm adherence to the guidelines at project closeout.

To demonstrate due diligence, PDP may request program participants share applicable documentation to demonstrate adherence to the Workforce Standards which may include any certifications, apprenticeship programs, accredited degrees, or other workforce training programs.

Disadvantaged Worker Plan

PDP coordinates with SoCalREN's Workforce, Education, and Training programs to present information on career opportunities for disadvantaged workers in the energy efficiency industry.

Additional Information

This section is not applicable.

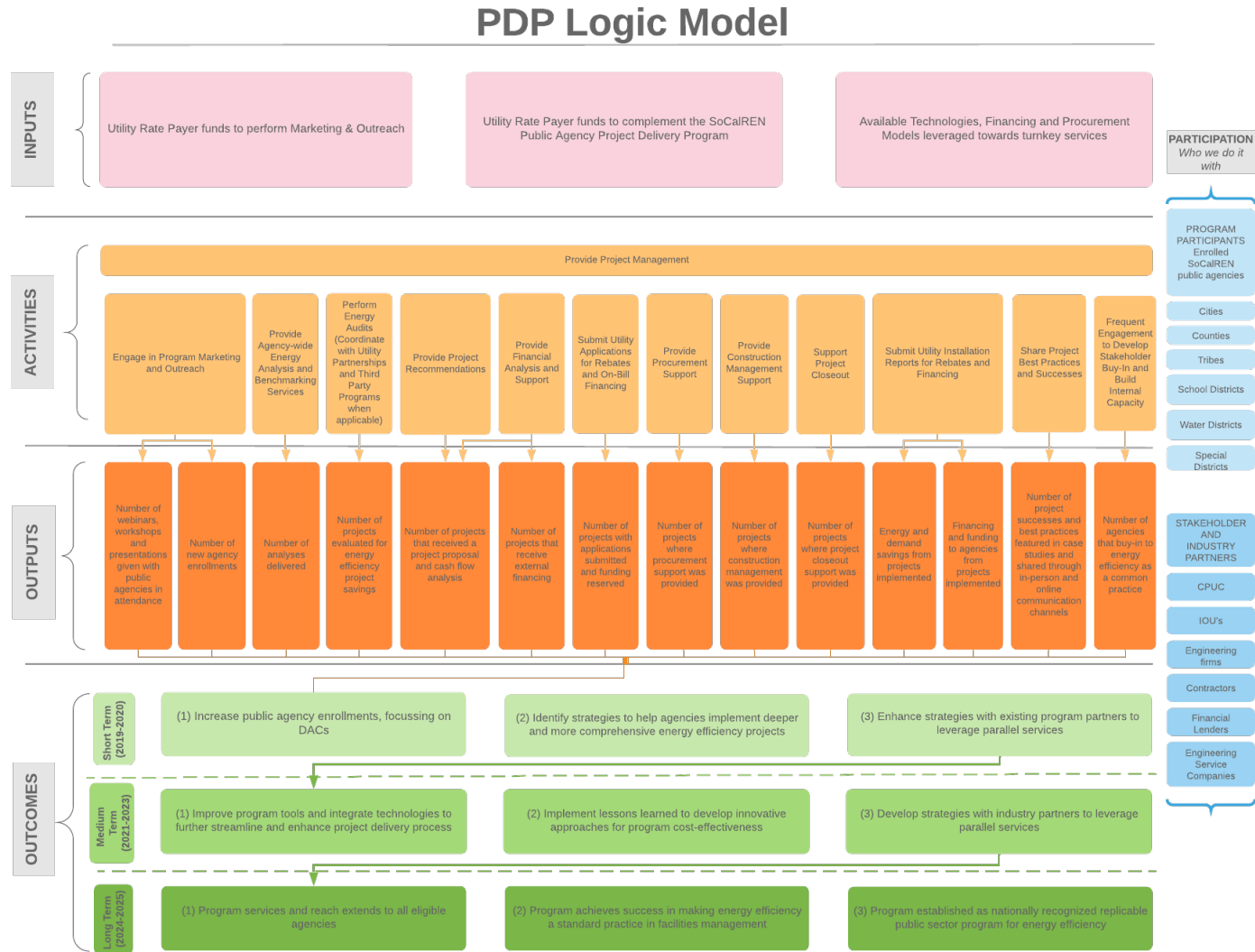
Supporting Documents

Program Manual and Program Rules

Please see attached PDF.

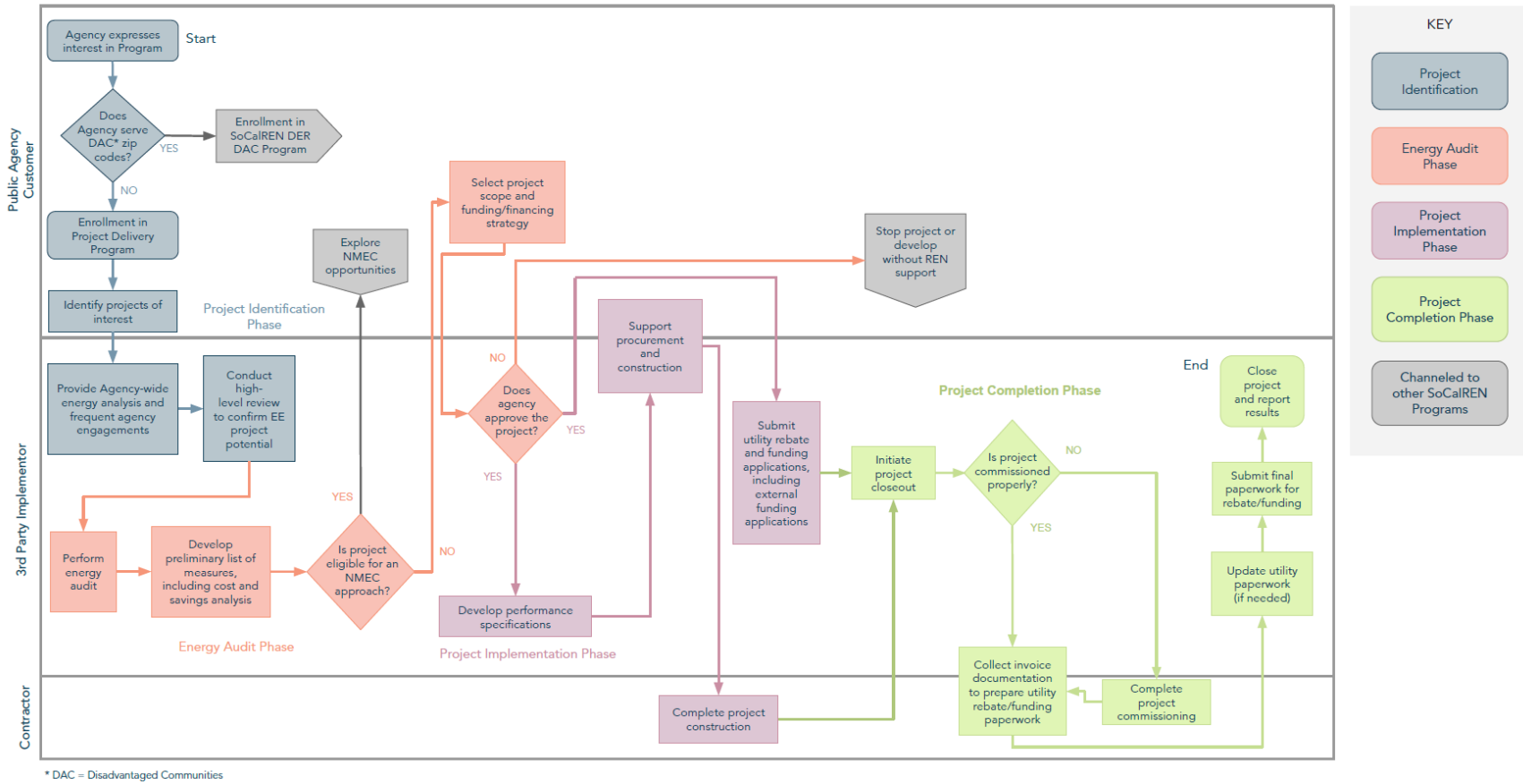
Program Theory and Program Logic Model

Figure 1: Program Theory and Program Logic Model



Process Flow Chart

Figure 2: Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

All EE measures funnel through existing EE resource programs. The below table describes other tools leveraged to support turnkey project delivery services.

Table 3: Tools leveraged by PDP

#	Tools	Short Description
1	Salesforce	Customer Relationship Management (CRM), used to track projects and generate customer reports.
2	Google Studio	Platform used to collect and synthesize energy consumption data and deliver customer energy use analyses
3	Energy Star Portfolio Manager	Online tool used to track energy consumption and greenhouse gas emissions. Allows user to benchmark the performance of one building or a whole portfolio of buildings.
4	GIS	Geographic Information System (GIS) tool allows users to pinpoint exact locations of facilities and tie usage characteristics to those facilities.
5	ezIQC	Provides access to competitively awarded contractors through cooperative purchasing networks, expediting project delivery through a simplified procurement process.

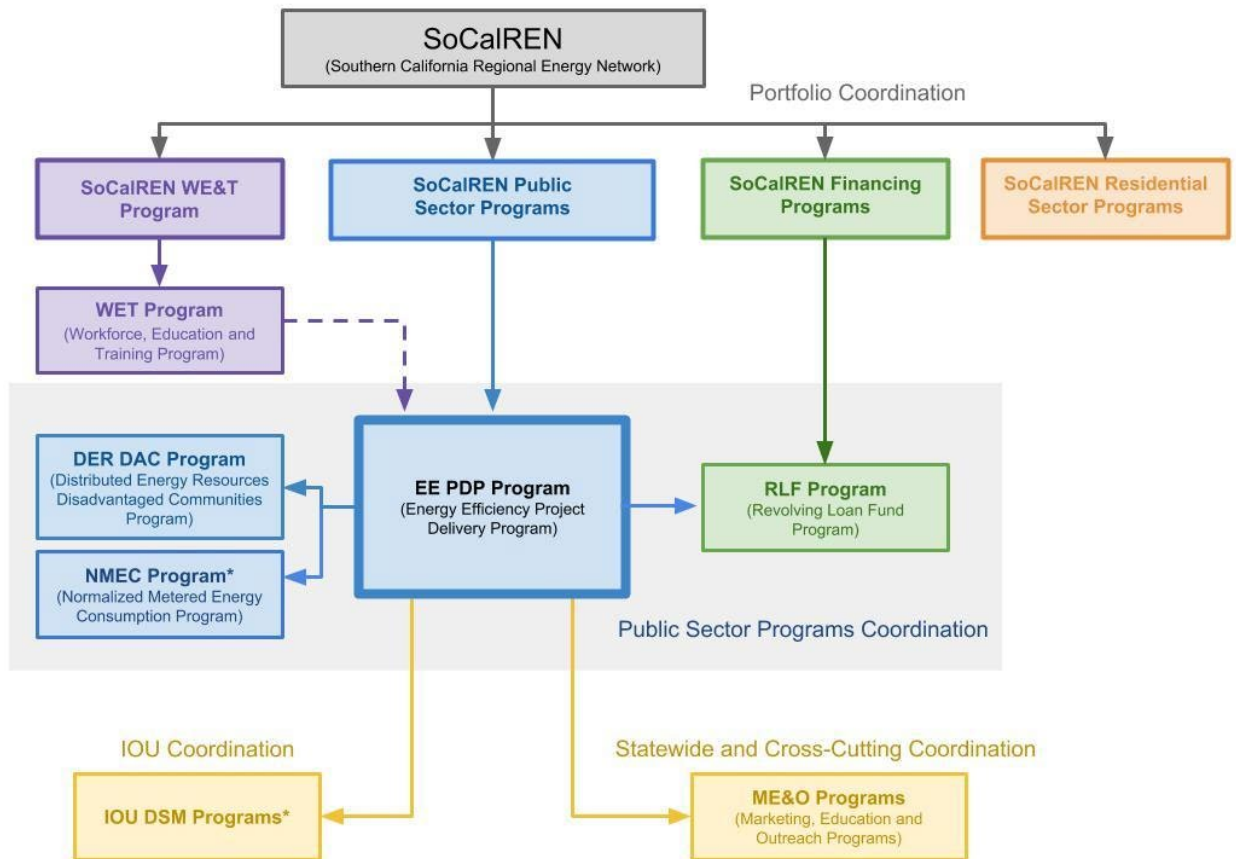
Quantitative Program Targets

Table 4: Quantitative Program Targets

Year	Program Area	Metric	Target
2021	Energy Savings	1st Year Gross kWh Savings Channeled to Resource Programs	10,000,000
2021	Energy Savings	1st Year Gross kW Savings Channeled to Resource Programs	516
2021	Energy Savings	1st Year Gross Therm Savings Channeled to Resource Programs	790
2021	Program Growth	Agency Enrollments	25
2021	Capacity & Expertise	Outreach Activities Completed	15
2021	Capacity & Expertise	Educational Materials Delivered	30
2021	Environmental Benefits	GHG Reductions	4,240 metric tons

Diagram of Program

Figure 3: Diagram of Program



Evaluation, Measurement, and Verification (EM&V)

The PDP is a non-resource program that channels energy savings through existing resource programs. As such, M&V for the program focuses on both customer energy savings claimed as well as program performance metrics for services offered in alignment with the CPUC’s California Long Term Energy Efficiency Strategic Plan⁴. For data related to energy savings projects, the PDP works in close coordination with the IOUs to collect project measure data on a monthly basis through a data transfer process.

The PDP offers technical assistance by conducting audits for the facilities and assets it services, which include estimated energy savings and a list of measures. Energy savings are determined by calculating the energy consumption of the system or facility before (referred to as the “baseline” period) and forecasting savings after the measures are implemented, adjusted for any differences, such as operating and weather conditions. Additionally, behavioral, retro-commissioning, and operational (BRO) strategies may utilize a measured existing conditions baseline, and may require additional energy model or simulation data. Depending on the

⁴ California Energy Efficiency Strategic Plan, <http://www.cpuc.ca.gov/general.aspx?id=4125>

measure type, some calculations must use the most recent California Code of Regulations Title 24 (T24) Energy Efficiency Building Standards or Standard Practice for baseline operating conditions.

The Measurement and Verification (M&V) process built into PDP procedures is in accordance with IOU downstream intervention program requirements and follows M&V standards as required by the resource program through which the project is implemented. For example, per the SCE Customized Calculation Savings Guidelines v. 22.0⁵, a full M&V plan is required for most custom projects with more than 250,000 kWh in savings, though custom projects with less than 250,000 kWh in savings may also require an M&V plan. If a full M&V plan is required for a project, it will be provided by the assigned engineer during development of the Project Feasibility Study. The full M&V plan is approved by SCE, or a third party technical reviewer representing SCE, and includes the minimum required M&V data for the baseline and/or measure equipment and system performance.

The M&V plan methodology is based on the principles, procedures, and guidelines set forth in the International Performance Measurement and Verification Protocol (IPMVP) Options A-D⁶, and the Federal Energy Management Program (FEMP) M&V Guidelines⁷. The full M&V plan can be used as the basis for project verification. The project M&V plan is submitted as an attachment to the Project Feasibility Study at the time of application submission, and attached to the Installation Report after project implementation.

In addition to funneling projects through utility programs, the PDP also delivers non-resource benefits to the public sector. The following describes the approaches and data that is collected in support of continuous improvement and ongoing program evaluation.

The SoCalREN customer relationship database (CRM) is used to record most program and project related information and to generate reports that indicate progress toward program goals. In addition, the PDP seeks feedback from its customers with a project specific survey after each project closeout, via focus groups and through an annual agency survey. Focus group feedback and survey results are analyzed to understand the impact program services have on energy efficiency projects and how the program can improve. Through data collected in the CRM and analysis of survey feedback, as complements to the ongoing customer service by the agency's dedicated project manager, the PDP has the capacity to evaluate its effectiveness and ability to deliver energy savings, build agency knowledge and capacity, conduct outreach activities, meet greenhouse gas (GHG) reduction targets, create jobs, and streamline processes and procedures. The PDP ensures customer satisfaction and effectiveness in the delivery of its services by taking a nimble and highly adaptive approach to program implementation.

Normalized Metered Energy Consumption (NMEC)

This section is not applicable.

⁵ SCE Customized Calculation Savings Guidelines for Non Residential Programs v. 22.0, <https://sceonlineapp.com/DocCounter.aspx?did=670>

⁶ International Performance Measurement and Verification Protocol, http://www.eepformance.org/uploads/8/6/5/0/8650231/ipmvp_volume_i_2012.pdf

⁷ Federal Energy Management Program (FEMP) M&V Guidelines, <https://www.energy.gov/eere/femp/downloads/mv-guidelines-measurement-and-verification-performance-based-contracts-version>



ENERGY EFFICIENCY PROGRAMS

SoCalREN Cross-Cutting Sector
Public Agency Revolving Loan Fund
Publicly Known As
Revolving Savings Fund (RSF)
Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
January 2022

Contents

Program Overview	2
Program Budget and Savings	3
Implementation Plan Narrative	4
Program Description	4
Program Delivery and Customer Services	5
Program Design and Best Practices	6
Innovation	7
Metrics	7
Pilots	8
Workforce Education and Training	8
Workforce Standards	8
Disadvantaged Worker Plan	8
Additional Information	8
Supporting Documents	9
Program Manual and Program Rules	9
Program Theory and Program Logic Model	9
Process Flow Chart	9
Incentive Tables, Workpapers, and Software Tools	10
Quantitative Program Targets	10
Diagram of Program	11
Evaluation, Measurement, and Verification (EM&V)	11
Normalized Metered Energy Consumption (NMEC)	12

Program Overview

In advancement of the Commission’s Environmental and Social Justice (ESJ) Action Plan, the Southern California Regional Energy Network (SoCalREN) Revolving Loan Fund (RLF) Program, publicly known as the Revolving Savings Fund (RSF) Program, provides opportunities and access to energy efficiency to underserved communities as defined by the ESJ Action Plan 2.0¹ by offering a low-cost financing option to fund energy upgrades. RLF aims to improve disparities in access for underserved communities to energy efficiency programs, consistent with the purpose of the Equity Segment, and increase energy efficiency adoption through its cross-cutting financing program designed to help public agencies overcome budgetary barriers through up-front construction financing for small to midsize projects at 0% interest. It can be paired with other financing options and aims to accelerate energy projects that would otherwise be delayed pending budget allocation by providing the funds for approved but not-yet-budgeted projects. Loans are financed with \$2.2 million in non-ratepayer initial seed capital secured from the California Energy Commission (CEC). California Public Utilities Commission (CPUC) ratepayer funds support program management and marketing. The RLF is a catalyst for agency enrollment in SoCalREN and energy project development.

Program Budget and Savings

1. Program and/or Sub-Program Name
Public Agency Revolving Loan Fund
2. Program / Sub-Program ID number
SCR-FIN-C1
3. Program / Sub-program Budget Table

Table 1: Program Budget

Year	Admin	Marketing	Direct Implementation	Total
2021	\$34,527	\$20,716	\$290,023	\$345,266
2022	\$29,820	\$29,820	\$437,360	\$497,000

4. Program / Sub-program Gross Impacts Table
N/A
5. Program / Sub-Program Cost Effectiveness (TRC)
N/A
6. Program / Sub-Program Cost Effectiveness (PAC)

¹California Public Utility Commission, “Environmental & Social Justice Action Plan Version 2.0,” 2021

N/A

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)
Third party-delivered
8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)
Cross Cutting
9. Program / Sub-program Type (i.e., Non-resource, Resource)
Non-resource (equity)
 - i. The RLF Program aligns with the Equity Segment
10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market Channel: Downstream

Intervention Strategy: Finance

Implementation Plan Narrative

Program Description

The Southern California Regional Energy Network (SoCalREN) Revolving Loan Fund (RLF) Program is delivered through and supports the SoCalREN's Public Agency Distributed Energy Resources Disadvantaged Communities (DER DAC) Project Delivery Program, the Normalized Metered Energy Consumption (NMEC) Program, and the Streamlined Savings Pathway Program (SSP). The RLF Program is a financing cross-cutting program designed to support energy upgrades to buildings and facilities owned by public agencies located within underserved communities via loans that accelerate the implementation of projects. These loans provide upfront construction financing for approved but not-yet-budgeted projects that would otherwise be delayed pending budget allocation. The RLF can also be paired with other financing options such as On-Bill Financing (OBF), incentives, rebates, and other external financing such as CEC loans.

The RLF Program administration and its marketing and outreach is supported by ratepayer funds from the California Public Utilities Commission. The program is designed to be delivered as part of the SoCalREN Public Agency Programs. The program fund has \$2.2 million in seed capital, provided through the County of Los Angeles (LAC or County, the program administrator of the SoCalREN), that is used exclusively to issue loans to enrolled and participating agencies. The County of Los Angeles is using American Reinvestment and Recovery Act (ARRA) funds already granted by the California Energy Commission (CEC) for the seed capital and no utility ratepayer funds will be utilized for the loans. Consistent with the ESJ Action Plan, and the overall goals of the Equity Segment, the RLF directly supports the following the ESJ Action Plan 2.0² goals:

Table 2: Program Objectives

Objective	SoCalREN Core	ESJ Action Plan
-----------	---------------	-----------------

²California Public Utility Commission, "Environmental & Social Justice Action Plan Version 2.0," 2021

	Value	Goals
Stimulate participation in SoCalREN programs and accelerate project development and implementation in underserved communities	Climate Leadership; Expand access to EE benefits	ESJAP # 5
Help SoCalREN program participants, in underserved communities, overcome barriers to accessing capital due to funding and budget challenges	Deliver energy & climate impacts; Expand access to EE benefits	ESJAP # 1, 2
Provide awareness to low cost of capital and low risk financing for underserved SoCalREN participants' energy efficiency projects	Build energy capacity and economic resilience; Expand access to EE benefits	ESJAP # 5
Build awareness of the lifecycle financial benefits of low cost financing options for energy efficiency projects and services	Build energy capacity and economic resilience;	ESJAP # 5
Increase the number of financing resources for underserved communities	Build energy capacity and economic resilience; Expand access to EE benefits	ESJAP # 2
Drive more energy projects in underserved communities to completion through financing solutions	Build energy capacity and economic resilience	ESJAP # 2

Program Delivery and Customer Services

Borrowing agencies (customers) are first enrolled with the SoCalREN under its public agency project delivery programs (DER DAC).

They receive comprehensive energy efficiency project delivery services and are offered the RLF loan. The loans make possible energy efficiency projects that would not otherwise be completed. The loans accelerate project implementation by financing projects that are not expected to be budgeted in the immediate term. In each of these cases, the RLF Program delivers energy savings by helping agencies take advantage of all applicable utility incentive programs (downstream, midstream, upstream, etc.).

The program will reach customers by targeting public agencies in SoCalREN's service territory.

SoCalREN's service territory includes ratepayers in Southern California Edison and/or Southern California Gas Company territory. This includes all or portions of the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, Mono, Santa Barbara, Inyo, Kern, Imperial, San Luis Obispo, Fresno and Tulare, financing projects serving underserved communities. The RLF Program is available to enrolled agencies of the SoCalREN Public Agency Programs as applicable projects are identified and evaluated. Non-enrolled agencies are targeted in conjunction with the outreach and enrollment efforts of the SoCalREN Public Agency Programs. The enhanced service offering is expected to stimulate enrollment and increase public agency participation in energy efficiency programs, one of the RLF Program's core objectives.

The RLF Program will develop marketing and education materials that are grounded in authentic community engagement best practices and will serve as outreach and engagement communications tools. These materials will include but are not limited to newsletters, e-blasts, and fact sheets. Initial contact will be made through agency enrollment in the SoCalREN as well as during the project development process. Additionally, to maximize program potential, the RLF Program will develop educational content to build awareness of the lifecycle financial benefits of low-cost financing options as a funding source for energy efficiency projects and services.

The RLF Program is a streamlined and fully supported financing loan product.

The RLF Program has a streamlined administrative structure with loan application review and approval, fund management, and debt service all managed by SoCalREN. The program also manages its own marketing and outreach, project identification and development, financing options analysis, and support for completing loan applications. By making the RLF Program an integral part of DER DAC's financial support services, the RLF can benefit from oversight into every aspect of the project. Among the many benefits, this hands-on approach to customer service mitigates risks such as adherence to utility incentive and on-bill financing application requirements and ensuring construction contracts deliver on the energy savings performance specified.

Program Design and Best Practices

The RLF Program is designed to be delivered alongside the SoCalREN Public Agency Programs not only because the customer base is the same, but also because the Public Agency Programs' support helps address a sector-specific market gap: the lack of internal resources to research and identify financing options, apply for the financing, and execute financing agreements. Described below are some of the best practices that will be applied to this program offering.

The Program addresses funding barriers specific to public agencies.

The RLF Program is designed to help underserved communities overcome barriers to accessing upfront capital to fund energy efficiency projects due to budget challenges. Public agencies often face barriers accessing upfront capital needed to fund energy efficiency projects, accessing funding to cover full project costs, or complete lack of access to capital for energy projects. Typical funding strategies such as incentives and OBF are paid after project completion requiring an

agency to separately secure all of the funds for an energy efficiency project before construction can commence. Given the difficulty of securing capital improvement funds for public agency deferred maintenance projects, it is not surprising that a 100% upfront capitalization requirement for the installation of new energy efficiency measures can be a significant hindrance to project implementation. The RLF Program overcomes this barrier by providing access to upfront funds that cover 100% of the project construction costs.

The Program’s evaluation criteria tie RLF to broader public sector goals.

Loan application evaluation will emphasize three main criteria: 1) support for projects serving underserved communities; 2) high level of confidence that the projects will result in the projected bill savings; and 3) an appropriate and feasible strategy for loan repayment within five years to return funds to the loan pool and maximize RLF access across agencies. Loans will be equitably allocated through a restriction on the total loan amount for any one agency to ensure several agencies will be able to simultaneously access funding.

Innovation

The SoCalREN Revolving Loan Fund (RLF) will serve as a catalyst for agency enrollment, project development, and increased public agency participation in energy efficiency programs. The program’s advantageous loan terms will complement and supplement other financing options such as On-Bill Financing (OBF), incentives or rebates, and other external financing options such as CEC loans. The program offers a unique resource to help public agencies overcome budgetary barriers through low-cost financing, and it will continue to improve by adopting best practices.

Metrics

The table below shows key program performance metrics and illustrates the corresponding collection method and frequency.

Table 3. Metrics

Activity	Metric	Method	Frequency
Program marketing and outreach	Number of touch -points where RSF Program is presented	Deliver RSF Program loan informational overviews to potential borrowing agencies	Annual
Perform project feasibility analysis for RSF loan	Number of Project Proposals delivered	Deliver Project Proposals that present project economics with an RSF loan	Annual
Prepare and submit RSF Program loan application	Number of RSF loan applications	Evaluate an agency’s ability to take advantage of the RSF loan	Annual
Provide the Offer to Finance for the RSF loan	Number of agency-approved loans	Provide eligible agencies an opportunity to use an RSF Loan	Annual

Agency completes project installation	Number of RSF Program loans awarded, dollar amount issued and energy savings attributed to the project	Enable savings by funding projects with RSF Program loans	Annual
--	--	---	--------

Program indicators are as follows:

- kWh, kW, and therm savings supported by the funding
- GHG emissions avoided

To-Code Savings Claims

This section is not applicable.

Pilots

This program does not currently propose pilot activities.

Workforce Education and Training

This section is not applicable.

Workforce Standards

This section is not applicable.

Disadvantaged Worker Plan

This section is not applicable.

Additional Information

This section is not applicable.

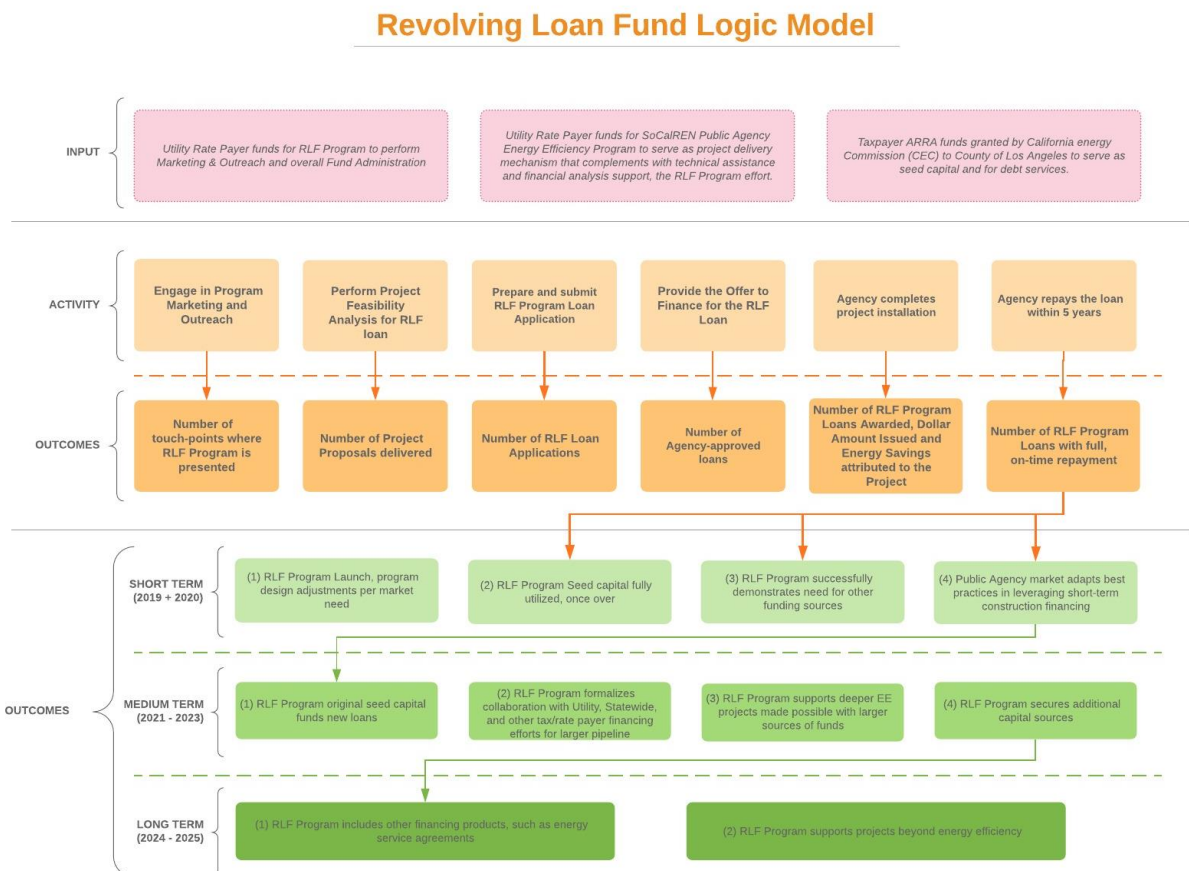
Supporting Documents

Program Manual and Program Rules

The program manual will be updated upon program approval.

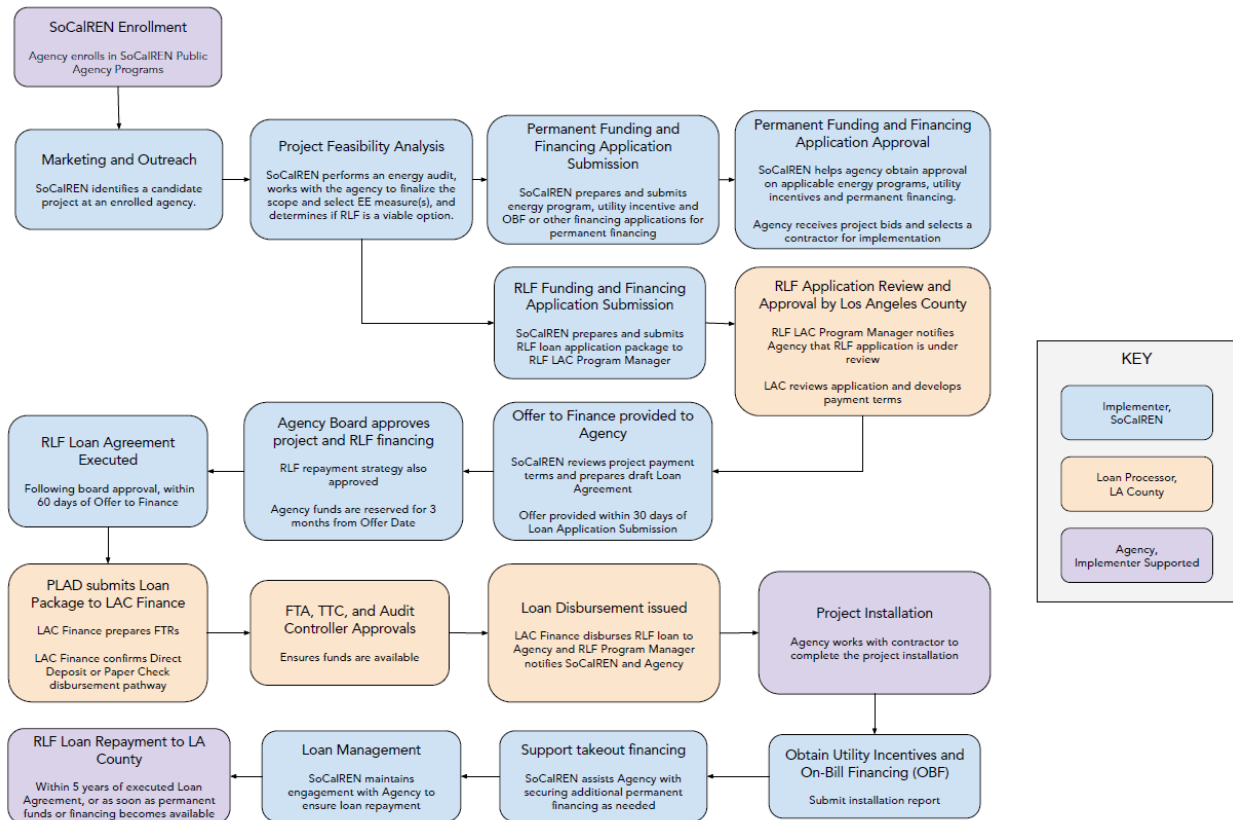
Program Theory and Program Logic Model

Figure 1: Program Theory and Program Logic Model



Process Flow Chart

Figure 2: Process Flow



Incentive Tables, Workpapers, and Software Tools

This section is not applicable.

Quantitative Program Targets

The outcome of the program is primarily focused on issuing financing to public agencies. The metrics below are primary metrics of program success.

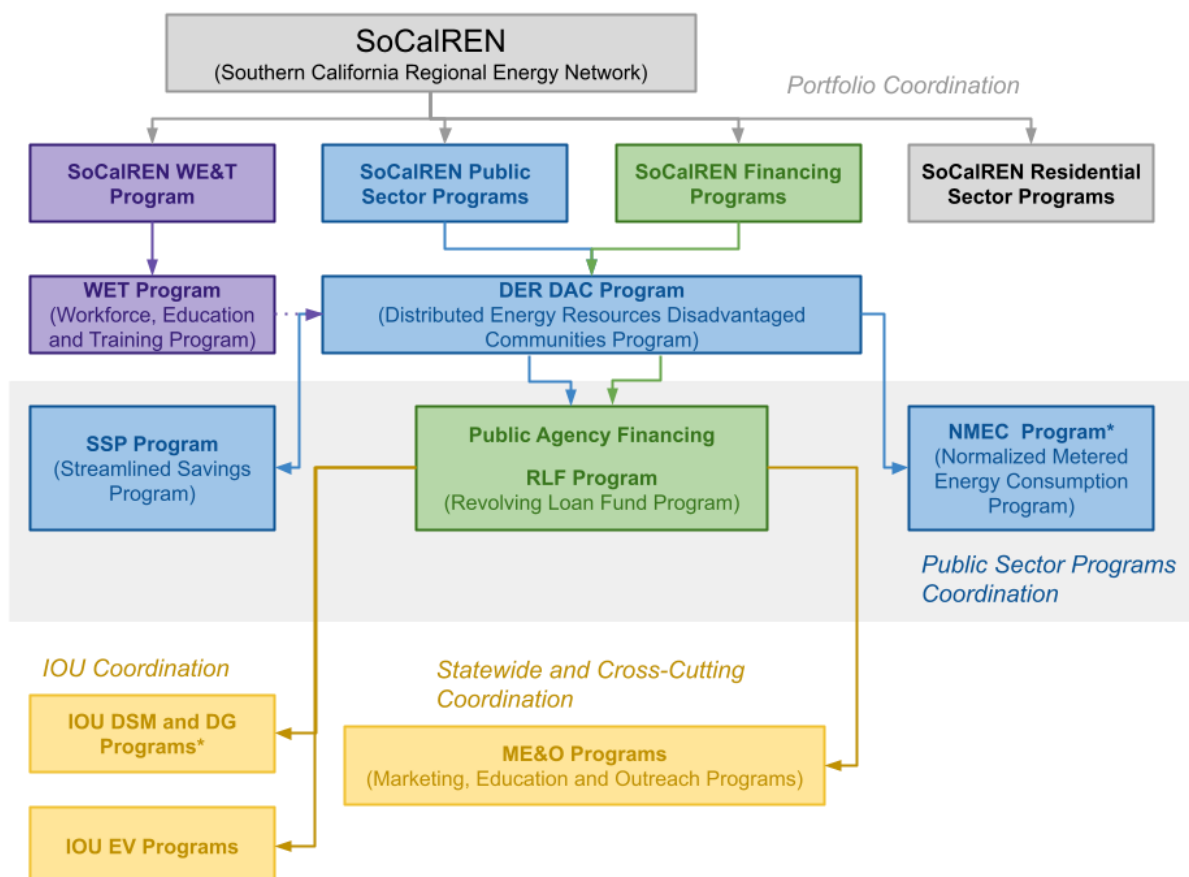
Table 4. Program Targets

Activity	Tactic	Metric	2022 Target
Prepare and submit RSF Program loan application	Evaluate an agency's ability to take advantage of the RSF loan	Number of RSF loan applications	4
Perform project feasibility analysis for RSF loan	Deliver Project Proposals that present project economics with an RSF loan	Number of Project Proposals delivered	10

Provide the Offer to Finance for the RSF Loan	Provide eligible agencies an opportunity to use an RSF Loan	Number of agency-approved loans	4
--	---	---------------------------------	---

Diagram of Program

Figure 3. Diagram of Program



Evaluation, Measurement, and Verification (EM&V)

SoCalREN, in line with its authority to manage its own EM&V process, is interested in conducting studies to better understand what financing structures are best suited to energy projects in the public sector. Knowing what factors contributed to whether an RLF Program loan was used or not can help the program to better understand public agency needs and inform changes in program design.

Furthermore, SoCalREN would benefit from EM&V studies that characterize agency type and their corresponding funding structures and unique financing needs for different project types and sizes.

To prepare for effective program evaluation, the implementer will work closely with the program administrator for the setup, design, and implementation of EM&V studies.

The existing customer relationship management (CRM) system used by the Public Agency Programs will be leveraged for data collection, management and reporting during program implementation. The data collected will include:

- Customer name and contact information
- Total project costs and financing methods
- Total loan amount
- Influence of program services in implementation of project
- Data related to program performance metrics
- Number of participants
- Loan terms
- Coordination with partner programs
- Marketing, education and outreach efforts

Normalized Metered Energy Consumption (NMEC)

This section is not applicable.



ENERGY EFFICIENCY PROGRAMS

SoCaIREN Public Sector Regional Partner Initiatives Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
October 2021

Contents

Program Overview.....	3
Program Budget and Savings.....	4
Implementation Plan Narrative.....	6
Program Description	6
Program Delivery and Customer Services	7
Program Design and Best Practices	7
Innovation	8
Metrics	8
To-Code Savings Claims	8
Pilots	8
Workforce Education and Training	9
Workforce Standards	9
Disadvantaged Worker Plan	9
Additional Information	9
Supporting Documents.....	10
Program Manual and Program Rules	10
Program Theory and Program Logic Model	10
Process Flow Chart	10
Incentive Tables, Workpapers, and Software Tools	11
Quantitative Program Targets	11
Diagram of Program	11
Evaluation, Measurement, and Verification (EM&V)	12
Normalized Metered Energy Consumption (NMEC)	12

Program Overview

Regional Partner Initiatives are established to better address the diverse needs of public agencies in the SoCalREN territory by leveraging regional partners to test new and innovative intervention strategies that can then be scaled as appropriate to other regions. SoCalREN offers a streamlined approach for regional partners to submit initiative ideas for consideration through a simplified application process alongside support to develop ideas and properly categorize them. Applications are evaluated as submitted and available on an ongoing basis for regional partners to develop and submit. Resource and non-resource strategies that align with the SoCalREN core values are both considered.

Program Budget and Savings

1. Program and/or Sub-Program Name

Regional Partner Initiatives

2. Program / Sub-Program ID number

SCR-PUBL-B7

3. Program / Sub-program Budget Table

Table 1: Program Budget

Year	Incentive	Admin	Marketing/Outreach	Direct Implementation	Total
2024	\$0	\$25,000	\$30,000	\$445,000	\$500,000
2025	\$0	\$34,000	\$40,800	\$605,200	\$680,000
2026	\$0	\$36,000	\$43,200	\$640,800	\$720,000
2027	\$0	\$42,500	\$51,000	\$756,500	\$850,000

4. Program / Sub-program Gross Impacts Table

Not applicable for this program.

5. Program / Sub-program Cost Effectiveness (TRC)

Not applicable for this program.

6. Program / Sub-program Cost Effectiveness (PAC)

Not applicable for this program.

7. Type of Program / Sub-program Implementer (PA-delivered, third party-delivered or Partnership)

Third party-delivered

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Public

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Non-resource (market support)

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market channels: downstream.

Intervention strategies: specific intervention strategies to be defined through individual initiatives as they are developed

Table 2. Campaign Goals and Timeline

Phase	Key Deliverables	Dates
Launch Readiness	Implementation Plan Marketing Plan Program marketing materials Program Management Plan QA/QC Plan	Q1 2024
Program Ramp Up	Program launch to customers Marketing Plan implementation Program deliverable development	Q1 - Q2 2024
Program Steady State	Program deliverable implementation	Q3 2024 - Q2 2027
Program Ramp Down	Program Ramp Down Plan	Q3 2027 - Q4 2027

Implementation Plan Narrative

Program Description

The objective of the Regional Partner Initiative effort is to provide a streamlined application process and an outlet for innovative strategies to serve agencies represented among the regions served by participating SoCalREN regional partner subcontractors. Successful initiatives will be evaluated following program launch to gauge feasibility and fit for delivery to agencies across all territories. The open initiative application concept is designed to offer an opportunity to test new ideas in a space where other avenues have closed due to program changes and closures. It is designed to offer an opening to create more customized services to address public sector market gaps and fulfill unique regional needs. It further aims to increase agency participation in such programs and build up trust and continual improvements in energy efficiency programs uptake, more broadly. To offer a streamlined pathway for new ideas and initiatives, SoCalREN will:

- Develop a simplified initiative application for regional partners to submit ideas and proposals;
- Hold regular discussions with regional partners to develop ideas;
- Prepare application submissions for evaluation and discussions of feasibility;
- Hold debriefs with regional partners to discuss initiative approval status and next steps, and;
- Collaborate with other SoCalREN implementers as necessary based on sectors intended to be served.

The Regional Partner Initiative objectives listed below are in alignment with the ESJ Action Plan 2.0 goals and SoCalREN Core Values:

Program Objective	ESJ Action Goal Alignment	SoCalREN Core Value
Provide a streamlined application process and an outlet for new and creative strategies	N/A	Innovation, Equity
Offer an opening to create more customized services to address public sector market gaps, with a focus on underserved communities, and fulfill unique regional needs	Goal 2: Increase investment in clear energy resources to benefit ESJ communities, especially to improve local air quality and public health	Innovation, Equity, Climate Action Leadership
Increase participation and build up trust and continual improvements in energy efficiency programs uptake, with an emphasis in underserved communities	Goal 5: Enhance outreach and public participation opportunities for ESJ communities to meaningfully participate in the CPUC's decision-making process and benefit from CPUC programs	Building Capacity & Energy Competency, Equity
Spur innovation in program design or modification of implementation and offerings in order to maximize participation	Goal 4: Increase climate resiliency in ESJ communities.	Innovation, Equity

Program Delivery and Customer Services

Implementation prep: As individual initiatives are developed, SoCalREN will work with regional partners to determine how the energy efficiency initiative or program will deliver offerings, including program strategies/tactics, market channel, and targeted market/customer group. Outreach and marketing activities to reach the intended customer audience, including those in equity-focused communities will be documented. Additionally, SoCalREN will collaborate with the regional partner on any tools needed to deliver services or manage the initiative reporting.

Regulatory reporting: As an additional step, SoCalREN will evaluate initiatives proposed by regional partners to determine whether additional and regulatory reporting steps are necessary. If the initiative can be classified under an existing program or is proposed as a subprogram, an updated implementation plan will be posted. If a proposed initiative is determined to be a new program, a new implementation plan will be developed and posted and coordination will take place, as necessary, with the California Energy Efficiency Coordination Committee (CAEECC).

Evaluation and reporting: At all stages of implementation of the regional partner initiatives, metrics will be recorded and reporting will be prepared so that an evaluation occurs on a continual basis. Initiatives will be evaluated for both potential continuation and opportunity for scalability.

Program Design and Best Practices

Regional Partner Initiatives are designed to address a variety of barriers that have traditionally hindered uptake of energy efficiency programs in many under-resourced communities. The intent is to overcome lack of program customization and better fulfill regional needs and address specific gaps. Since initiatives are proposed by regional partners and require their continued involvement

through implementation, program uptake will be improved by the presence of a local, trusted representative who holds a rapport with the communities being served. Many of the regional partners are able to draw best practices from their experience with Local Government Partnerships (LGPs) either directly through their implementation or by participating in forums such as peer-to-peer groups where implementers would share lessons learned in finding creative ways to maximize participation in various energy efficiency programs. Through their participation in LGPs, the SoCalREN regional partners have a better understanding of how programs need to be designed or modified to be the best fit in the communities they serve. Regional partners will apply this knowledge in submitting initiative proposals.

Innovation

Regional Partner Initiatives are designed to spur innovation in program design or modification of implementation and offerings in order to maximize participation and better meet market support and equity goals. The application process offers regional partners, who best understand the specific needs of varied communities they serve, a simplified channel to test innovative market support. Regional partners understand why traditional programs have lacked uptake in the past and will propose alternatives in the form of modified offerings and different approaches in marketing and outreach to increase community participation and build a trust which will further drive a better understanding and acceptance of future energy efficiency programs.

Metrics

The Regional Partner Initiatives program will use the following metrics to track progress.

Table 2. Metrics

Metric	Method	Frequency
Pilot applications submitted	As reported by SoCalREN implementer	Annually
Pilots approved as customized offerings	As reported by SoCalREN implementer	Annually
Implementation plans prepared	As reported by SoCalREN implementer	Annually
EJ communities served	As reported by SoCalREN implementer	Annually
Pilots scaled to meet diverse needs	As reported by SoCalREN implementer	Annually

To-Code Savings Claims

Not applicable for this program.

Pilots

Not applicable for this program.

Workforce Education and Training

Not applicable for this program.

Workforce Standards

Not applicable for this program.

Disadvantaged Worker Plan

Regional partners will be encouraged to consider how to engage with disadvantaged workers through the initiative development process.

Additional Information

Not applicable for this program.

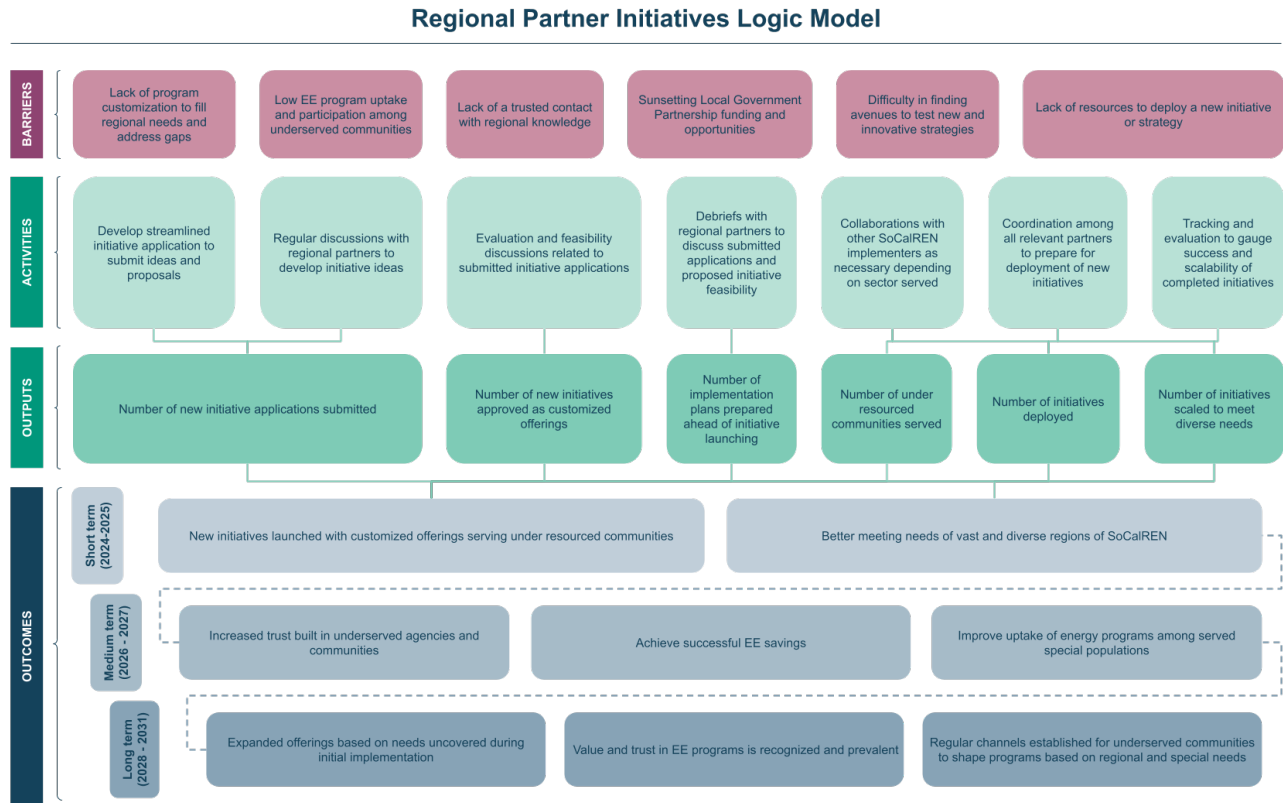
Supporting Documents

Program Manual and Program Rules

To be produced following program approval.

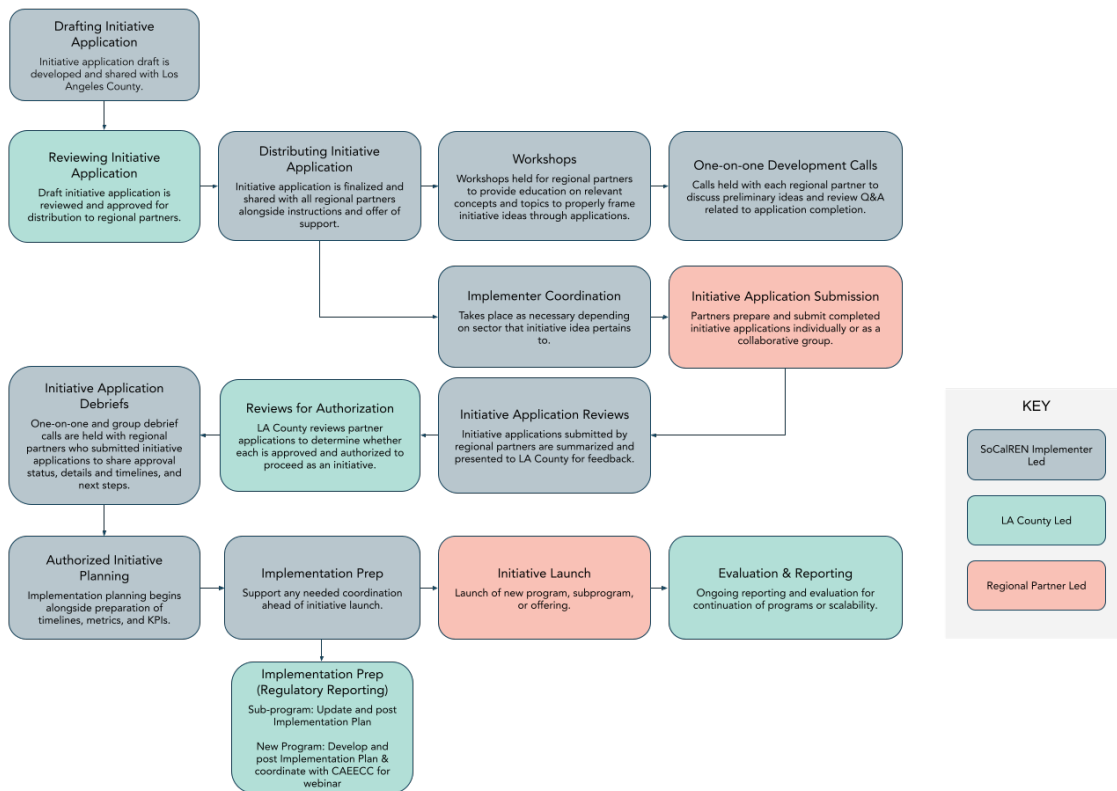
Program Theory and Program Logic Model

Figure 1: Program Theory and Program Logic Model



Process Flow Chart

Figure 2: Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

Not applicable for this program.

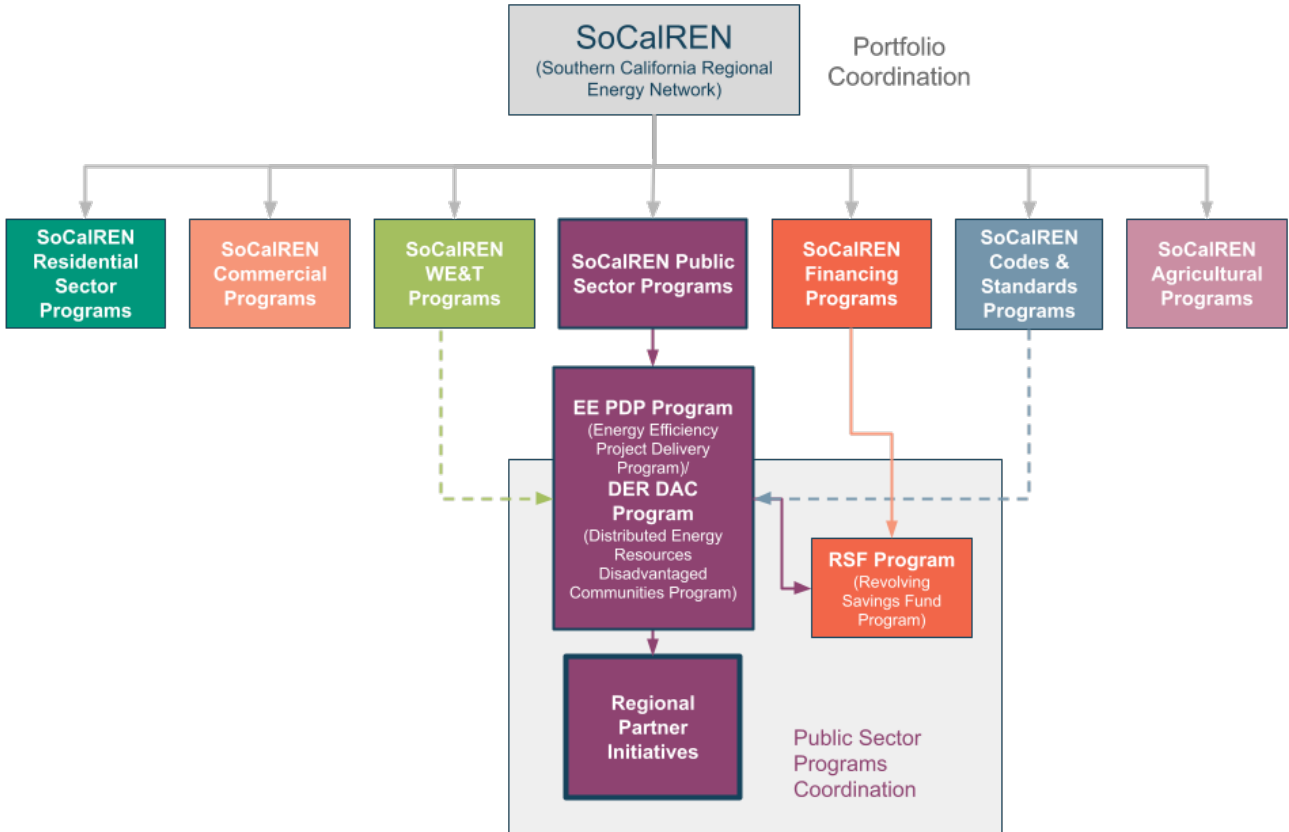
Quantitative Program Targets

Table 3. Quantitative Program 4 Year Metrics and Targets

Metric	4 year target
Initiative Applications Submitted	20
Initiatives Approved as Customized Offerings	15
Implementation Plans Prepared	5
EJ Communities Served	100
Initiatives Scaled to meet Diverse Needs	3

Diagram of Program

Figure 3: Diagram of Program



Evaluation, Measurement, and Verification (EM&V)

This program is a market support program that supports the long-term growth of the energy efficiency market. In order to demonstrate the program’s contribution to the market support objectives, the following EM&V activities will be performed:

- SoCalREN as the program administrator (PA) will conduct a process evaluation through EM&V funding during year two of the program operation to identify any process improvements and program recommendations for future program years.
- The program implementer (PI) will establish clear and robust data collection strategies that will be detailed in the program manual prior to program launch. This will include clear data coordination protocols with regional partners to ensure continuous and timely reporting of the program metrics and indicators.
- The PA and PI will establish regular data reporting strategies that comply with any established reporting requirements.

Normalized Metered Energy Consumption (NMEC)

Not applicable for this program.

ENERGY EFFICIENCY PROGRAMS

SoCalREN Agriculture Sector
Rural Hard to Reach
Agricultural Direct Install Program
(Rural-HTR Ag DI)
Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
March 2022

Contents

A.	Program Overview: Program Budget and Savings	1
B.	Implementation Plan Narrative	4
B.1.	Program Description	4
B.2.	Program Delivery and Customer Services	6
B.3.	Program Design and Best Practices	9
B.4.	Innovation	12
B.5.	Metrics	12
B.6.	To-Code Savings Claims	14
B.7.	Pilots	14
B.8.	Workforce Education and Training	14
B.9.	Workforce Standards	14
B.10.	Disadvantaged Worker Plan	15
B.11.	Additional Information	16
C.	Supporting Documents	16
C.1.	Program Manual and Program Rules	16
C.2.	Program Theory and Program Logic Model	17
C.3.	Process Flow Chart	17
C.4.	Incentive Tables, Workpapers, and Software Tools	18
C.5.	Quantitative Program Targets	18
C.6.	Diagram of Program	18
C.7.	18	
C.8.	Evaluation, Measurement, and Verification (EM&V)	18
C.9.	Normalized Metered Energy Consumption (NMEC)	20

Index of Tables

Table 1.	Program Budget Table	1
Table 2.	Program Impact Table	1
Table 3.	Expected TRC	1
Table 4.	Expected PAC	2
Table 5.	Expected TSB	2
Table 6.	Program Implementer	2
Table 7.	Market Sector	2
Table 8.	Program Type	2
Table 9.	Market Channels & Intervention Strategies	3
Table 9.	Innovations	12
Table 11.	Metrics	13
Table 12.	Disadvantaged Workers Metrics	15
Table 13.	Supportive Materials Index	16
Table 14.	Other Tools	17

Index of Figures

Figure 1:	2021 AG Potential and Goal Results	Error! Bookmark not defined.
Figure 2:	SoCalREN Ag Program Diagram	6
Figure 3:	SoCalREN Ag Program Diagram	18
Figure 4:	SoCalREN Rural-HTR Ag DI Logic Model	21
Figure 5:	SoCalREN Rural-HTR Ag DI Process Flow	22

A. Program Overview: Program Budget and Savings

The CEDARS platform generates summary views of the following information, based on application tables that the PAs upload to CEDARS. The information is organized at the program level and, if applicable, sub-program level to enable multiple cross tabulations and outputs for stakeholders' review and consideration. Programs with subprograms will be displayed at subprogram level and will roll up to a program summary page.

1. Program and/or Sub-Program Name
SoCalREN's Rural Hard-to-Reach Agricultural Direct Install Program (Rural-HTR Ag DI)
2. Program / Sub-Program ID number
SCR-AGR-G2
3. Program / Sub-program Budget Table

Table 1. Program Budget Table

Costs	2024	2025	2026	2027	Total
Admin	\$115,974	\$260,362	\$342,455	\$377,903	\$1,096,694
Marketing/Outreach	\$69,585	\$156,217	\$205,473	\$226,742	\$658,017
Direct Implementation	\$167,129	\$375,203	\$493,505	\$544,589	\$1,580,426
Incentives/Rebates	\$807,061	\$1,811,841	\$2,383,115	\$2,629,797	\$7,631,814
Totals	\$1,159,749	\$2,603,623	\$3,424,548	\$3,779,031	\$10,966,951

4. Program / Sub-program Gross Impacts Table

Table 2. Program Impact Table

Costs	2024	2025	2026	2027	Total
Gross Demand Reduction (kW)	46	92	139	1,011	1,288
Net Demand Reduction (kW)	30	61	91	663	845
Gross Energy Savings (kWh)	575,651	1,713,922	1,805,953	2,866,125	6,961,651
Net Energy Savings (kWh)	377,505	1,123,972	1,184,324	1,879,573	4,565,374

5. Program / Sub-Program Cost Effectiveness (TRC)

Table 3. Expected TRC

	2024	2025	2026	2027	Total
Expected TRC	0.34	0.39	0.37	0.40	0.38

6. Program / Sub-Program Cost Effectiveness (PAC) and Total System Benefit (TSB)

Table 4. Expected PAC

	2024	2025	2026	2027	Total
Expected PAC	0.32	0.40	0.38	0.41	0.39

Table 5. Expected TSB

	2024	2025	2026	2027	Total
Expected TSB	\$376,467	\$1,030,312	\$1,297,853	\$1,558,358	\$4,262,990

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Table 6. Program Implementer

Program Implementer	
PA-Delivered	<input type="checkbox"/>
Third-Party Delivered	<input checked="" type="checkbox"/>
Partnership	<input type="checkbox"/>

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Table 7. Market Sector

Business Plan Sector	
Residential	<input type="checkbox"/>
Commercial	<input type="checkbox"/>
Industrial	<input type="checkbox"/>
Agricultural	<input checked="" type="checkbox"/>
Public	<input type="checkbox"/>
Cross-Cutting	<input type="checkbox"/>

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Table 8. Program Type

Program Type	
Resource	<input checked="" type="checkbox"/>
Non-Resource	<input type="checkbox"/>

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Table 9. Market Channels & Intervention Strategies

Market Channels	
Upstream	<input type="checkbox"/>
Midstream	<input type="checkbox"/>
Downstream	<input checked="" type="checkbox"/>

Intervention Strategies		
WE&T - Training	<input type="checkbox"/>	Ag-WE&T
Project Delivery Program – Technical Assistance	<input type="checkbox"/>	Ag-PDP
Direct Install – No Cost	<input checked="" type="checkbox"/>	Rural-HTR Ag DI
Retrofit - Incentive	<input type="checkbox"/>	Ag-Retrofit
Finance	<input type="checkbox"/>	Rural-HTR Ag Finance Assistance

B. Implementation Plan Narrative

B.1. Program Description

Program Description

The Rural Hard-to-Reach Agriculture Direct Install (Rural-HTR Ag DI) Program drives no-cost, low-cost installation of cost-effective solutions to drive customer awareness of both energy efficiency (EE) and non-EE measure benefits. In some cases, measures with high cost-effectiveness are relatively unknown to the target customers and face significant adoption barriers. For these measures, additional emphasis will be placed on creating compelling marketing collateral, case studies, and training curriculum (Agriculture WE&T (AG-WE&T)) for Agriculture (Ag) customers and equipment vendors. Additionally, the Rural-HTR Ag DI Program recognizes the importance of water savings within California's agricultural sector and will identify new partnership and funding opportunities targeting the water-energy nexus. The program will work collaboratively with SoCalREN's Public Sector Programs to evaluate and qualify opportunities to pursue grants to drive customer awareness and adoption of new and underutilized technologies that simultaneously achieve energy and water savings.

The Rural-HTR Ag DI Program identifies and works with Southern California Edison (SCE) & Southern California Gas Company (SoCalGas) Ag industry customers to help them understand the benefits of implementing energy saving projects and measures; provides technical and project development assistance as needed and for small/medium Disadvantaged Communities ("DAC") and Hard-to-Reach ("HTR") customers, direct installation of certain energy saving measures. The following activities will be conducted in support of achieving Program goals:

- Offer the Rural-HTR Ag DI program focusing mainly on small and medium Ag customers that are engaged in growing, producing and processing various on-farm crops and animal products with a special emphasis on rural and underserved communities.
- Employ a multi-level outreach strategy that leverages the Program's account management team, local contractors, equipment vendors, key industry associations including universities, and other types of tradeallies and service providers that engage the agricultural community.
- Utilize analytics-based customer targeting to identify and engage HTR customers and DAC regions to assist them in saving energy.
- Provide in-language sales and promotion materials (including Spanish and Hmong) and establish strategy partnerships aligned with unique Ag customer segments. Direct installation (Rural-HTR Ag DI) measures and higher incentive levels will be offered exclusively to DAC/HTR and rural & underserved customers to make participation easy and ensure specific barriers are addressed.
- Provide Ag customers with energy engineering support to identify deemed, custom and NMEC measures.
- Provide Ag customers with access to a SoCalREN Agriculture Retrofit (Ag-Retrofit) Program information via a Program website.
- Offer direct install services suitable for the customer size, project size, HTR or DAC classification, and project complexity/scale and measure type (e.g., deemed, custom, or NMEC).
- Identify and evaluate partnership and funding opportunities to increase adoption of

new and underutilized technologies that achieve both water and energy savings and develop full funding applications for any such opportunities that SoCalREN approves pursuing.

Geographic Location of Offering

Agriculture customers are primarily located in the heavily concentrated agricultural regions of the San Joaquin Valley (CTZ 13) and the Central Coast (CTZ 5) and will be targeted with a combination of direct customer outreach with additional support from trade allies such as agricultural engineering firms and farm equipment suppliers.

Eligible Customers

All agricultural (Ag) customers who have a valid Southern California Edison (SCE) Southern California Gas Company (SoCalGas) service account are eligible to participate in SoCalREN Ag Programs. Ag customers are defined by two-digit North American Industry Classification System (NAICS) Code 11. Post-harvest production (e.g., wine production, nut drying, etc.) is eligible when performed directly on-farm as defined by NAICS Code 11. Agriculture sub-segments further defined by four-digit NAICS Codes 1111, 1112, 1113, 1114 (including cannabis production which does not have a specific NAICS Code), 1119, 1121, 1122, 1123, 1124, 1125, 1129, 1131, 1132, 1133, 1141, 1142, 1151, 1152 and 1153.

According to SCE’s business plan, Ag customers electric consumption was 2,400 GWh or 3% of the SCE’s load in 2015. According to SCG’s business plan the AG sector consumed 70 million therms in 2015.

SCE Segment	Demand	% of SA	# of Accounts	Total GWh Usage ¹	Avg kW per Account
Large	≥250 kW	2%	600	899	480
Medium	≥50 kW, < 250 kW	16%	4,800	1191	100
Small	< 50 kW	82%	24,600	340	8
Total		100%	30,000	2,430	Weighted Avg – 32 kW

Measures

Rural-HTR Ag DI Measures: Booster Pump Overhaul, Booster Pump VSD, Evapotranspiration Monitoring and Optimization, Green Houses and Indoor Ag heating, Indoor Ag – Lighting, Outdoor Area Lighting, Well Pump Overhaul, Well Pump VSD

Rationale

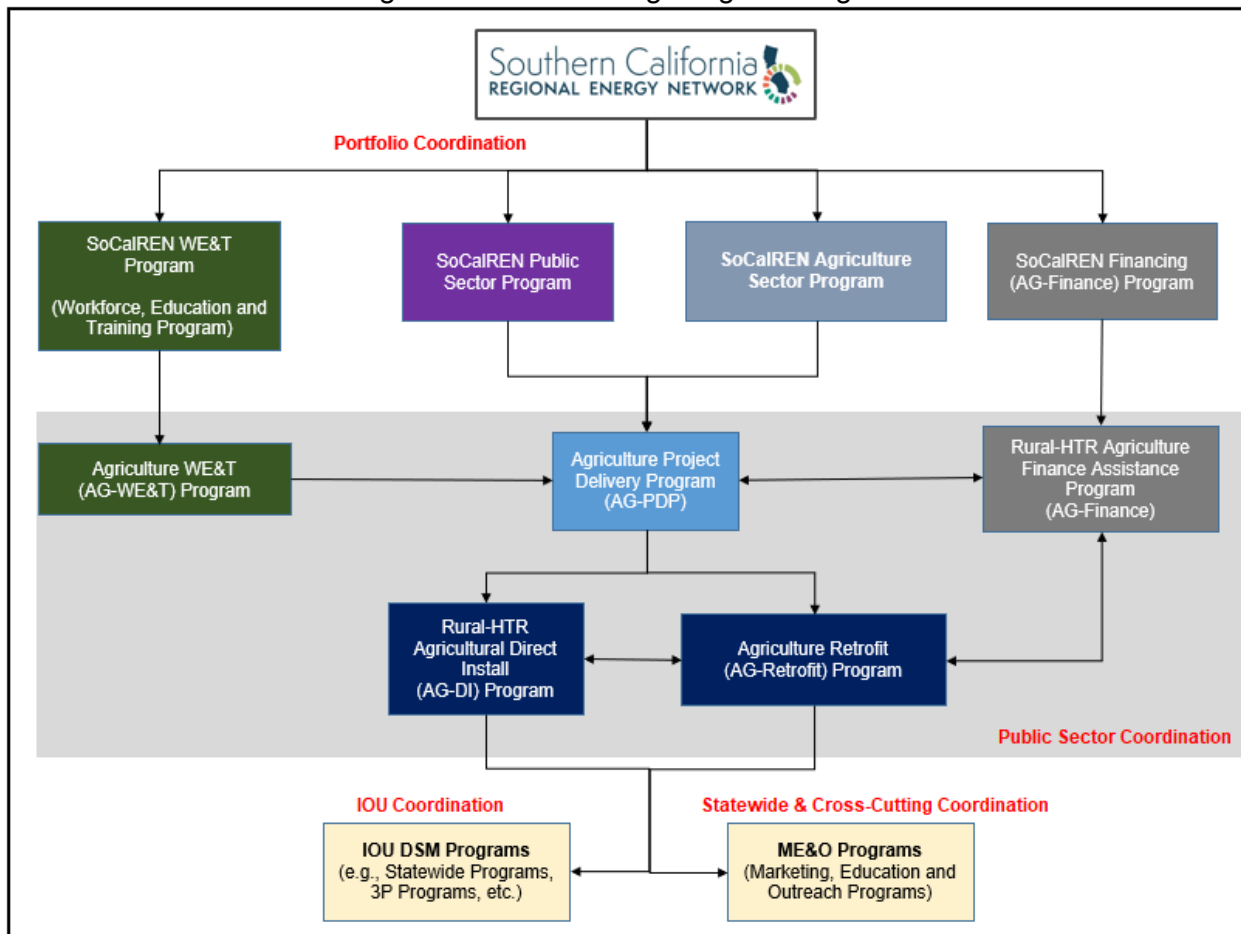
SoCalREN believes that the small and medium Ag customers in rural, disadvantaged communities will not be the primary focus of SCE and SoCalGas’ 3rd party programs due to TRC constraints of greater than 1.0 and cost to serve. Due to the reduced avoided costs in 2024, SCE’s and SoCalGas’ 3rd party program will have difficulty achieving their required TRC of 1.0 which will make it even harder for them to serve small and medium, rural, disadvantaged communities.

¹ Based on breakdown per customer segment from SCE’s Business plan and sector usage of 3% of SCE total usage.

B.2. Program Delivery and Customer Services

The Rural-HTR Ag DI Program delivers savings by offering Agriculture customers with comprehensive and customized project management and technical engineering services through a third-party implementer to implement low-cost, no-cost, cost-effective and streamlined energy efficiency measures/projects. The Rural-HTR Ag DI Program actively works to capture missed opportunities from other IOU offerings, such as the upstream, midstream, and feeds customers into the other SoCalREN Ag Programs (e.g., Ag-WE&T, Ag-Retrofit, Ag-PDP, and Rural-HTR Ag Finance Assistance). After enrollment into the Ag-PDP, each Ag customer is assigned a dedicated project delivery team comprised of project management staff and an assigned engineering firm. Throughout project identification and implementation, the project delivery team works with the customer to address project challenges and proactively identify solutions.

Figure 1: SoCalREN Ag Program Diagram



Enrollment and Project Identification (Ag-PDP): A customer is considered enrolled in the Ag-PDP once the customer signs a non-binding enrollment form that acknowledges Ag-PDP participation, responsibilities, and services. The enrollment process begins with an initial engagement presentation to introduce SoCalREN Ag Programs in coordination SoCalREN's Public Program and other applicable program partners. The enrollment form is presented to the

customer during this meeting; program services are not offered until the form is signed and returned. Enrollment in the Ag-PDP also gives customers access to other available SoCalREN Programs. Once enrolled, an Ag-PDP project manager is assigned to the customer to begin the project development process.

Education (Ag-WE&T): Promotion of the benefits of EE upgrades beyond utility cost savings considering crop/product quality improvement and building long-term relationships with the Ag customer as part of the education process. This includes general Ag training for Ag customers, Pump contractor training, Ag energy management, Ag water management, GHG reduction strategies, Ag emerging technologies, etc.

This will be coordinated with the overall SoCalREN WE&T program which provides the following training:

<ul style="list-style-type: none"> • LA County SoCalREN Intro. • Climate Policy • Sustainable Green Buildings Technologies • How to Do Business with SoCalREN, SCE & SoCalGas • Title 24 Codes and Regulations • Estimating Energy Savings 	<ul style="list-style-type: none"> • Project Estimating & Incentives • Virtual Walk-Through • Bonding Insurance / Access to Capital • Estimating • Project Scheduling • Principles of Project Management
--	--

Benchmarking (Ag-PDP): After enrollment, a customer-wide benchmark/energy analysis is prepared for the customer. The benchmark/analysis provides a portfolio-wide snapshot of energy consumption and cost by sector and estimates the potential energy and financial impacts of potential retrofits. The analysis is used as a tool to help identify and develop energy efficiency project opportunities. When possible, the benchmarking phase is completed in coordination with applicable program partners, such as SoCalREN’s Public Sector Program and other SoCalREN Ag Programs (Rural-HTR Ag DI and Ag-Retrofit). Coordination among partners ensures that a robust array of service offerings are provided to the customer, while also improving cost-effectiveness across programs and avoiding duplication of efforts. Other SoCalREN Ag Program offerings are also integrated during this phase, if applicable.

Audit (Ag-PDP): Once a project is identified, the Ag customer is asked to sign a project commitment form that communicates program services and records the customer’s commitment to pursue a viable project prior to the investment of limited program resources. The Ag-PDP project manager will complete a detailed facility or site visit and identify a preliminary list of recommended energy efficiency measures to present to the customer. After the customer selects which energy efficiency measures to implement, the Ag-PDP Engineer prepares the audit calculations and a project proposal that recommends operational and maintenance improvements and/or upgrades to equipment and controls. The Project Feasibility Study (PFS) details the recommended measures and creates a business case for the implementation of recommended energy measures by providing estimated project costs, energy bill savings, available incentives, and financing solutions for the package of measures.

The Ag-PDP team will present the PFS to the customer for their approval. Upon approval the Ag-PDP team prepares the incentive application, the on-bill financing (OBF) application (if requested by the customer), and/or 3P financing options (see Rural-HTR Ag Finance

Assistance Program) available to the customer (if applicable). Other financing options (e.g., grants, etc.) may also be applied for and pursued at this time.

Project Application Review (Ag-Retrofit and Rural-HTR Ag DI): The Rural-HTR Ag DI and Ag-Retrofit team review the PFS, associated audit calculations, and the OBF application. Upon their approval of the application package and the OBF application, the Rural-HTR Ag DI and Ag-Retrofit team reserves the incentives and the OBF loan for that customer and the team informs the customer of their notice-to-proceed.

Design and Procurement (Ag-PDP): The assigned Ag-PDP engineer completes technical performance specifications for the selected measures. If the customer releases a bid for project construction services, the Ag-PDP can provide procurement support in the form of supplementary bid package materials and sample language as required. If the customer is utilizing the Ag-PDP's simplified procurement method, a joint scope walk is scheduled at the site with the selected pre-qualified contractor, customer representative, and Ag-PDP project team. The contractor provides feedback on the draft technical specifications and, if necessary, revises and finalizes them before a cost proposal is presented to the customer.

Customer Approval (Rural-HTR Ag DI): The Ag-PDP project manager prepares a detailed project proposal package to assist the customer's staff with obtaining the necessary approvals for the project, which may include a staff report and draft resolution, scope of work, cost proposal, and any identified utility incentives and/or financing documents. The customer's relevant approval authority approves the project, submits the necessary signed documentation, and issues a purchase order to the contractor for construction services.

Construction (Ag-PDP): During the construction phase, the customer is the "project owner of record" responsible for all construction contracts and costs, as well as designating a construction manager. The customer may choose to manage the construction on its own, or access simplified construction management services through the program partners. The Ag-PDP project management team provides construction management support throughout the process, including review of contractor submittals and verification that the work is performed in accordance with the design specifications to ensure the expected energy savings are achieved and incentives are captured.

Commissioning Plan (Ag-PDP): Documented project intent provides the guide for contractors of a design intent that will guide the design of proposed Energy Conservation Measures (ECM), as well as define the Commissioning Plan for the testing of the installed systems and how they integrate with and affect the operation of existing building equipment. The Commissioning Plan will define how the proposed ECM should operate, guide the design and installation review and resulting requirements, and identify how the installed equipment/systems will be functionally tested. Tests include measurement of ECM performance to document energy savings potential (supporting M&V of energy savings) and demonstrate its improvement in or discover operating deficiencies to be corrected in the ECM equipment with which it interfaces.

Commissioning (Ag-PDP): Post installation, Ag-PDP will ensure that the energy efficiency measure has been properly commissioned. Commissioning of new equipment can be defined as "the process of ensuring that the systems are designed, installed, functionally tested and capable of being operated and maintained to perform in conformity with the

project intent. This will be conducted per the Commissioning Plan.

Completion (Rural-HTR Ag DI): Once the project is installed and verified, the Rural-HTR Ag DI Program team will work with the customer and contractor to collect the information required to submit the appropriate project close-out information to the applicable resource program so the customer can receive incentives and the savings can be accrued for the project. The contractor is responsible for the transfer of all appropriate documentation, knowledge, and training to the customer and the facility management personnel for new installed equipment and/or operational changes. After project completion, the customer receives a survey to provide feedback on the impact of program services utilized to complete the energy efficiency project and how the program can improve.

Project Installation Report Review (Ag-Retrofit and Rural-HTR Ag DI)

For the Rural-HTR Ag DI program, a sampling of the installations will be inspected in order to assure that the project was installed. For the Ag-retrofit, there will also be a post installation inspection. The IR is then reviewed and approved by the Rural-HTR Ag DI and Ag-Retrofit Program team allowing the Rural-HTR Ag DI team to claim the savings, and the Ag-Retrofit pays out the incentive to the customer and claims its savings.

After project completion, the customer receives a survey to provide feedback on the impact of program services utilized to complete the energy efficiency project and how the program can improve.

Capacity Building (Ag-PDP): Outside of the project development services, enrolled customers are able to access expertise, resources, shared procurement strategies, best practices, and lessons learned in order to leverage the collective knowledge and expertise of the SoCalREN to better reduce costs and address common barriers. The Ag-PDP provides access to resources including project managers, technical advisors, engineering firms, contractors, financial advisory services, utilities, and other industry participants.

Regular peer-to-peer sharing is also offered through workshops, newsletters, and other outreach methods.

B.3. Program Design and Best Practices

Program Design

The Rural-HTR Ag DI program engages both downstream and midstream market channels. The primary channel is the end-use (downstream) customer, but the local vendor community (midstream) will be leveraged as an outreach channel to connect with their existing customer base. Customers are provided technical expertise devoted to identifying efficiency solutions that maintain current production at a lower operating cost. Incentives and financing are then used to facilitate project implementation by reducing first-cost barriers. The agriculture sector is relationship-driven and requires the proven tactic of direct, one-on-one interactions. Agriculture programs often fail because they underestimate the level of support needed by customers and assume they operate like commercial or industrial programs. Agriculture customers approach efficiency very cautiously and are reluctant to adopt unfamiliar technologies. The Program's role is to work closely with the customer to overcome this reluctance. The level of support provided is the primary tactic used to drive higher levels of participation.

SCE and SoCalGas support services provided to the Program prior to launch to facilitate outreach and promotion include:

- List of all eligible agriculture customers with contact information (business name, contact name, phone, email if available), annual gas usage, and NAICS code/market segment
- Knowledge of past EE program participation and facility equipment for Ag customers
- Quarterly updates of customer target list to identify new accounts

Due to the relationship-driven nature of the Ag customer base, the Program will collaborate with SoCalREN's Public Sector and the IOUs' Account Executives (AEs) to make customer introductions, identify known project plans, identify current projects that need follow-up to move forward, etc. In addition, Rural-HTR Ag DI will collaborate with the SoCalREN's Public Sector to gain introductions to other Program stakeholders, such as vendors, trade allies, and manufacturers. SoCalREN will be provided marketing collateral, while the IOU AEs will provide contact information for SoCalREN's outreach staff.

After an initial Program overview meeting, a more focused meeting will be held with key account representatives of Ag customers to identify known projects, identify potential projects that need follow-up to move forward, etc.

Market Barriers

The fragmented way in which the energy industry currently delivers services and incentives makes it challenging to achieve deep energy retrofits. This results in multiple barriers to whole building retrofits and a "project delivery gap" for the customer. A key barrier for customers is understanding the benefits of implementing energy projects on a comprehensive scale. Further, Ag customers often lack sufficient in-house expertise and necessary financial resources. These are important challenges to solve because Ag customers are significant players in the energy field, both as consumers and as leaders of their communities. The SoCalREN Ag Program addresses these barriers by providing services to streamline energy efficiency project implementation with sustained technical assistance, and support in accessing project funding.

Best Practices

To help fill the "project delivery gap" and better enable customers to meet key challenges, the Rural-HTR Ag DI has identified several best practices that are integrated into the project delivery process to ensure continued success. The Rural-HTR Ag DI addresses the unique needs of the Ag customer and mitigates the need for customers to acquire their own in-house expertise and resources. Through a "one stop" approach, the SoCalREN Ag program delivers comprehensive energy direct install services, customizable to the customer's needs. Participating customers can take advantage of the full suite of offerings or select only the services that fit their needs.

The SoCalREN Ag Program aims for continuous improvement of implementation practices and systems to further improve and enhance the services received by Ag customers. Since the SoCalREN's Public Sector PDP's inception, it has been modified and streamlined to incorporate lessons learned from on the ground experience to design more effective systems for project delivery and implement more efficient tools and techniques and those lessons learned are incorporated into this SoCalREN's Rural-HTR Ag DI Program. In addition to continuous improvement, there have been significant efforts to improve upon cost-effectiveness. Program strategies are evaluated and developed to control costs and ensure that the most efficient methods are deployed for project implementation.

Examples of cost-effective program strategies include:

- A Project Budget Tool that ensures appropriate allocation of program resources based on project and customer characteristics
- Development of a streamlined direct install pathway for engineers to enter project budgets for approval to ensure alignment on project scope and deliverables
- Project Commitment forms integrated into the program process to confirm customer's buy-in more frequently as a project progresses and to ensure that PDP resources are carefully managed and delivered

The Rural-HTR Ag DI Program has incorporated the following best practices into the program design:

Regional Partner Agency Engagement: Through regional partners, agencies and their customers will be engaged by the Ag-PDP and the Rural-HTR Ag DI Program across diverse climate zones, population sizes, population densities, and other demographic characteristics are targeted for engagement in order to ensure comprehensive service to the Southern California region, including services to disadvantaged communities.

In 2019, SoCalREN partners began partnering with regional community based organizations and Council of Governments (COGs) to provide on-the-ground outreach and engagement to promote and enhance program services. Many of these organizations have established relationships with agencies working on energy efficiency efforts and have or continue to support agencies as were previous implementers of IOU Local Government Partnerships. The regional partner approach brings SoCalREN to increased enrollment opportunities, peer-to-peer sharing, and an increased number of energy projects, while customizing services to meet regional needs. Regional partners enhance SoCalREN's expertise and reach by leveraging their local knowledge, existing relationships with member agencies, and professional relationships that often extend beyond energy efficiency. This effort will continue through the SoCalREN Public sector and the Ag-PDP to drive customers to the Rural-HTR Ag DI and other SoCalREN Ag Programs (e.g., Ag-WE&T, Ag-Retrofit, and Rural-HTR Ag Finance Assistance Programs).

Utility Coordination and Stakeholder Collaboration: The Rural-HTR Ag DI promotes early and ongoing cooperation and collaboration with utility partners and stakeholders based on an agreed upon protocol. Coordination among partners ensures that a robust array of service offerings are provided to the customer, while also improving cost-effectiveness across programs and avoiding duplication of efforts. A collaborative approach also improves the customer's experience and helps avoid confusion between programs.

Evaluation and Reporting: The Rural-HTR Ag DI completes ongoing evaluation to ensure the goals and targets are met while keeping stakeholders fully informed of Rural-HTR Ag DI operations and outcomes.

Peer-to-Peer Learning: The Rural-HTR Ag DI seeks to build customer and contractor capacity and expertise in energy efficiency by providing customers and contractors with customized tools and resources that they would otherwise have to develop on their own, thereby saving time, money, and staff resources. The Rural-HTR Ag DI Program also shares the strategies and best practices used by its customers to overcome common barriers with other enrolled customers by hosting webinars and presenting at conferences and workshops (see Ag-WE&T Program).

Collaboration with Trusted Industry Partners: Agricultural customers are known to approach energy efficiency improvement projects cautiously even when there is a compelling value

proposition. To overcome this barrier, it is critical to work through trusted industry partners and communication channels. The Program leverages trade associations, agricultural cooperatives, university extension offices, equipment vendors, manufacturers, and other relevant stakeholders to connect with customers on a more personal level (see Ag-PDP).

For additional Best Practices, please see the **Ag-PDP** implementation plan.

B.4. Innovation

Table 10. Innovations

Program	Innovation: Strategy
<p>Rural-HTR Ag Direct Install Program</p>	<p>Rural-HTR Ag DI Program leverages several innovative program elements to achieve higher customer penetration rates and deliver at higher levels of savings per customer. These innovative elements include:</p> <p>Segment-oriented solutions. The Program emphasizes market strategies that resonate with Ag customers such as a focus on measure benefits related to crop performance, yield, and water consumption reductions.</p> <p>Developing the adoption of new technologies in the market. Rural-HTR Ag DI will drive customer awareness and adoption of innovative technologies advanced technologies that utilize infrared, microwave, ultraviolet, and radio wave frequencies to simultaneously achieve energy and water savings in food processing and sanitizing processes.</p> <p>Direct Install. The Rural-HTR Ag DI Program will target rural and underserved communities by providing no-cost, low-cost measure installations.</p> <p>Connecting the Dots. The SoCalREN Ag Sector provides a turnkey solution through the various programs. The Ag programs are as follows:</p> <ul style="list-style-type: none"> • Ag-WE&T – Provides Workforce, Education and Training to Ag contractors and Ag customers • Ag-PDP – Provides ME&O for enrollment into the PDP program. PDP services include benchmarking, financing support, commissioning support, and project closeout. • Rural-HTR Ag DI – Provides no-cost, low-cost installations of EE deemed measures • Ag-Retrofit – Provides EE custom measures support • Rural-HTR Ag Finance Assistance – Provides OBF support, OBF bridge funding, 3P funding, grants, etc.

B.5. Metrics

The Rural-HTR Ag DI is proposing the following key performance metrics to be tracked and reported on periodically throughout the program cycle.

Table 11. Metrics

No.	Metric	Method	Frequency
1	1st Year Gross kWh Savings Claimed	Savings submitted to CPUC through funneled resource programs	Annually
2	1st Year Gross kW Savings Claimed	Savings submitted to CPUC through funneled resource programs	Annually
3	1st Year Gross Therm Savings Claimed	Savings submitted to CPUC through funneled resource programs	Annually
4	Customer Enrollment	Number of customers enrolled	Annually
5	Increased Pipeline	Energy savings identified through completed audits to be installed in future years	Annually
6	Program Savings Contribution to Market Share	Overall contributions of energy savings to IOU programs as measured by percentage of overall Public Sector savings	Annually
7	Job Creation	Number of new construction jobs as measured by construction costs	Annually
8	Capacity & Expertise	Number of informational outreach activities conducted by SoCalREN	Annually
9	Customized Services	Reporting of services leveraged as a percentage of completed projects	Annually
10	Educational Material	Number of fact sheets, newsletters, and case studies generated by the SoCalREN program	Annually
11	Customer Satisfaction	Enrolled customer and contractor satisfaction rating as reported in annual program survey	Annually
12	Completed Projects in Disadvantaged Communities	Percent of projects completed in disadvantaged communities	Annually
13	Regional Environmental Benefits	Metric tons of greenhouse gas (GHG) emissions reduced regionally as measured by lifetime gross energy savings of completed EE projects	Annually

The necessary project information will be gathered through a series of discussions and verification checks with each customer. The Rural-HTR Ag DI CRM database system will be used to track information about the customer, project, energy savings claimed and other details that will help show the impact of this program. This will be done on a quarterly basis and more frequently as needed. Once the information is gathered, it will be entered in the database and then used to generate reports.

B.6. To-Code Savings Claims

Compliance with Applicable Law

This program will comply with all applicable laws as well as CPUC guidance.

Customer Segments

To-code savings potential remains greatest in HTR/DAC communities, particularly those within climate zones 8, 10, 13, and 15. Older office, retail and grocery facilities in these climate zones represent a high opportunity for to-code savings.

B.7. Pilots

This section is not applicable.

B.8. Workforce Education and Training

Please see the Ag-WE&T Program for more details.

B.9. Workforce Standards

HVAC Measures

The standards pursuant to Decision 18-10-008² are applicable. The program includes the installation, modification, and maintenance of incentivized HVAC measures (potentially greater than \$3,000) in commercial buildings by program, subcontractor, and Trade Pro staff, triggering the applicable workforce standards. When required, the program verifies that the installation team has completed and/or is enrolled in a federally accredited or California-accredited HVAC apprenticeship, completed at least five years of work at the journey level, passed an HVAC system installation competency test, received training specific to the equipment being installed, and obtained a C-20 HVAC contractor license from California's Licensing Board.

To enhance quality and deliver deep, durable energy savings, the program:

- Establishes workforce standards with respect to apprenticeship, journey-level experience, and licensing
- Requires and provides training that improves overall quality of installers, including subcontractors and Trade Pros
- Requires and provides training targeted at specific measures
- Tracks technicians for measures installed and maps measures to applicable trainings, providing valuable WE&T metrics, and
- Performs comprehensive QA/QC, ties outcomes to specific technicians, and requires targeted remedial training based on those outcomes.

Compliance is demonstrated and enforced throughout the program lifecycle by:

- Establishing workforce standards requirements in customer applications and/or project agreements that are tied to incentive eligibility
- Collecting and verifying proper worker documentation ("qualified documents"), and
- Retaining "qualified documents" for reporting and periodic inspection by SoCalREN.

Advanced Lighting Control Measures

² D.18-10-008, Attachment B, Section D, page B-9

The program includes the installation, modification, and maintenance of incentivized lighting control measures (potentially greater than \$2,000) in commercial buildings by program staff, subcontractor staff, and Trade Pros, triggering the applicable workforce standards.

The program:

- Establishes workforce standards for lighting controls installations requiring California Advanced Lighting Controls Training Program certification, where applicable
- Requires and provides training that improves the overall quality of implementation workers across program staff, subcontractors, and Trade Pros
- Requires and provides training targeted at specific measures proposed and implemented
- Tracks installation technicians for measures installed and maps measures to applicable trainings,
- providing meaningful WE&T metrics, and
- Performs comprehensive QA/QC, ties outcomes to specific technicians, and requires targeted
- remedial training based on those outcomes.
- Compliance is demonstrated and enforced throughout the program lifecycle by:
- Establishing workforce standards requirements in customer applications and/or project agreements that are tied to incentive eligibility
- Collecting proper worker documentation (“qualified documents”); for lighting controls projects, installer certification is obtained directly from the California Advanced Lighting Controls Training Program, and
- Retaining qualified documents for reporting and periodic inspection by SoCalREN.

B.10. Disadvantaged Worker Plan

The Rural-HTR Ag DI program will provide Disadvantaged Workers with improved access to career opportunities in the energy efficiency industry by supporting outreach initiatives (training, mentorship, and/or apprenticeships) in collaboration with a combination of our subcontractor partners. Using an optional survey, the Program will track and report Disadvantaged Worker participation in outreach programs, as well as program hiring, including the following metrics:

Table 12. Disadvantaged Workers Metrics

Outreach	Hiring
<ul style="list-style-type: none"> • Number of training, mentorship, and/or apprenticeship opportunities offered • Number of participants • Number of staff and/or partner hours devoted to outreach initiatives 	<ul style="list-style-type: none"> • Number of recruiting channels promoting access to Disadvantaged Workers • Percentage of job opportunities made available to Disadvantaged Workers • Percentage of candidates screened • Percentage of candidates interviewed • Percentage of candidates offered a position • Percentage of candidates hired

Additionally, the turnover and attrition are tracked by designated classification of Disadvantaged Worker, subject to appropriate privacy considerations. For Subcontractor performance scorecards and KPIs are tracked on an individual firm basis, with Disadvantaged Worker participation as a key element.

B.11. Additional Information

This section is not applicable.

C. Supporting Documents

C.1. Program Manual and Program Rules

Not required at this time.

A short description of supporting materials is provided below. Greater detail will be provided in the program manual.

Table 13. Supportive Materials Index

#	Information Required	Short Description
1	Eligible Measures or measure eligibility	<i>A list of eligible measures, or measure eligibility requirements</i> Eligible measures pursued by Ag Customers through the program will adhere to the rules set forth by SoCalREN regarding measure eligibility. All savings will be transparent in supporting calculations as submitted to the Rural-HTR Ag DI program.
2	Customer Eligibility Requirements	<i>Requirements for program participation (for example, annual energy use or peak kW demand)</i> The Rural-HTR Ag DI will work with eligible customers in the Ag sector. This includes Field & Seed Crops, Fruit & Nut Crops, Vegetables & Melons, Livestock & Poultry, Wineries, Floriculture and Dairies Customers served by SCE and/or SoCalGas that pay PPP charges.
3	Contractor Eligibility Requirements	<i>List of any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements. (For example: specific IOU-required trainings, specific contractor accreditations, and/or specific technician certifications.)</i> The Rural-HTR Ag DI Program will work with the selected contractor to ensure all incentive eligibility requirements are addressed and met.
4	Participating Contractors, Manufacturers, Retailers, Distributors	<i>Information as to whether:</i> <ul style="list-style-type: none">• Program or sub-program delivery channel is downstream, midstream, or upstream, and• Program is an incentive and/or buy-down type program. This is a downstream program offering project development and project implementation services as well as post-installation incentives.

5	Additional Services	<p><i>Descriptions of any additional sub-program delivery, measure installation, marketing & outreach, training, and/or other services provided, if not yet described above.</i></p> <p>The Rural-HTR Ag DI Program will offer education outreach to Ag customers in SCE and SoCalGas territories. This educational outreach will include information on the benefits associated with utility-based energy saving measures.</p>
6	Audits	<p><i>Information as to whether:</i></p> <ul style="list-style-type: none"> • Pre- and post-audits are required • Funding or incentive levels have been set for audits, and • The eligibility requirements for audit incentives. <p>Pre and post installation audits will be conducted in a manner that aligns with SoCalREN's incentive eligibility requirements by the Rural-HTR Ag DI Program.</p>
7	Sub-Program Quality Assurance Provisions	<p><i>List of quality assurance and quality control requirements, including accreditations and/or certifications or other credentials of individuals or organizations performing this work.</i></p> <p>Quality assurance checks will be implemented throughout the process at various milestones to maintain data accuracy and customer satisfaction.</p>

All EE measures will funnel through EE resource programs. The below table describes other tools leveraged to support turnkey project delivery services.

Table 14. Other Tools

#	Tools	Short Description
1	PipeDrive	Customer Relationship Management (CRM), used to track projects and generate customer reports.
2	Compass	Platform used to collect and synthesize energy consumption data and deliver customer energy use analyses
3	ENERGY STAR Portfolio Manager	Online tool used to track energy consumption and greenhouse gas emissions. Allows user to benchmark the performance of one building or a whole portfolio of buildings.
4	GIS	Geographic Information System (GIS) tool allows users to pinpoint exact locations of facilities and tie usage characteristics to those facilities.
5	eziQC	Provides access to competitively awarded contractors through cooperative purchasing networks, expediting project delivery through a simplified procurement process.

C.2. Program Theory and Program Logic Model savings

Please see Attachment #1.

C.3. Process Flow Chart

Please see Attachment #2.

C.4. Incentive Tables, Workpapers, and Software Tools

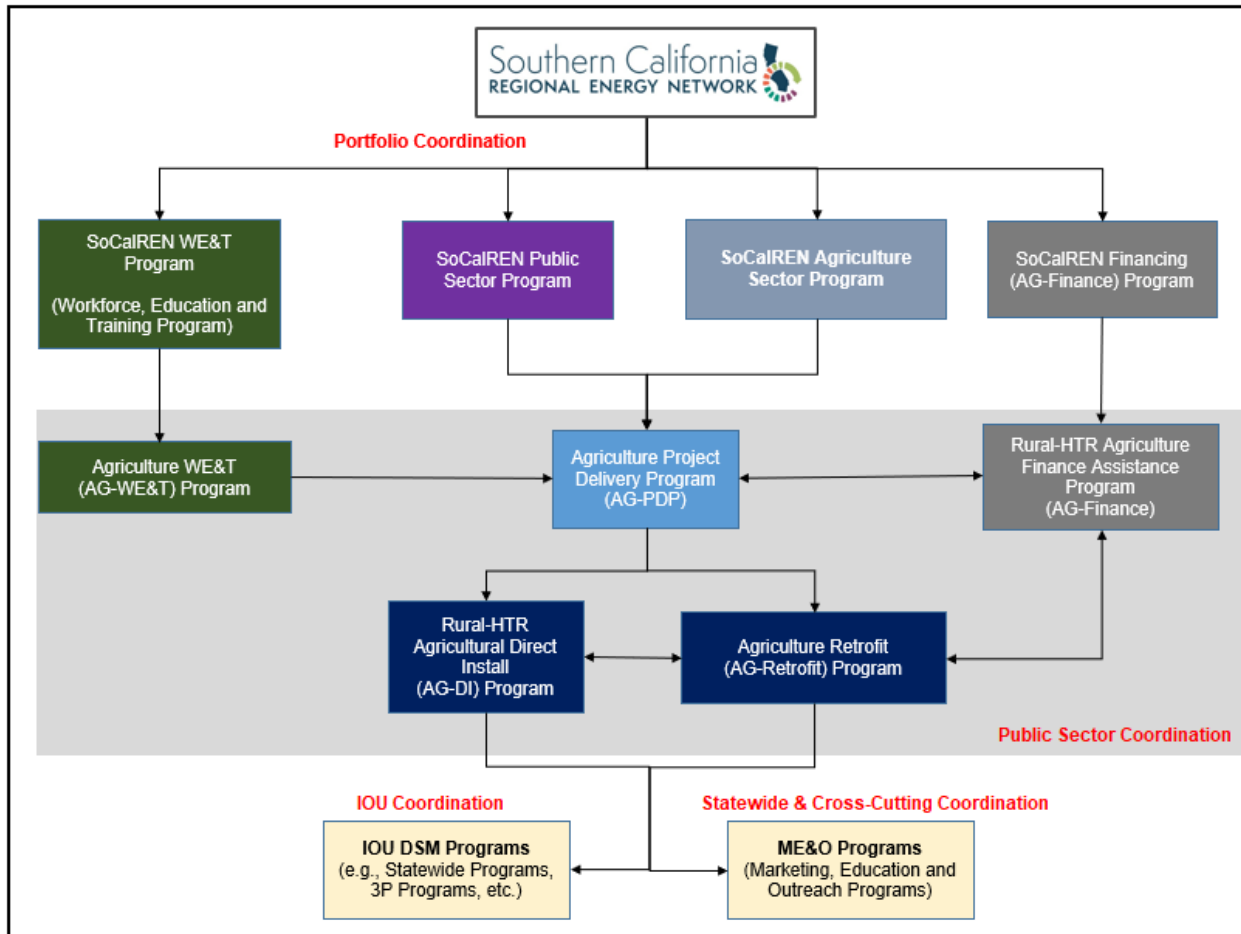
Please see Ag DI program section within Business Plan

C.5. Quantitative Program Targets

Please see Ag DI program section within Business Plan

C.6. Diagram of Program

Figure 2: SoCalREN Ag Program Diagram



C.7. Evaluation, Measurement, and Verification (EM&V)

1. Overview

EM&V for the program focuses on both customer energy savings claimed as well as program performance metrics for services offered in alignment with the CPUC's California Long Term Energy Efficiency Strategic Plan³. Energy savings are determined by deemed workpapers. A comprehensive workplan will be developed by SoCalREN's third-party EM&V team at the beginning of each year to identify the study needs in the portfolio,

³ California Energy Efficiency Strategic Plan, <http://www.cpuc.ca.gov/general.aspx?id=4125>

determine the timeframe and allocate the budget per study.

The SoCalREN customer relationship database (CRM) is used to record most program and project related information and to generate reports that indicate progress toward program goals. In addition, the Rural-HTR Ag DI seeks feedback from its customers with a project specific survey after each project closeout, via focus groups and through an annual customer survey. Focus group feedback and survey results are analyzed to understand the impact program services have on energy efficiency projects and how the program can improve. Through data collected in the CRM and analysis of survey feedback, as complements to the ongoing customer service by the Rural-HTR Ag DI's dedicated project manager, the Ag-Retrofit has the capacity to evaluate its effectiveness and ability to deliver energy savings, build customer and contractor knowledge and capacity, conduct outreach activities, meet greenhouse gas (GHG) reduction targets, create jobs, and streamline processes and procedures. The Program ensures customer satisfaction and effectiveness in the delivery of its services by taking a nimble and highly adaptive approach to program implementation.

2. Project Process

This section serves to provide a high-level description of the Deemed and Custom M&V approach to be taken for the program; in practice custom projects will receive a site-specific M&V plan, tailored to the specifics of the unique project while also adhering to the guidelines laid out in this document. Deemed projects will follow all procedures from the workpaper.

Deemed Projects

Deemed projects are often much less rigorous than custom projects in terms of M&V. All M&V protocol specified in the workpaper will be followed for deemed projects. Verification requirements include paid itemized invoices from the project, photos of both pre-existing and new equipment, specification sheets, project application, and any supplemental measure-specific information.

- a) **Installation Verification:** Installation of ECMs will be verified through site inspections or pictures provided by the customer for all custom projects. Invoices for the installation will also be collected. For very low and low rigor projects, photos and remote data gathering will be sufficient in lieu of an on-site inspection. For medium to high rigor projects (i.e., when incentive is \$25,000 or higher), on-site verification will be done in accordance with the installation review parameters listed in the Pre-Agreement Review.
- b) **SoCalREN's Post-Installation Review:** Implementer will submit the PIR to SoCalREN's ES for a post-installation review. ES will randomly select projects for and conduct a site visit unless it waives it due to sufficient project data and supporting documentation. ES will verify and approve the final project energy savings.

Tracking/recording

Data gathered through site inspections and M&V activities will be documented for future use by Program Administrators and evaluation teams. This data will also prove useful in helping inform future program design to improve overall cost-effectiveness.

Savings Calculation

Savings calculations will follow SW IOU approved workpapers⁴.

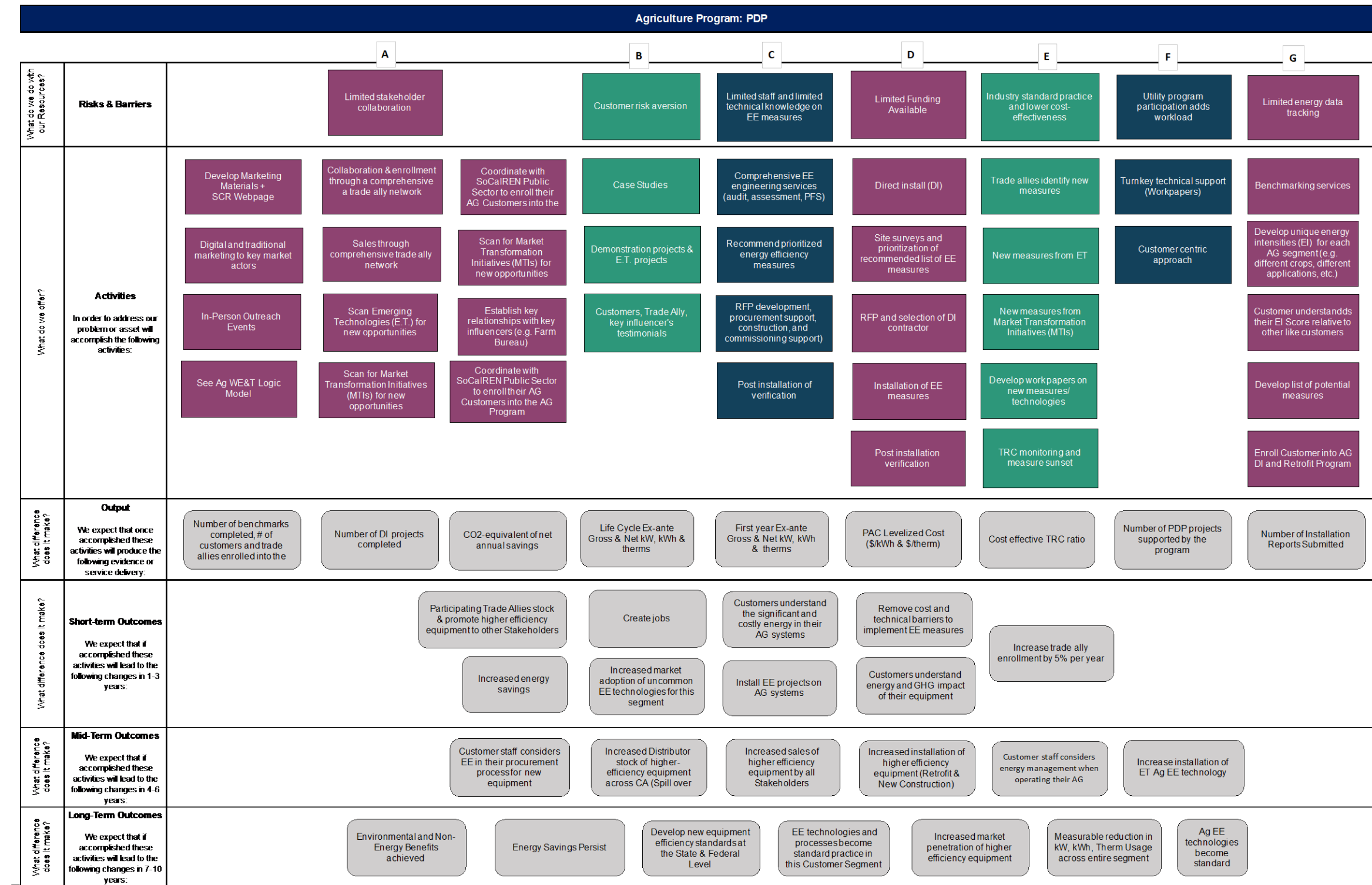
C.8. Normalized Metered Energy Consumption (NMEC)

Not applicable to this deemed program.

⁴ CalTF Website: [Dashboard | ETRM \(caetrm.com\)](#) or [Measure Catalog | ETRM \(caetrm.com\)](#)

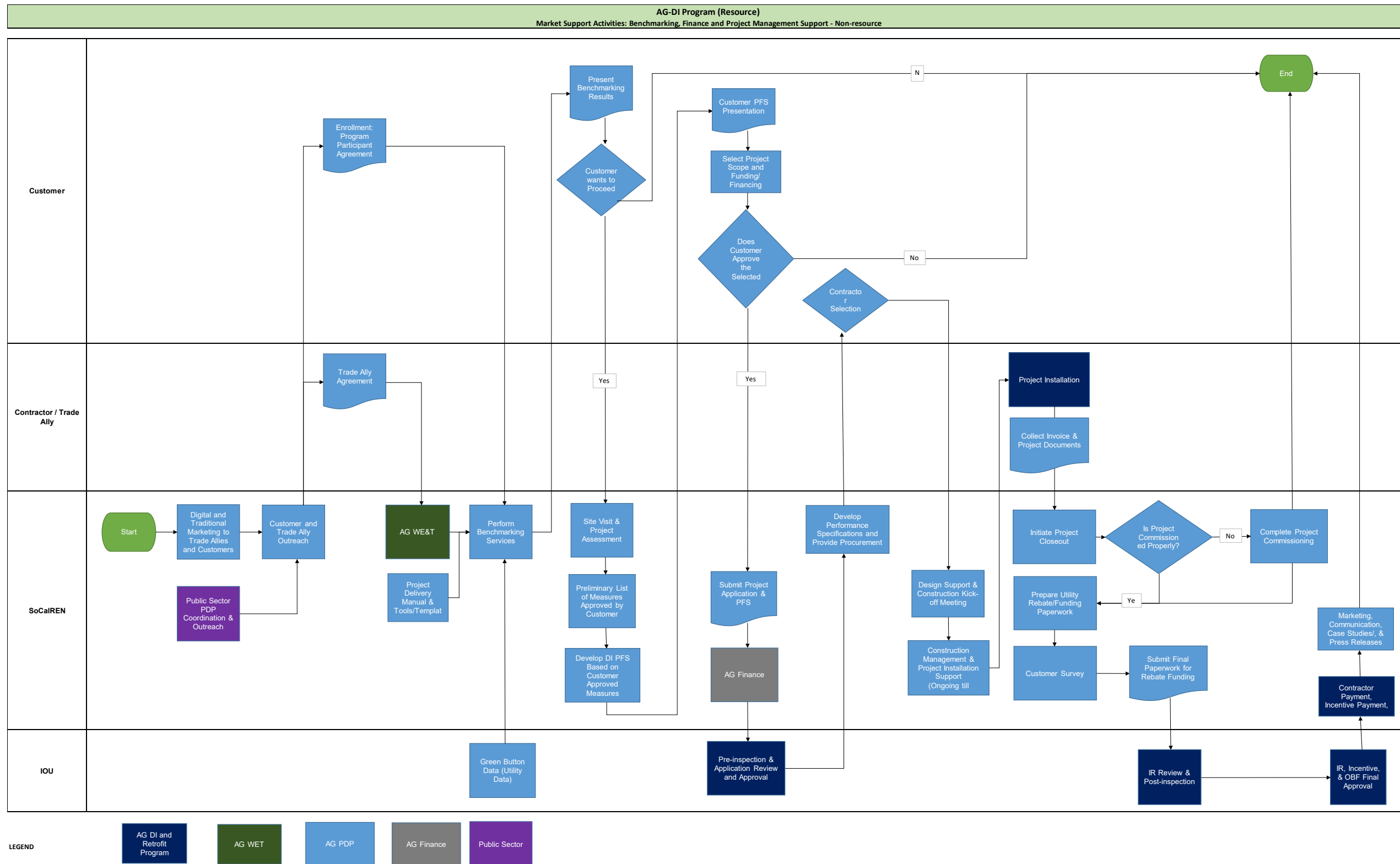
Attachment 1: Rural-HTR Ag DI Logic Model

Figure 3: SoCalREN Rural-HTR Ag DI Logic Model



Attachment 2: Rural-HTR Ag DI Process flow

Figure 4: SoCalREN Rural-HTR Ag DI Process Flow





ENERGY EFFICIENCY PROGRAMS

**SoCalREN Agriculture Sector
Rural Hard-to-Reach
Agriculture Finance Assistance
Program
(Ag-Finance)
Program Implementation Plan**

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
March 2022

Contents

A.	Program Overview: Program Budget and Savings	1
B.	Implementation Plan Narrative	4
B.1.	Program Description.....	4
B.2.	Program Delivery and Customer Services.....	6
B.3.	Program Design and Best Practices.....	6
B.4.	Innovation	2
B.5.	Metrics	2
B.6.	To-Code Savings Claims	3
B.7.	Pilots.....	3
B.8.	Workforce Education and Training	3
B.9.	Workforce Standards.....	3
B.10.	Disadvantaged Worker Plan	3
B.11.	Additional Information.....	3
C.	Supporting Documents.....	4
C.1.	Program Manual and Program Rules.....	4
C.2.	Program Theory and Program Logic Model.....	5
C.3.	Process Flow Chart.....	5
C.4.	Incentive Tables, Workpapers, and Software Tools.....	6
C.5.	Quantitative Program Targets.....	6
C.6.	Diagram of Program.....	6
C.7.	Evaluation, Measurement, and Verification (EM&V).....	6
C.8.	Normalized Metered Energy Consumption (NMEC).....	7

Index of Tables

Table 1.	Program Budget Table	1
Table 2.	Program Impact Table.....	1
Table 3.	Expected TRC	1
Table 4.	Expected PAC	2
Table 5.	Program Implementer.....	2
Table 6.	Market Sector	2
Table 7.	Program Type.....	2
Table 8.	Market Channels & Intervention Strategies	3
Table 11.	Metrics.....	2
Table 12.	Supportive Materials Index.....	4
Table 13.	Other Tools.....	5

Index of Figures

Figure 1:	SoCalREN Ag Program Diagram.....	6
Figure 2:	SoCalREN Rural HTR Ag Finance Assistance Logic Model	8
Figure 3:	SoCalREN Rural HTR Ag Finance Assistance Process Flow	9

A. Program Overview: Program Budget and Savings

The CEDARS platform generates summary views of the following information, based on application tables that the PAs upload to CEDARS. The information is organized at the program level and, if applicable, sub-program level to enable multiple cross tabulations and outputs for stakeholders' review and consideration. Programs with subprograms will be displayed at subprogram level and will roll up to a program summary page.

1. Program and/or Sub-Program Name
SoCalREN Rural-HTR Agriculture Finance Assistance Program (Ag-Finance)
2. Program / Sub-Program ID number
3. SCR-FIN-C3
4. Program / Sub-program Budget Table

Table 1. Program Budget Table

Costs	2024	2025	2026	2027	Total
Admin	\$50,000	\$58,000	\$60,800	\$65,000	\$233,800
Marketing/Outreach	\$30,000	\$34,800	\$36,480	\$39,000	\$140,280
Incentives/Rebates	\$0	\$0	\$0	\$0	\$0
Direct Implementation	\$420,000	\$487,200	\$510,720	\$546,000	\$1,963,920
Totals	\$500,000	\$580,000	\$608,000	\$650,000	\$2,338,000

5. Program / Sub-program Gross Impacts Table

Table 2. Program Impact Table

	2024	2025	2026	2027	Total
Gross Demand Reduction(kW)	Not applicable, this is a non-resource Program				
Net Demand Reduction (kW)					
Gross Energy Savings (kWh)					
Net Energy Savings (kWh)					

6. Program / Sub-Program Cost Effectiveness (TRC)

Table 3. Expected TRC

	2024	2025	2026	2027	Total
Expected TRC	Not applicable, this is a non-resource Program				

7. Program / Sub-Program Cost Effectiveness (PAC)

Table 4. Expected PAC

	2024	2025	2026	2027	Total
Expected PAC	Not applicable, this is a non-resource Program				

8. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Table 5. Program Implementer

Program Implementer	
PA-Delivered	<input type="checkbox"/>
Third-Party Delivered	<input checked="" type="checkbox"/>
Partnership	<input type="checkbox"/>

9. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Table 6. Market Sector

Business Plan Sector	
Residential	<input type="checkbox"/>
Commercial	<input type="checkbox"/>
Industrial	<input type="checkbox"/>
Agricultural	<input checked="" type="checkbox"/>
Public	<input type="checkbox"/>
Cross-Cutting	<input type="checkbox"/>

10. Program / Sub-program Type (i.e., Non-resource, Resource)

Table 7. Program Type

Program Type	
Resource	<input type="checkbox"/>
Non-Resource	<input checked="" type="checkbox"/>

11. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Table 8. Market Channels & Intervention Strategies

Market Channels	
Upstream	<input type="checkbox"/>
Midstream	<input type="checkbox"/>
Downstream	<input checked="" type="checkbox"/>

Intervention Strategies		
WE&T - Training	<input type="checkbox"/>	Ag-WE&T
PDP – Technical Assistance	<input type="checkbox"/>	Ag-PDP
Direct Install – No Cost	<input type="checkbox"/>	Rural HTR Ag-DI
Retrofit - Incentive	<input type="checkbox"/>	Ag-Retrofit
Finance	<input checked="" type="checkbox"/>	Rural HTR Ag Finance Assistance

B. Implementation Plan Narrative

B.1. Program Description

Program Description

The goal of the Southern California Regional Energy Network's (SoCalREN) Agriculture (Ag) Sector is to identify and implement cost-effective energy efficiency projects that yield electricity and gas savings for disadvantaged, rural and underserved agriculture communities/customers across the region. In order to achieve this goal, the SoCalREN Rural-HTR Agriculture Finance Assistance Program aims to achieve the following objectives:

1. Provide an On-Bill Financing (OBF) revolving loan fund (RLF) designed to provide bridge funding to fill the gap between the OBF payment and contractor payment ("OBF BF");
2. Establish additional Third-Party (3P) financing relationships;
3. Work with the Agriculture Project Delivery Program (Ag-PDP) to assist customers with OBF and 3P financing applications; and
4. Seek Federal and State Agricultural grants to further expand the program's reach and goals; and
5. The ultimate goal of the Rural HTR Ag Finance Assistance Program is to expand the implementation of cost-effective Agriculture energy efficiency projects;

The Rural HTR Ag Finance Assistance Program supports the SoCalREN's Agriculture Project Delivery Program (Ag-PDP) and the Agriculture Retrofit (Ag-Retrofit) Programs. The Program is a financing program designed to support energy upgrades to Ag customer via loans intended to accelerate the implementation of projects. These loans will provide short term construction period financing and serve either as bridge financing until other financing sources (OBF or 3P financing) are available at the end of construction or will be used for approved but not-yet-budgeted projects that would otherwise be delayed pending budget allocation.

The program is designed to be delivered as part of the SoCalREN Ag-Retrofit Program. Seed capital for the fund will be used exclusively to issue loans to enrolled and participating Ag customers and is provided through the County of Los Angeles (LAC or County), the Program Administrator of the SoCalREN.

The Rural HTR Ag Finance Assistance Program is designed to meet the following objectives: (1) stimulate SoCalREN Ag customer enrollment, accelerate project development and increase Ag customer participation in energy efficiency programs; (2) assist Ag customers in overcoming barriers related to lack of access to capital for energy projects; and (3) provide an innovative and low-cost solution for short-term energy project financing for Ag customers.

Geographic Location of Offering

Agriculture (Ag) customers are primarily located in the heavily concentrated agricultural regions of the San Joaquin Valley (CTZ 13) and the Central Coast (CTZ 5) and will be targeted with a combination of direct customer outreach with additional support from trade allies such as agricultural engineering firms and farm equipment suppliers.

Eligible Customers

All agricultural (Ag) customers who have a valid Southern California Edison (SCE) & Southern California Gas Company (SoCalGas) service account are eligible to participate in SoCalREN Ag Programs. Ag customers are defined by two-digit North American Industry Classification System (NAICS) Code 11. Post-harvest production (e.g., wine production, nut drying, etc.) is eligible when performed directly on-farm as defined by NAICS Code 11. Agriculture sub-segments further defined by four-digit NAICS Codes 1111, 1112, 1113, 1114 (including cannabis production which does not have a specific NAICS Code), 1119, 1121, 1122, 1123, 1124, 1125, 1129, 1131, 1132, 1133, 1141, 1142, 1151, 1152 and 1153.

The Rural HTR Ag Finance Assistance Program offers energy efficiency services to ~30,000¹ eligible Agriculture customers in the Southern California Edison (SCE) and Southern California Gas (SCG) service territories – including field & seed crops, fruit & nut crops, vegetables & melons, livestock & poultry, wineries, floriculture, and dairies - to help these customers reduce energy and maintenance costs at their facilities. The Rural HTR Ag Finance Assistance Program will focus on rural & underserved communities.

According to SCE's business plan, these customers electric consumption was 2,400 GWh or 3% of the SCE's load in 2015. According to SCG's business plan the AG sector consumed 70 million therms in 2015.

SCE Segment	Demand	% of SA	# of Accounts	Total GWh Usage ²	Avg kW per Account
Large	≥250 kW	2%	600	899	480
Medium	≥50 kW, < 250 kW	16%	4,800	1191	100
Small	< 50 kW	82%	24,600	340	8
Total		100%	30,000	2,430	Weighted Avg – 32 kW

Measures

Ag-Retrofit Measures: Barn ventilation, Booster pump overhaul, Booster pump VSD, Evapotranspiration monitoring and optimization, Greenhouse air distribution, Green houses condensing boilers, Greenhouse heating envelope measures, Process optimization, Well pump overhaul, Well pump VSD, Greenhouse heat curtains, Pipe insulation, Greenhouse infrared film.

¹ Total AG customers = 30,000, Mid-Size AG customers (≥50kW, <250kW) make up of 16% of all AG SAs (or 4,800 SA) & Small AG customers (<50kW) make up of 82% of all AG SAs (or 24,600 SA)

² Based on breakdown per customer segment from SCE's Business plan and sector usage of 3% of SCE total usage.

Rationale

SoCalREN believes that the small and medium Ag customers in rural, disadvantaged communities will not be the primary focus of SCE and SoCalGas' 3rd party programs due to TRC constraints of greater than 1.0 and cost to serve. Due to the reduced avoided costs in 2024, SCE's and SoCalGas' 3rd party program will have difficulty achieving their required TRC of 1.0 which will make it even harder for them to serv small and medium, rural, disadvantaged communities.

B.2. Program Delivery and Customer Services

Ag customers are first enrolled with the Ag-PDP. They receive comprehensive energy efficiency project delivery services and in addition, are offered the Rural HTR Ag Finance Assistance Program. These finance solutions make possible energy efficiency projects that would not otherwise have been completed. The loans also accelerate project implementation by financing projects that are not expected to be budgeted by a customer in the immediate term. In each of these cases, the Rural HTR Ag Finance Assistance Program delivers savings through the Ag-Retrofit Program. The program will be marketed to customers through coordination with the SoCalREN's Public Sector Agencies (e.g., Cities, Counties, water agencies, irrigation districts, and special districts).

SoCalREN's service territory includes ratepayers in SCE and/or SoCalGas territory. This encompasses all or portions of the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, Mono, Santa Barbara, Inyo, Kern, Fresno and Tulare, with an emphasis on financing projects serving disadvantaged communities (DACs). This enhanced service offering is expected to stimulate enrollment and increase public agency participation in energy efficiency programs, one of the Rural HTR Ag Finance Assistance Program's core objectives.

B.3. Program Design and Best Practices

The program is designed to be delivered alongside the SoCalREN Ag-PDP and Ag-Retrofit Programs because they leverage the support of the Public Agency Program to help address a sector specific market gap, namely that energy efficiency project financing is often not pursued by Ag customer because of the lack of internal resources to research and identify financing options, apply for the financing, and execute financing agreements. Described below are some of the best practices that will be applied to this program offering.

Addresses funding barriers specific to public agencies.

The Rural HTR Ag Finance Assistance Program is designed to overcome a barrier in the existing framework of utility incentives plus On-Bill Financing (OBF) for energy efficiency projects. The barrier for many Ag customers is the fact that both the incentives and OBF funds are only paid several months after project completion which can easily be more than a year from the initial project development and approval stages. The delays in being paid incentive and OBF funds by the utilities requires a customer to separately secure 100% of the funds needed for an energy efficiency project before construction can commence. Given the difficulty of securing capital improvement funds for normal Ag customers deferred maintenance projects, let alone the installation of new energy efficiency measures, it is not surprising that a 100% upfront capitalization requirement can be a significant hindrance to project implementation. The Rural HTR Ag Finance Assistance Program overcomes this barrier by providing access to upfront funds that cover 100% of the project construction costs.

Evaluation criteria that tie Rural HTR Ag Finance Assistance to the Ag Sector goals.

Evaluation of loan applications will emphasize three main criteria: 1) support for projects serving Underserved, Rural and Disadvantaged Communities (DACs); 2) high level of confidence that the projects will result in the projected bill savings; and 3) confirmation of an appropriate and feasible strategy for loan repayment within two years to maximize OBF-BF access across a larger pool of customer. Loans will also be equitably allocated through a restriction on the total loan amount from any one customer to ensure that several customers will be able to simultaneously access funding for their projects. For those projects that exceed the OBF loan limit, 3P financing options will also be made available.

B.4. Innovation

The main innovation is the concept of providing a revolving loan fund that bridges the gap of OBF funding versus when the customer needs to provide payment for construction to begin.

B.5. Metrics

The Rural HTR Ag Finance Assistance Program is proposing the following key performance metrics to be tracked and reported on periodically throughout the program cycle.

Table 9. Metrics

Activity	Tactic	Indicators	Method	Frequency
Engage in Program Marketing and Outreach	Deliver Rural HTR Ag Finance Assistance Program ‘loan informational overviews’ to potential borrowing agencies	Number of touch-points where Rural HTR Ag Finance Assistance Program is presented	Implementer Reporting to Administrator	Annual
Perform Project Feasibility Analysis for Rural HTR Ag Finance Assistance Loan	Deliver Project Proposals that present project economics with a Rural HTR Ag Finance Assistance loan	Number of Project Proposals delivered	Implementer Reporting to Administrator	Annual
Prepare and submit Rural HTR Ag Finance Assistance Program Loan Application (OBF or 3P financing)	Evaluate a customer’s ability to take advantage of the Rural HTR Ag Finance Assistance loan	Number of Rural HTR Ag Finance Assistance Loan Applications	Implementer Reporting to Administrator	Annual
Provide the Offer to Finance for the Rural HTR Ag Finance Assistance Loan	Provide eligible Ag-customers an opportunity to use a Rural HTR Ag Finance Assistance Loan	Number of customer approved loans	Implementer Reporting to Administrator	Annual
Ag customer completes project installation	Enable savings by funding projects with Rural HTR Ag Finance Assistance Program loans	Number of Program Loans Awarded, Dollar Amount Issued and Energy Savings attributed to the Project	Implementer Reporting to Administrator	Annual

Customer repays the loan within 2 years	Manage the Rural HTR Ag Finance Assistance Program for repeated use of seed capital funds	Number of Rural HTR Ag Finance Assistance Program Loans with full, on-time repayment	Implementer Reporting to Administrator	Annual
---	---	--	--	--------

B.6. To-Code Savings Claims

This section is not applicable to this non-resource program. Please see Rural HTR Ag-DI and Ag-Retrofit Programs for more information on To-Code Savings Claims.

B.7. Pilots

This section is not applicable.

B.8. Workforce Education and Training

The Workforce Education and Training of the Rural HTR Ag Finance Assistance Program will be implemented through the Ag-PDP.

B.9. Workforce Standards

Although this is not applicable for the Rural HTR Ag Finance Assistance program, SoCalREN will ensure that contractors and potential employers used for the internship portion of the program possess all California regulations related to workforce standards, including continuing training and appropriate industry-level licenses.

B.10. Disadvantaged Worker Plan

According to CPUC D.18-11-008, “Disadvantaged Worker” means “a worker that meets at least one of the following criteria: lives in a household where total income is below 50 percent of Area Median Income; is a recipient of public assistance; lacks a high school diploma or GED; has previous history of incarceration lasting one year or more following a conviction under the criminal justice system; is a custodial single parent; is chronically unemployed; has been aged out or emancipated from the foster care system; has limited English proficiency; or lives in a high unemployment ZIP code that is in the top 25 percent of only the unemployment indicator of the CalEnviroScreen Tool.”³ The Rural HTR Ag Finance Assistance Program will work with CBOs and workforce development partners that have long-standing relationships with these communities to target disadvantaged workers to engage customer into the Ag-PDP that are located within disadvantaged communities.

B.11. Additional Information

This section is not applicable.

³ [CalEnviroScreen 3.0 | OEHHHA](#)

C. Supporting Documents

C.1. Program Manual and Program Rules

Not required at this time.

Table 10. Supportive Materials Index

#	Information Required	Short Description
1	Eligible Measures or measure eligibility	<p><i>A list of eligible measures, or measure eligibility requirements</i></p> <p>Eligible measures pursued by Ag Customers through the program will adhere to the rules set forth by SoCalREN regarding measure eligibility. All savings will be transparent in supporting calculations as submitted to SoCalREN's Rural HTR Ag-DI or Ag-Retrofit programs.</p>
2	Customer Eligibility Requirements	<p><i>Requirements for program participation (for example, annual energy use or peak kW demand)</i></p> <p>The Rural HTR Ag Finance Assistance Program will work with eligible customers and contractors in the Ag sector. This includes Field & Seed Crops, Fruit & Nut Crops, Vegetables & Melons, Livestock & Poultry, Wineries, Floriculture and Dairies Customers served by SCE and/or SoCalGas that pay PPP charges with a specific focus on rural, underserved and disadvantaged communities and their Ag customers.</p>
3	Contractor Eligibility Requirements	<p><i>List of any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements. (For example: specific IOU-required trainings, specific contractor accreditations, and/or specific technician certifications.)</i></p> <p>The Rural HTR Ag Finance Assistance Program will work with Ag-PDP & Ag-Retrofit to ensure all incentive eligibility requirements are addressed and met.</p>
4	Participating Contractors, Manufacturers, Retailers, Distributors	<p><i>Information as to whether:</i></p> <ul style="list-style-type: none"> ● <i>Program or sub-program delivery channel is downstream, midstream, or upstream, and</i> ● <i>Program is an incentive and/or buy-down type program.</i> <p>This is a downstream program offering project development and project implementation services, with post-installation incentives offered through the Ag-Retrofit Program.</p>
5	Additional Services	<p><i>Descriptions of any additional sub-program delivery, measure installation, marketing & outreach, training, and/or other services provided, if not yet described above.</i></p> <p>The Rural HTR Ag Finance Assistance Program will offer education outreach to Ag customers in SCE and SoCalGas territories on the</p>

		financing opportunities. In addition, the Rural HTR Ag Finance Assistance Program will seek State and Federal grants to further enhance the Program's offering.
6	Audits	<p><i>Information as to whether:</i></p> <ul style="list-style-type: none"> ● Pre- and post-audits are required ● Funding or incentive levels have been set for audits, and ● The eligibility requirements for audit incentives. <p>In order to ensure the incentive buy-down of the Rural HTR Ag Finance Assistance offering, pre and post installation audits will be conducted in a manner that aligns with SoCalREN's incentive eligibility requirements by the Ag-Retrofit Program.</p>
7	Sub-Program Quality Assurance Provisions	<p><i>List of quality assurance and quality control requirements, including accreditations and/or certifications or other credentials of individuals or organizations performing this work.</i></p> <p>Quality assurance checks will be implemented throughout the process at various milestones to maintain data accuracy and customer satisfaction.</p>

All EE measures will funnel through existing EE resource programs. The below table describes other tools leveraged to support turnkey project delivery services.

Table 11. Other Tools

#	Tools	Short Description
1	PipeDrive	Customer Relationship Management (CRM), used to track projects and generate customer reports.
2	Compass	Platform used to collect and synthesize energy consumption data and deliver customer energy use analyses
3	ENERGY STAR Portfolio Manager	Online tool used to track energy consumption and greenhouse gas emissions. Allows user to benchmark the performance of one building or a whole portfolio of buildings.
4	GIS	Geographic Information System (GIS) tool allows users to pinpoint exact locations of facilities and tie usage characteristics to those facilities.
5	eziQC	Provides access to competitively awarded contractors through cooperative purchasing networks, expediting project delivery through a simplified procurement process.

C.2. Program Theory and Program Logic Model

Please see Attachment #1.

C.3. Process Flow Chart

Please see Attachment #2.

C.4. Incentive Tables, Workpapers, and Software Tools

Not applicable.

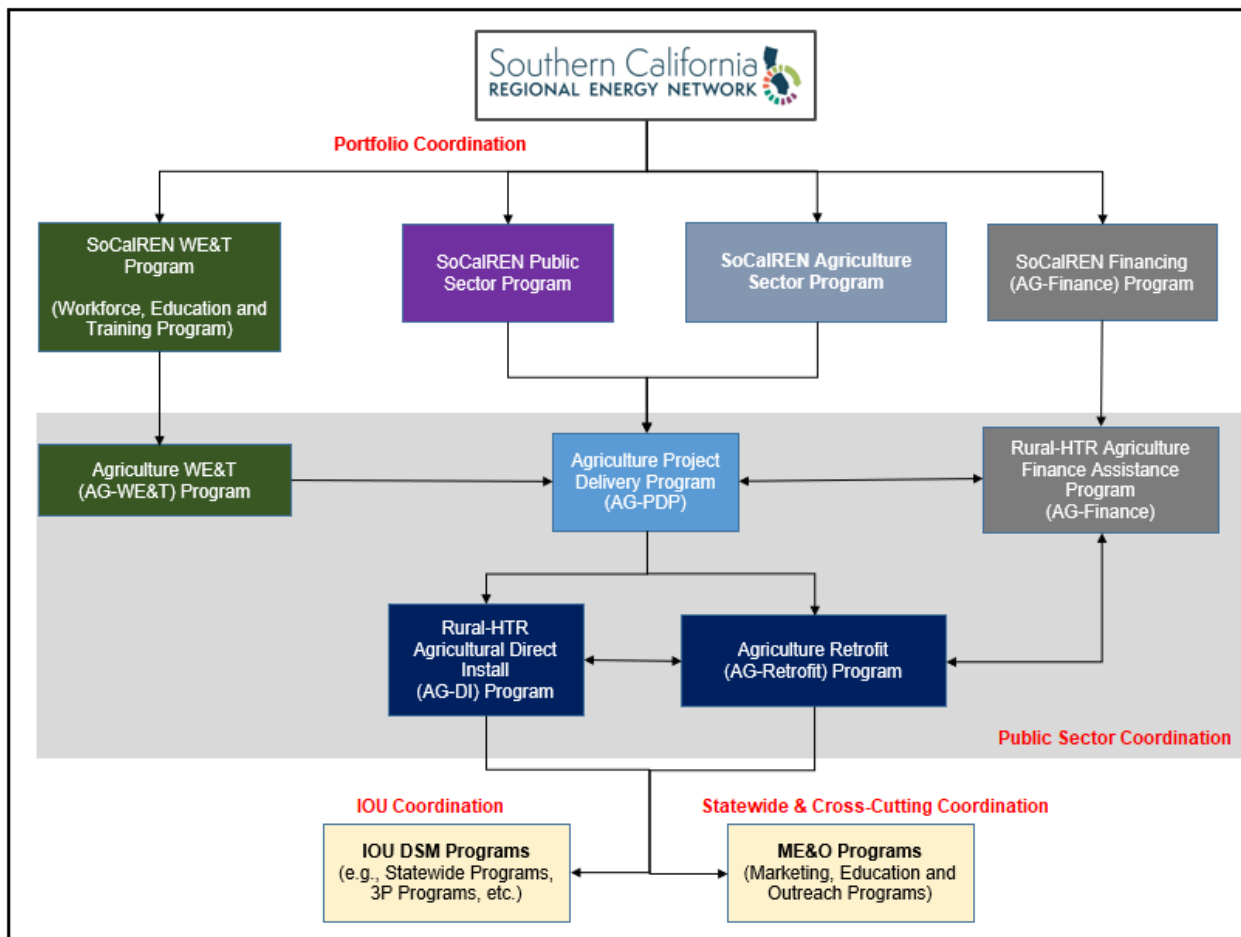
C.5. Quantitative Program Targets

Please see Ag Finance section of the Business Plan.

C.6. Diagram of Program

Below is a diagram of all the Ag-Program components and their interactions.

Figure 1: SoCalREN Ag Program Diagram



C.7. Evaluation, Measurement, and Verification (EM&V)

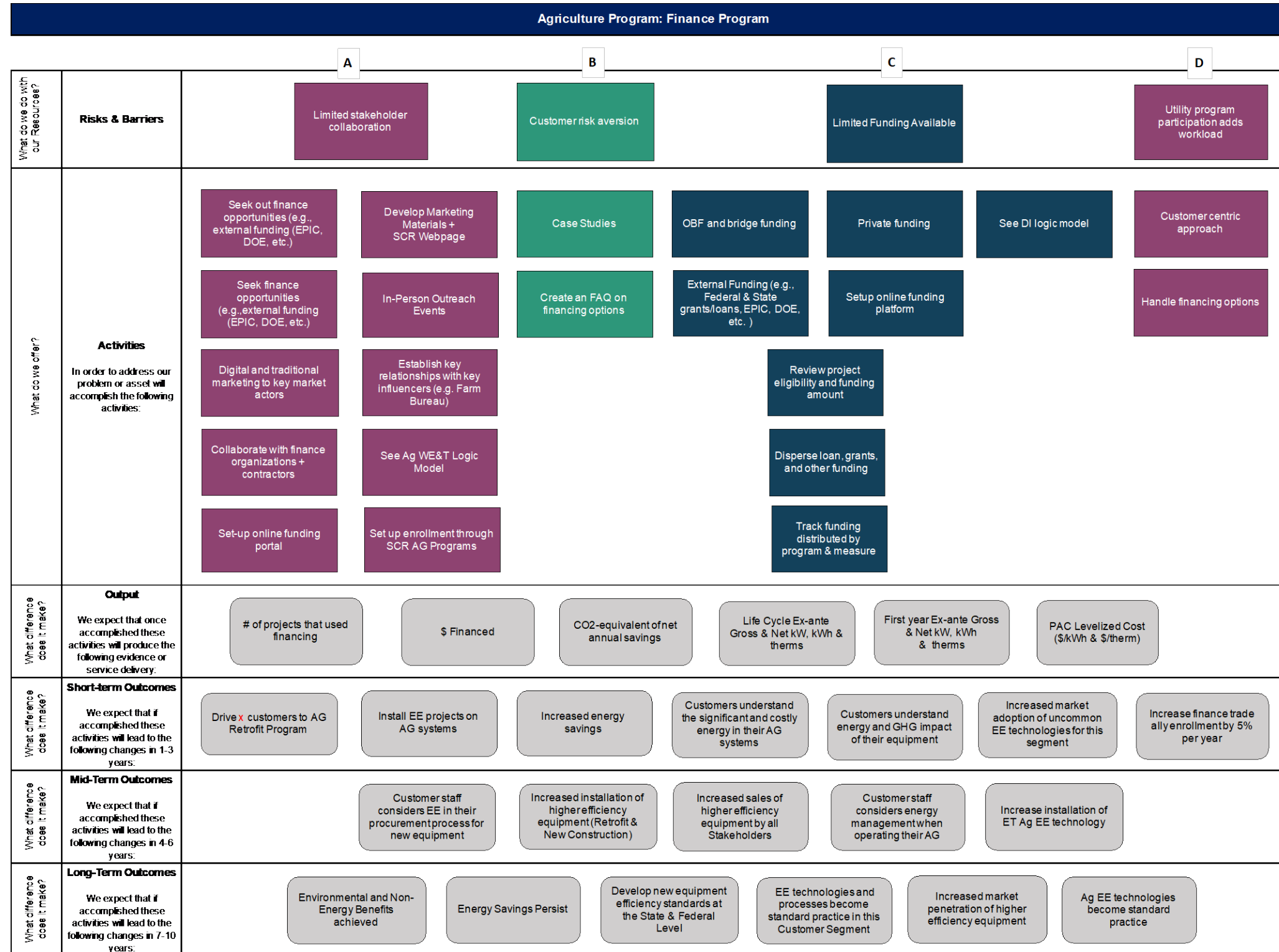
Not applicable.

C.8. Normalized Metered Energy Consumption (NMEC)

Not applicable.

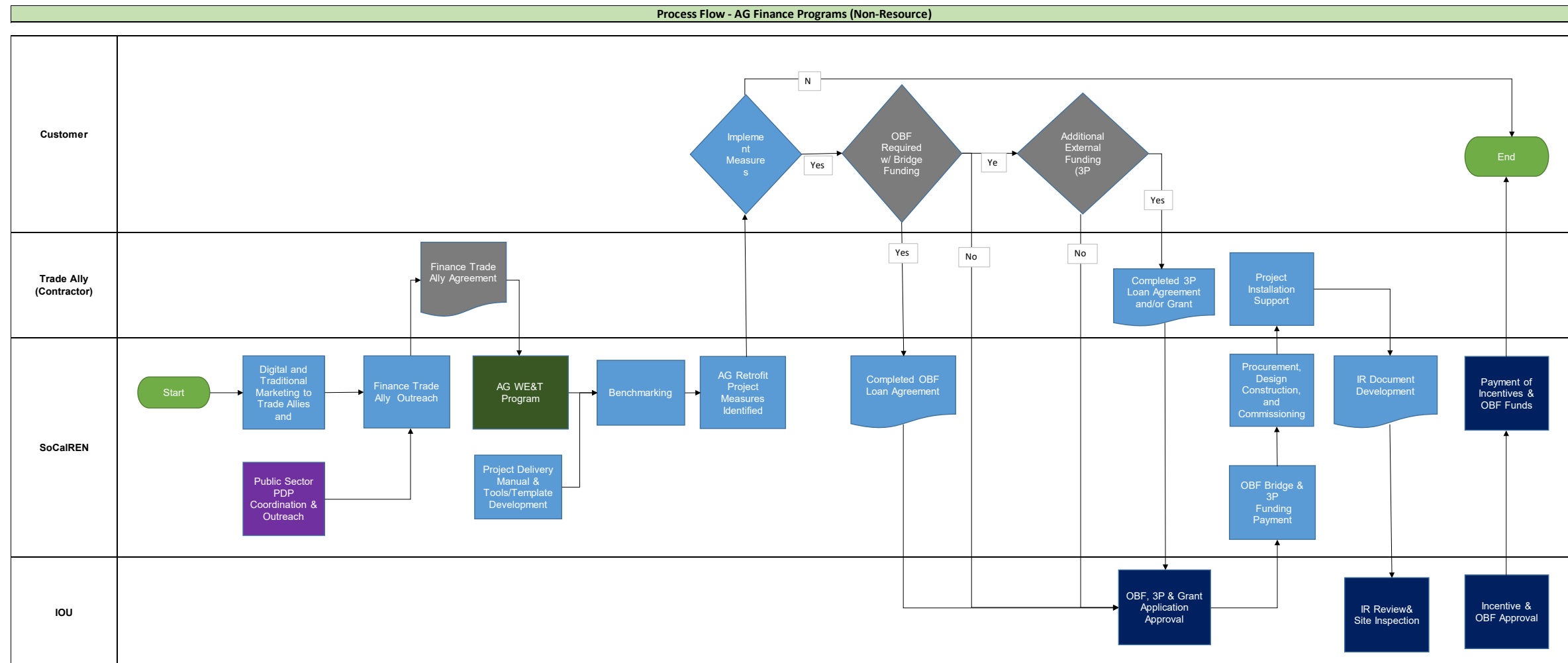
ATTACHMENT 1: RURAL HTR AG FINANCE ASSISTANCE LOGIC MODEL

Figure 2: SoCalREN Rural HTR Ag Finance Assistance Logic Model



ATTACHMENT 2: RURAL HTR AG FINANCE ASSISTANCE PROCESS FLOW

Figure 3: SoCalREN Rural HTR Ag Finance Assistance Process Flow



LEGEND





ENERGY EFFICIENCY PROGRAMS

SoCaIREN Public Sector
Rural Hard-to-Reach Public Agency
Direct Install
Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
October 2021

Contents

Program Overview.....	3
Program Budget and Savings.....	3
Implementation Plan Narrative.....	6
Program Description.....	6
Program Delivery and Customer Services.....	7
Program Design and Best Practices.....	9
Innovation.....	10
Metrics.....	10
To-Code Savings Claims.....	10
Pilots.....	10
Workforce Education and Training.....	10
Workforce Standards.....	11
Disadvantaged Worker Plan.....	11
Additional Information.....	11
Supporting Documents.....	13
Program Manual and Program Rules.....	13
Program Theory and Program Logic Model.....	13
Process Flow Chart.....	13
Incentive Tables, Workpapers, and Software Tools.....	14
Quantitative Program Targets.....	14
Diagram of Program.....	15
Evaluation, Measurement, and Verification (EM&V).....	16
Normalized Metered Energy Consumption (NMEC).....	17

Program Overview

The Southern California Regional Energy Network (SoCalREN) Rural-HTR Public Agency Direct Install (DI) Program is an equity program that fills market gaps by serving smaller, underserved public agency facilities that are unsupported by other energy efficiency programs. The DI Program enables smaller public agencies to achieve no-cost energy and peak demand savings through turnkey services including site inventories, equipment purchasing, installation, recycling, and disposal. The DI Program overcomes numerous market barriers by offering the installation of a range of prescribed energy efficiency measures.

Program Budget and Savings

1. Program and/or Sub-Program Name

SoCalREN Rural Hard-to-Reach Public Agency Direct Install Program

2. Program / Sub-Program ID number

SCR-PUBL-B5

3. Program / Sub-program Budget Table

Table 1: Program Budget Breakdown

Year	2024	2025	2026	2027	Total
Administration	\$103,559	\$81,118	\$113,904	\$189,717	\$488,298
Marketing /Outreach	\$62,136	\$97,342	\$136,685	\$227,661	\$523,823
Direct Implementation	\$397,096	\$498,301	\$892,771	\$1,486,988	\$3,275,156
Incentives	\$472,801	\$945,601	\$1,134,721	\$1,889,977	\$4,443,100
Total	\$1,035,592	\$1,622,362	\$2,278,081	\$3,794,343	\$8,730,377

4. Program / Sub-program Gross Impacts Table

Table 2: Program Gross Impacts Tables

Year	1st Year Gross kWh Savings Claimed	1st Year Gross kW Savings Claimed	1st Year Gross therm savings Claimed
------	------------------------------------	-----------------------------------	--------------------------------------

2024	901,948	79	5,149
2025	1,803,896	157	10,183
2026	2,333,743	207	12,196
2027	3,833,455	437	11,327

5. Program / Sub-Program Cost Effectiveness (TRC)

Table 3: Program Cost-Effectiveness

Year	TRC
2024	0.13
2025	0.16
2026	0.15
2027	0.14

6. Program / Sub-Program Cost Effectiveness (PAC)

Table 4: Program Cost-Effectiveness

Year	PAC
2024	0.13
2025	0.16
2026	0.15
2027	0.14

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Third Party-delivered

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Public Sector

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Non-resource, Equity

Program aligns with the Equity Segment, SoCalREN’s vision for the Public Sector, and the Commission’s ESJ Action Plan.

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Phase	Key Deliverables	Dates
Launch Readiness	Implementation Plan Marketing Plan Program marketing materials Program Management Plan QA/QC Plan	Q1 2024
Program Ramp Up	Program launch to customers Marketing Plan implementation Workpaper development/updates Project pipeline development	Q1 - Q2 2024
Program Steady State	Workpaper development/updates Direct Installations	Q3 2024 - Q2 2031
Program Ramp Down	Program Ramp Down Plan Direct Installations	Q3 - Q4 2031

Market channel: downstream

Intervention strategy: direct install

Implementation Plan Narrative

Program Description

The Rural Hard-to-Reach Public Agency Direct Install (DI) Program addresses public sector market gaps that leave energy savings opportunities out of reach for small underserved customers. Smaller facilities have historically been excluded from energy programs due to low energy savings opportunities and strict cost-effectiveness criteria from program administrators. SoCalREN's DI Program unlocks stranded energy savings for public sector customers whose projects would otherwise be left behind in the transition to a clean, safe, secure, and affordable energy future.

Additionally, the DI Program is designed to help small, underserved agencies overcome barriers to energy projects. Public agencies are often short-staffed and do not have the resources or time to develop energy projects, particularly for small facilities with limited energy use and, therefore, limited energy savings opportunities. Agency budgeting and procurement cycles are often inflexible and do not align well with the complex applications and long approval timelines of traditional custom incentive programs. Additionally, agency council or board approval requires staff time and can delay projects. The DI Program is designed to address these barriers by providing streamlined, no-cost implementation of energy efficiency measures.

SoCalREN's DI Program offers hassle-free support to drive the implementation of energy and peak demand-saving energy efficiency projects in small public agency facilities that will yield energy and peak demand savings through a hassle-free and turnkey solution. Public agency facilities with less than 20kW of peak demand usage will be eligible to participate in the program and will receive no-cost energy efficiency measure installations at qualifying sites. Participants will also receive hands-on project management support to facilitate the full project process from project identification through installation and realization of energy savings.

Consistent with the ESJ Action Plan, and the overall goals of the Equity Segment, the DI Program's planned objectives directly supports the following ESJ Action Plan 2.0 goals:

Objectives	ESJ Action Plan Goal	SoCalREN Core Value
Objective #1: Increase SoCalREN participation by smaller public agency facilities.	Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Expand access to EE benefits
Objective #2: Deliver streamlined, turnkey energy efficiency projects for small public facilities.	Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Deliver energy and climate impacts
Objective #3: Increase regional reach and delivery of services across SoCalREN territory, including in disadvantaged, rural, and hard to reach communities.	Goal 4: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Expand access to EE benefits

<p>Objective #4: Ensure public agencies receive education about energy efficiency so they can better understand the benefits and pursue further energy savings.</p>	<p>Goal 5: Enhance outreach and public participation opportunities for ESJ communities to meaningfully participate in the CPUC's decision-making process and benefit from CPUC programs.</p>	<p>Build energy capacity and economic resilience</p>
--	---	--

Eligible measures include:

- Lighting
- HVAC
- HVAC controls
- Window film

Program Delivery and Customer Services

Target Market and Population Served

SoCalREN's DI Program will target enrolled and unenrolled public agencies within SoCalREN's service territory, though enrollment in SoCalREN is a prerequisite for participation in DI. There are over 700 agencies in the SoCalREN territory that are eligible to enroll and participate.

Public agencies eligible for program services include:

- Cities
- Counties
- Tribes
- School districts
- Water districts
- Sanitation districts
- Other special districts.

Program Delivery Strategies

Public agencies participating in DI will benefit from a comprehensive approach to technical assistance and project management through SoCalREN's non-resource Project Delivery Program and Pathway to Zero Program. The DI Program will provide equipment purchasing, installation, clean-up, and disposal—a complete turnkey solution. The program will provide information about the energy efficiency benefits the customer will receive and about proper operation and maintenance to ensure sustained performance.

The program success will depend on the competence of the contractors doing the work, so the program will need a robust process to screen and approve contractors. Contractors will be selected using a competitive bid process to ensure cost-effective and high-quality service. After completing the installation, the program will perform an on-site post-verification to ensure all retrofit work is completed in compliance with applicable statutes, acts, ordinances, regulations, codes, and standards of the federal, state, and local governmental agencies with regulatory jurisdiction.

This program will coordinate with other IOU programs to minimize gaps/overlap of customers and measures.

Figure 1 below depicts the complementary and turnkey services offered by the SoCalREN DI Program.

Figure 1: DI Program Process



Marketing and Outreach: SoCalREN’s non-resource Project Delivery and Pathway to Zero Programs and the DI Program will support marketing and outreach efforts to enrolled and unenrolled agencies in the SoCalREN territory. Marketing and outreach educates agencies on the value of SoCalREN services and helps them understand the technical resources available to support project implementation.

Enrollment: The DI Program will leverage SoCalREN’s Project Delivery and Pathway to Zero Programs for outreach to eligible public agencies with small facilities. The Pathway to Zero Program will also leverage its existing network to enroll agencies with facilities in hard-to-reach and disadvantaged communities.

Project Identification: The implementer will identify potential candidates for DI participation by completing a project identification checklist to confirm site eligibility and energy efficiency measure applicability.

Equipment Inventory: Once the site is deemed eligible for DI participation, a contractor will go on site to collect an equipment inventory and draft a project application. The implementer will review and approve the application and draft a customer agreement for the customer.

Customer Project Approval: The program will help the agency obtain internal buy-in on the project. The agency will sign the Customer Agreement form to approve the timeline and implementation of the measures identified for installation.

Measure Installation: The contractor will install the energy efficiency measures at the site, following the agreed upon timeline. After installation, the implementer will complete a post-installation verification to confirm adherence to program guidelines and claimable energy savings. Upon verification, the contractor will be reimbursed for the costs of the project.

Handoff and Customer Education: After the project is installed, customers will receive educational information on the energy savings, cost savings, and non-energy benefits delivered by the program. The program will provide the public agency with additional information about other savings and program opportunities they may benefit from.

Program Design and Best Practices

The Direct Install Program approach has been successful in other sectors, but the program design for small public agency facilities will need to overcome unique barriers, particularly for smaller agencies and sites with limited energy usage and potential for energy savings.

Market Barriers

Table 5: Small Public Agency Market Barriers

Public Agency Barriers	Small DI Program Intervention Strategies
Limited staff bandwidth and resources to devote to energy efficiency	DI will provide a dedicated project manager to work with the agency from project start to finish. The project manager facilitates various program services to reduce staff time investment.
Lack of technical expertise	DI offers technical expertise and knowledge for public agencies through the project manager and vetted contractors. The contractors will complete site visits and collect equipment inventories and recommend energy efficiency measures.
Funding and financing constraints	Offering DI Program services and measure installations at no-cost helps public agencies overcome funding and financing constraints. Agencies can avoid lengthy budget approval processes and procedures by taking advantage of the turnkey delivery process.
Confusing and disjointed program offerings	A single point of contact, the SoCalREN Project Manager brings all available energy efficiency program resources to public agencies to help them navigate program opportunities.
Procurement challenges	DI will overcome procurement challenges by helping agencies circumvent the typically arduous public procurement processes.
Limited access to actionable data for informed decision making	The project manager and DI contractor coordinate to deliver comprehensive details on energy efficiency savings opportunities to facilitate agency decision making.
Risk aversion	Public agencies are often risk averse, so a “free” program might raise concerns about hidden costs. SoCalREN’s project manager and selected contractors act as trusted and unbiased resources to help agencies feel confident and comfortable with the energy solutions proposed.
Limited resources and knowledge of distributed energy resource (DER) opportunities	The DI Program will provide resources and highlight opportunities for potential DER actions after project closeout to encourage the agency to go beyond energy efficiency on a path to a clean energy future.

Best Practices

The DI Program leverages best practices and lessons learned from SoCalREN’s experience working with public agencies since 2013. Public agencies are seeking a truly turnkey solution,

which, to date, has not been feasible through existing programs; agencies have historically been responsible for full project costs (less available incentives) and it takes a significant amount of time to move through procurement and access funding. Through no-cost measure installations, public agencies can overcome the multitude of barriers listed in Table 5. Moreover, agencies appreciate start-to-finish project management support that guides them through the lifecycle of a program. The DI Program helps agencies address and overcome the challenges they face when it comes to installing energy efficiency projects.

Innovation

SoCalREN is proposing an innovative program design that drives energy savings in the public sector and addresses multiple barriers, including the long procurement cycles in public agencies, to deliver immediate energy savings. The new equipment that will be installed will be demand response capable, whenever it is appropriate and available. The program will educate agencies at project closeout about demand response (DR) program opportunities to save them additional money on their utility bills and help address California’s grid reliability issues. This strategy will enable higher DR participation not only for the facilities participating in the DI Program but also for other facilities once agencies can see the benefits of DR participation for their facilities and community.

Metrics

Table 6: Program Metrics

Metric	Method	Frequency
1st Year Gross kWh Savings Channeled	DEER Deemed Savings	Quarterly
1st Year Gross kW Savings Channeled	DEER Deemed Savings	Quarterly
1st Year Gross therm Savings Channeled	DEER Deemed Savings	Quarterly

To-Code Savings Claims

This section is not applicable.

Pilots

This section is not applicable.

Workforce Education and Training

The program will screen, approve, and train local contractors. The training will cover energy efficiency, demand response, and California Public Utilities Commission (CPUC) guidelines on eligible measures.

Specific workforce development efforts supporting Direct Install will include training on:

- Audits: training will promote a consistent approach and format to facility audits and equipment inventories;

- Soft skills and business training (including customer service, sales, and marketing);
- Program-specific training: training will promote increased familiarity with the program's eligibility requirements, application, processes, etc.;
- Green buildings techniques;
- Codes and standards, and;
- Building end-use technologies such as HVAC and lighting.

SoCalREN will coordinate with the Workforce, Education, and Training sector to build capacity and expertise in the energy efficiency industry.

Contractor recruitment efforts will be conducted primarily through:

- Coordination with SoCalREN's Workforce, Education, and Training programs and graduates from their programs;
- Direct outreach through industry organizations with locally active memberships (e.g. IHACI, U.S.G.B.C., IFMA, AIA, BOMA, etc.);
- Workforce development departments (to target unemployed general contractors), and;
- Community-based organizations with a proven track record of effective outreach to the hard-to-reach workforce.

Workforce Standards

The DI Program will conduct due diligence to ensure energy efficiency projects supported by the program adhere to the workforce standards for heating, ventilation, and air conditioning (HVAC) and advanced lighting controls. The program will integrate compliance checks during the project lifecycle to ensure projects comply with CPUC workforce standards as stipulated in D.18-10-008. Workforce standards will be applied for the following measures:

- a. HVAC measures
 - Contractors installing measures with an incentive of \$3,000 or more are required to be installed by workers or technicians who meet one of the following criteria:
 - i. Enrolled in and/or completed an accredited HVAC internship
 - ii. Completed more than five years of work experience at the Journey level per California Department of Industrial Relations definition, passed competency tests, and received specific credentialed training
 - iii. Has a C-20 HVAC contractor license issued by the California Contractors State License Board (CSLB)
- b. Advanced lighting controls measures
 - Lighting control measures with an incentive of \$2,000 will need to be installed by technicians who have completed the California Advanced Lighting Controls Training Program (CALCTP).

Disadvantaged Worker Plan

The Program will coordinate with SoCalREN's Workforce, Education, and Training programs to present information on career opportunities for disadvantaged workers in the energy efficiency industry. DI will also seek and prioritize disadvantaged workers to support projects.

Additional Information

This section is not applicable.

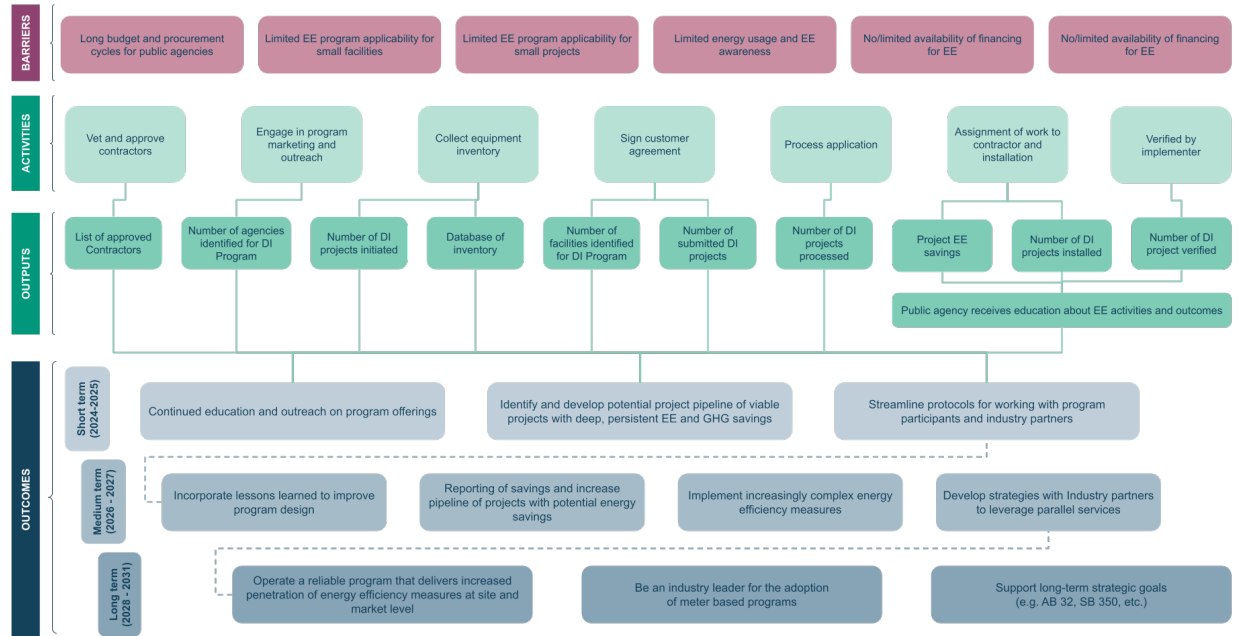
Supporting Documents

Program Manual and Program Rules

Program manual and program rules will be provided upon approval of the program.

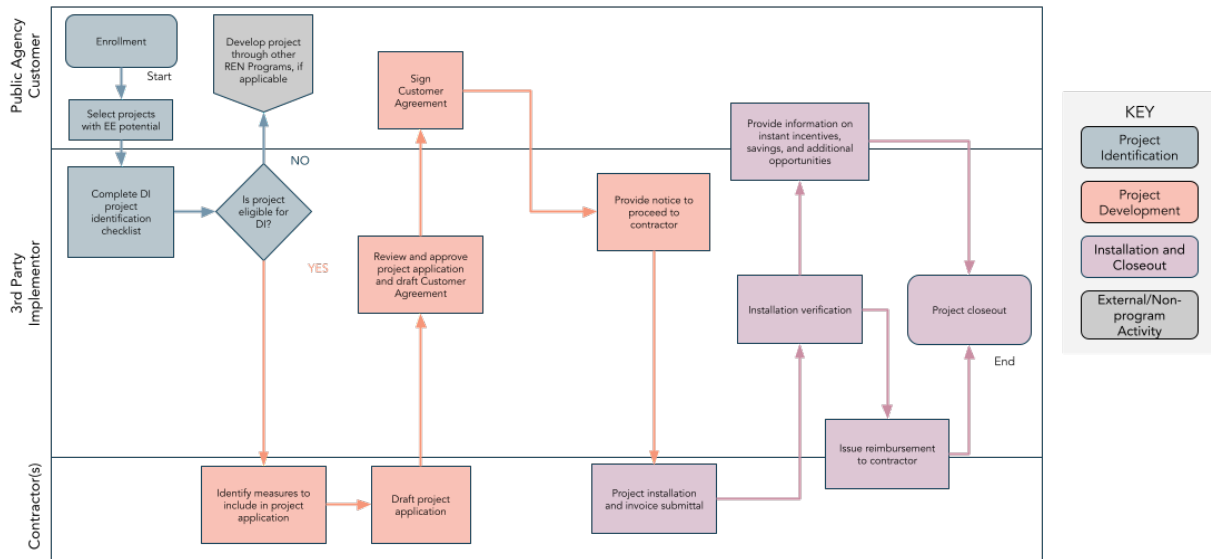
Program Theory and Program Logic Model

Figure 2: Program Theory and Program Logic Model



Process Flow Chart

Figure 3: Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

The table below provides the cost of retrofit as the incentive since this is a DI Program.

Table 7: Target Measures and Relevant Workpapers

Target End Use	Target Measures	Relevant Workpapers
HVAC	<ul style="list-style-type: none"> Demand Control Ventilation for Single Zone HVAC VSD for HVAC Fan Controls HVAC equipment replacement HVAC tune up 	<ul style="list-style-type: none"> SWHC006-01 SWHC018-02 SWHC013-02 SWSV002-01 SWSV003-01 SWSV005-01 SWSV010-01 SWSV004-01
Lighting	<ul style="list-style-type: none"> LED, High or Low Bay LED Ambient Fixtures and Retrofit Kits LED, Tube 	<ul style="list-style-type: none"> SWLG011-03 SWLG012-01 SWLG009-02
Misc	<ul style="list-style-type: none"> Window Film 	<ul style="list-style-type: none"> SCE13HC002

Quantitative Program Targets

Table 8: Energy Savings Targets

Year	1st Year Gross kWh Savings Claimed	1st Year Gross kW Savings Claimed	1st Year Gross them savings Claimed
2024	901,948	79	5,149

2025	1,803,896	157	10,183
2026	2,333,743	207	12,196
2027	3,833,455	437	11,327

Table 9: Non-Energy Savings Targets

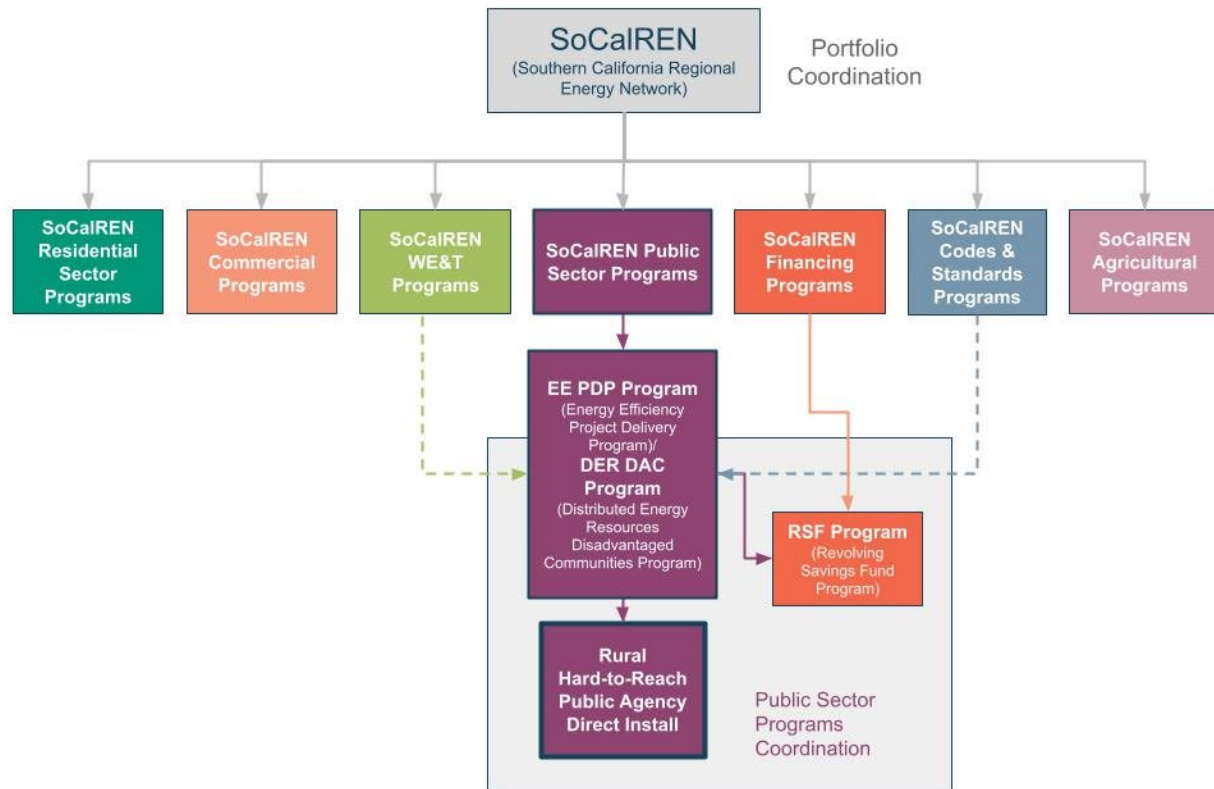
Metric	2024-2027 Target
Number of agencies engaged	50
Number of projects installed	410

Table 10: Program Indicators

Indicator	Method	Frequency
Agency Engagements	Number of agency introductions to Program services	Quarterly
Applications submitted and reviewed	Number of applications submitted and reviewed	Quarterly
Applications approved	Number of applications approved	Quarterly
Customer agreements signed	Number of customer agreements approved	Quarterly
GHG Reductions	Total GHG emissions avoided based on energy savings achieved	Quarterly
Projects Installed	Number of projects installed	Quarterly

Diagram of Program

Figure 3. Program Diagram



Evaluation, Measurement, and Verification (EM&V)

Program level evaluation, measurement, and verification (EM&V) activities will be conducted throughout the program cycle to inform program improvements and future program design. The DI Program will take the following steps to ensure services and data are tracked and quality controlled so that data can be readily accessed for EM&V studies:

1. **Data Management in Secure SoCalREN Customer Relationship Management (CRM) Platform:** agency and project data and milestones are tracked in a centralized cloud-based platform. This centralized data hub allows for the development of detailed reports and dashboards to track progress towards program goals and key performance indicators.
2. **Deliverable Quality Control Checks:** all project deliverables and project application/customer agreement materials are put through rigorous internal quality control checks prior to being delivered to clients or the CPUC.
3. **Quarterly Review of Progress Toward Key Performance Indicators:** using the data stored in the SoCalREN CRM platform, the program will evaluate progress toward key performance indicators (KPIs) and identify areas for improvement at least quarterly.
4. **Project Closeout Surveys and Customer Feedback Solicitation:** customer feedback is collected via a survey upon completion of every project. The survey solicits feedback on the services utilized, the standard of customer service, and recommendations for program improvements. Further, the SoCalREN Public Agency Programs deliver annual

customer surveys to collect portfolio level feedback. This allows for iterative program enhancements to the suite of SoCalREN Public Agency Programs, including the Small DI Program.

Normalized Metered Energy Consumption (NMEC)

This section is not applicable.



ENERGY EFFICIENCY PROGRAMS

SoCaIREN Public Sector Underserved Schools Strategic Energy Management Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
January 2022

Contents

- Program Overview..... 3
- Program Budget and Savings..... 3
- Implementation Plan Narrative..... 5
 - Program Description 5
 - Program Delivery and Customer Services 10
 - Program Design and Best Practices 13
 - Innovation 14
 - Metrics 15
 - To-Code Savings Claims 15
 - Pilots 15
 - Workforce Education and Training 15
 - Workforce Standards 16
 - Disadvantaged Worker Plan 16
 - Additional Information 16
- Supporting Documents..... 17
 - Program Manual and Program Rules 17
 - Program Theory and Program Logic Model 17
 - Process Flow Chart 17
 - Incentive Tables, Workpapers, and Software Tools 18
 - Quantitative Program Targets 19
 - Diagram of Program 21
 - Evaluation, Measurement, and Verification (EM&V) 21
 - Normalized Metered Energy Consumption (NMEC) 22

Program Overview

The Southern California Regional Energy Network's (SoCalREN) mission is to bring together a wide variety of services with one common goal: achieving unprecedented levels of energy savings throughout Southern California. SoCalREN's Public Sector Programs empower public agencies to lead their communities towards a safe, secure, resilient, affordable, and sustainable clean energy future. SoCalREN offers comprehensive services to public agencies to identify energy efficiency projects that yield electricity and gas savings, overcome common barriers to implementation, and deliver energy efficiency projects. In advancement of the Commission's Environmental and Social Justice (ESJ) Action Plan, and consistent with the purpose of the Equity Segment, a key initiative for this sector is to serve communities most in need of energy services to ensure equitable access to resources and expertise.

Following the success of the SoCalREN Public Sector Programs' model of comprehensive support, the Underserved Schools SSEM program will engage building occupants and staff on systematic energy management best practices and develop climate and energy leadership across staff, administrators, and educators. The proposed Underserved Schools Strategic Energy Management (USSEM) program is designed to help local educational agencies develop, implement, and maintain comprehensive energy load management strategies. The program will target approximately 120 underserved schools and/or community colleges between 2024-2031 and will offer comprehensive services and technical support to help districts overcome limited staff resources. By utilizing an SEM approach, the program will support peak demand reduction strategies and deep energy efficiency retrofits through a minimum of 3 year engagements with schools. The program will help underserved schools and community colleges set goals and take actions to reduce peak period charges. Actions may include identifying opportunities to install more efficient equipment, implementing smart building control systems, educating building occupants (such as students and educators) on behavioral energy conservation practices, and shifting load using DER technologies and strategies. The program savings will be determined using the normalized metered energy consumption (NMEC) methodology.

Program Budget and Savings

1. Program and/or Sub-Program Name
SoCalREN Underserved Schools Strategic Energy Management Program
2. Program / Sub-Program ID number
SCR-PUBL-B9

3. Program / Sub-program Budget Table

Table 1. USSEM Program Budget Table

Budget Category	2024	2025	2026	2027
Administration	\$79,150	\$140,801	\$193,828	\$193,828
Marketing	\$47,490	\$84,481	\$116,297	\$116,297
Direct Implementation	\$519,284	\$988,622	\$1,385,518	\$1,361,257
Incentives	\$145,580	\$194,107	\$242,633	\$266,896
Total	\$791,504	\$1,408,011	\$1,938,275	\$1,938,278

4. Program / Sub-program Gross Impacts Table

Table 2. Gross Savings Impact Assumptions

Program Year	Anticipated Gross kWh Savings	Anticipated Gross kW Savings
2024	818,474	219
2025	1,091,300	292
2026	3,001,072	802
2027	3,001,071	801

5. Program / Sub-Program Cost Effectiveness (TRC)

Table 3. Program Effectiveness

Year	TRC	PAC
2024	0.12	0.15
2025	0.10	0.11
2026	0.18	0.24
2027	0.19	0.25

6. Program / Sub-Program Cost Effectiveness (PAC) N/A

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Third party-delivered

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)
Public Sector
9. Program / Sub-program Type (i.e., Non-resource, Resource)
Equity
10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market Channel: Downstream

Intervention Strategies: technical assistance, and potentially incentive, finance, audit

Implementation Plan Narrative

Program Description

Schools have the interest and motivation to pursue energy projects but often lack the knowledge and capacity to turn energy savings opportunities into action. To meet schools' need for knowledge and capacity, SoCalREN offers start-to-finish energy efficiency services through its Project Delivery Program (PDP) and Public Agency Distributed Energy Resources Disadvantaged Communities (DER DAC) Project Delivery Programs. However, due to the limited resources available through existing programs, SoCalREN is not able to offer long-term energy management guidance or targeted training and behavioral capacity building strategies that would lead to persistent energy savings and grid peak demand reductions. In advancement of the Commission's Environmental and Social Justice (ESJ) Action Plan, and consistent with the purpose of the Equity Segment, this sector will serve communities most in need of energy services to ensure equitable access to resources and expertise. The proposed SoCalREN Underserved Schools Strategic Energy Management (USSEM) program will help underserved K-12 schools and community colleges serving underserved communities¹ set goals and develop, implement, and maintain comprehensive energy load management programs to reduce peak period charges. This will be accomplished by installing more efficient equipment, implementing smart building control systems, educating building occupants on behavioral energy conservation practices, and pursuing load shifting DER technologies and strategies.

The program will use a strategic energy management approach² to support:

- The development of long-term energy goals and their integration into staff decision-making processes;
- Completion of campus-wide deep energy efficiency retrofits;
- Energy conservation behavioral campaigns; and
- Peak demand reduction strategies through a multi-year engagement with eligible school districts.

¹ Encompasses Public Agencies serving zip codes defined as disadvantaged, rural, and low-income. Title 1 schools are also considered underserved.

² "Data-Driven, Strategic Energy Management - Energy.gov." <https://www.energy.gov/eere/slsc/data-driven-strategic-energy-management>. Accessed 5 Jan. 2021.

The USSEM Program complements and expands the reach of the existing SoCalREN Public Agency programs to:

1. Set long term goals for reducing greenhouse gas (GHG) emissions, energy usage, and operating costs relative to a pre-enrollment baseline, and achieve measurable progress towards those goals during program performance period(s);
2. Ensure energy goals are integrated systematically into business practices and agency decision making processes;
3. Integrate sustainable energy concepts and strategies into academic curricula and extracurricular activities;
4. Minimize peak demand charges for afterschool programs and activities;
5. Develop energy leaders among administrators, facility staff, faculty members, and students; and
6. Ensure that schools operating in underserved communities are given an equal opportunity to participate in the pursuit of California's energy efficiency and GHG reduction goals.

Various state initiatives, such as the California Clean Energy Jobs Act (Proposition 39) and Assembly Bill 841 (California Schools Healthy Air, Plumbing, and Efficiency Program, "CalSHAPE"), have carved out one-off funding for energy efficiency efforts in schools. But, these programs only skim the surface when it comes to sustaining long-term energy and emissions reductions because project identification, development, and procurement are daunting barriers for school districts with limited staff resources to support such undertakings^{3,4}. The recently launched California Energy Commission's CalSHAPE Ventilation program offers funding for HVAC assessments, adjustments to ventilation rates, filter replacements, and CO₂ monitoring. While these activities are critical to improving indoor air quality and the health of building occupants, they do not produce measurable energy savings and, in many cases, may actually increase energy use. The ventilation grant's HVAC assessments identify capital improvement measures without a mechanism for funding them. So, schools are often unable to implement the identified energy measures that would provide measurable load reductions and improve grid stability.

The USSEM Program helps underserved school districts and community colleges overcome barriers and funding constraints. It will create and maintain a culture of sustainable energy awareness and habits that will persist far beyond the intervention of the program. SoCalREN's existing Public Agency Programs conduct building energy benchmarking, complete energy audits, prepare detailed financial analyses, and support project procurement, among other services. However, to help schools sustain long-term energy and emissions reductions, programs must move beyond capital or retrocommissioning measures alone by engaging building occupants of all kinds (administration staff, faculty, and district facility management personnel) in systemic energy management best practices. By developing climate and energy leadership across facility staff, administrators, educators, and students, schools can create and maintain a culture of sustainable energy awareness and habits that will persist far beyond the intervention of the program.

The program concept is founded on the principles of strategic energy management (SEM) programs as authorized in D.16-08-019 and as defined by the California Industrial SEM Design

³ "California Clean Energy Jobs Act K-12 Program - Prop 39" <https://www.energy.ca.gov/programs-and-topics/programs/california-clean-energy-jobs-act-proposition-39-k-12-program>. Accessed 3 Jan. 2021.

⁴ "Bill Text - AB-841 Energy: transportation electrification: energy" https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB841. Accessed 3 Jan. 2021.

Guide^{5,6}. As of January 2021, the only ratepayer-funded SEM programs active in California are implemented in the industrial sector, but industrial customers are not the only non-residential market for which the strategic energy management approach is a strong fit. SEM programs are quickly expanding across the nation and over 30 programs are already supporting municipal governments, colleges, universities, and healthcare facilities, though none of these are available to public agencies in SoCalREN service territory.⁷ In the 2019 Energy Efficiency Potential & Goals Study,⁸ the study authors stated that customers that benefit the most from SEM typically fall under one of the following categories:

- Campuses with multiple buildings and building types;
- Customers with a large portfolio of buildings and a range of building types; and
- Buildings with complex energy systems.

Many school campuses fit into some or all of these categories, and the study further defines the market for SEM as:

- Schools;
- Colleges; and
- Healthcare.

Consistent with the ESJ Action Plan, and the overall goals of the Equity Segment, the USSEM program directly supports the following ESJ Action Plan 2.0 goals and SoCalREN core values as noted in Table 4 below.

Table 4. USSEM Program Goals

Program Goals	ESJ Action Plan Goal	SoCalREN Core Value
USSEM will dedicate resources to underserved communities to drive EE actions that will reduce emissions and improve air quality.	Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Equity
USSEM will reduce energy usage and related emissions while supporting underserved communities' energy resilience and the grid's transition to clean and renewable resources.	Goal 4: Increase climate resiliency in ESJ communities.	Economic resilience, climate action leadership
USSEM will provide outreach and training to K-12 schools and community colleges in underserved communities to increase their knowledge of and participation in energy efficiency (EE) programs and actions.	Goal 5: Enhance outreach and public participation opportunities for ESJ communities to meaningfully participate in the CPUC's decision-making process and to benefit from CPUC programs.	Building capacity & energy competency, equity

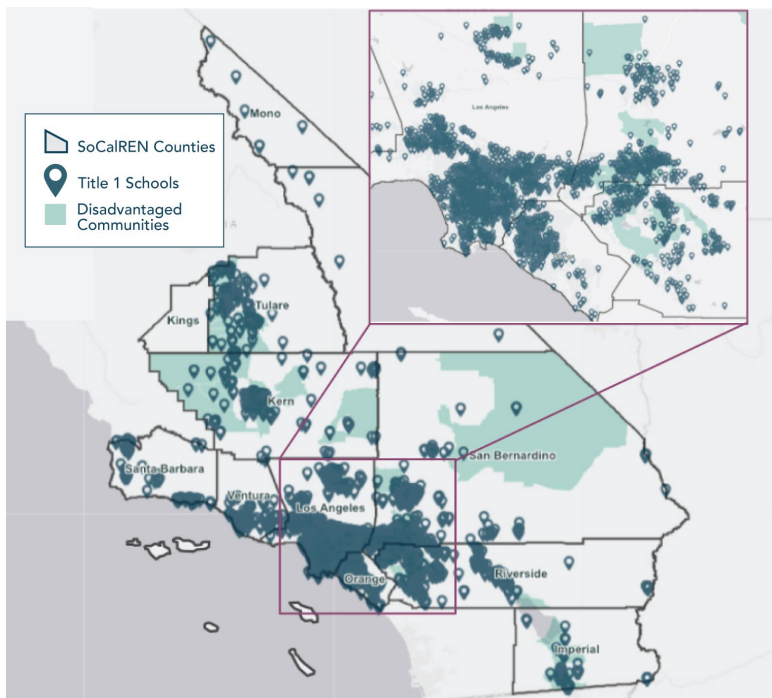
⁵ "Rolling Portfolio Program Guidance." 1 May. 2018, <https://www.cpuc.ca.gov/general.aspx?id=6442456320>. Accessed 3 Jan. 2021.

⁶ "(SEM) Evaluation - california energy efficiency energy contracts." 2 Jul. 2019, https://pda.energydataweb.com/api/view/2277/Workplan%20for%202018%20SEM%20Evaluation_2019-07-02.pdf. Accessed 3 Jan. 2021.

⁷ ACEEE blog: Strategic Energy Management Programs Expand, Serving New Customers. <https://www.aceee.org/blog-post/2021/02/strategic-energy-management-programs-expand-serving-new-customers>. Accessed 3 March, 2021.

⁸ "2019 Potential & Goals Studies." <https://www.cpuc.ca.gov/General.aspx?id=6442461220>. Accessed 3 Jan. 2021.

Figure 1: Map of Title 1 schools and DACs, representing significant market potential to support underserved schools.⁹



For many schools, energy costs are the second highest operating expense after labor and salaries¹⁰. In California, schools spend over \$700 million per year on energy costs, and school energy consumption constitutes 5% of all commercial energy usage in the state¹¹. Time-of-use (TOU) rates are mandatory for commercial customers, and with the shifting of the peak demand period hours starting in 2019, schools are facing new challenges in managing energy usage and costs, particularly for after-school activities that require facility operation during the peak demand period^{12, 13}. In underserved communities, after-school programs are an important resource for students and their families. One in five students are left unsupervised after-school hours, and 8 out of 10 parents consider after-school programs essential to maintain employment.

At least 40% of students who participate in after-school programs see their math and reading skills improve.¹⁴ These programs also have a positive effect on student engagement and attendance; research indicates that attending after-school programs leads to improvement in class participation, better adjustment as young people move to the next phase of schooling,

⁹ Map does not include community colleges.

¹⁰ "Myths About Energy in Schools. EnergySmart Schools - NREL." <https://www.nrel.gov/docs/fy02osti/31607.pdf>. Accessed 3 Jan. 2021.

¹¹ "California Commercial End-Use Survey." <https://www.energy.ca.gov/data-reports/surveys/california-commercial-end-use-survey>. Accessed 3 Jan. 2021.

¹² "What are TOU rates? - the California Public Utilities Commission." <https://www.cpuc.ca.gov/general.aspx?id=12194>. Accessed 31 Jan. 2021.

¹³ "Business Time-Of-Use Rate Plans | Rates | Your Business ... - SCE." <http://www.sce.com/business/rates/time-of-use>. Accessed 31 Jan. 2021.

¹⁴ "Fact Sheets - Afterschool Alliance." <http://www.afterschoolalliance.org/researchFactSheets.cfm>. Accessed 3 Jan. 2021.

increased school day attendance and participation, and reduced school dropout rates¹⁵. Attendance rates are critically important for school districts due to the connection between funding and average daily attendance rates¹⁶. By moving to time-of-use rates, energy costs associated with after hours activities have increased and may threaten the economic viability of many crucial extracurricular student support programs. The USSEM program will help schools reduce peak period charges by identifying opportunities to install more efficient equipment, implement smart building control systems, educate building occupants on behavioral energy conservation practices, and shift load using DER technologies and strategies.

Using a proven SEM approach,¹⁷ the program will partner with schools to realize immediate savings while supporting long-term energy goal development and the integration of energy management into standard facility operations and staff decision-making processes. The program builds on trusted relationships and short-term successes from behavioral, retrocommissioning, and operational measures, then graduates to completing campus-wide deep energy efficiency retrofits, energy conservation behavioral campaigns, and peak demand reduction strategies.

The program will be delivered in three, iterative phases to create a culture of energy awareness and lasting energy management strategies. After completing three years in the program, the agency has the opportunity to continue using the program's resources and participating in workshops for continuing education and professional development opportunities for their team.

Phase 1

Phase 1 will be focused on outreach, engagement, and participation agreements with a cohort of schools and community colleges. Participating school "energy champions", or lead point of contact with SoCalREN, will build buy-in with management during the engagement phase to support the program's success. The initial phase will focus on low-cost quick wins through behavioral, retrocommissioning, and operational (BRO) energy savings. During this phase, SoCalREN will work with agency staff to develop an energy load management plan to set goals and drive the program's success.

Participants will join two to three training workshops during Phase 1 to identify, prioritize, and implement district-wide energy savings actions. Workshops will focus on establishing goals and finding immediate opportunities to save energy. Participants will develop a Strategic Energy Management Roadmap to integrate energy into existing management practices and to continuously improve long-term energy performance. Activities will include an "Energy Treasure Hunt" to identify behavioral, retrocommissioning, and operational (BRO) opportunities with no-to-low implementation costs and other "quick win" strategies to reduce peak energy demand and energy consumption across facilities. Concurrently, engineering consultants will walk through facilities with the energy champions to develop audit calculations and recommend strategies for comprehensive energy waste reductions.

Phase 2

Phase 2 supports longer-term energy efficiency and demand response strategies and capital-intensive retrofit projects for each cohort. The program will also help implement opportunities identified through AB 841/CalSHAPE grant-funded HVAC assessments.

¹⁵ "Benefits for Youth, Families, & Communities | Youth.gov." <https://youth.gov/youth-topics/afterschool-programs/benefits-youth-families-and-communities>. Accessed 3 Jan. 2021.

¹⁶ "Financing California's Public Schools" <https://www.ppic.org/publication/financing-californias-public-schools/>. Accessed 3 Jan. 2021.

¹⁷ "Data-Driven, Strategic Energy Management - Energy.gov." <https://www.energy.gov/eere/slsc/data-driven-strategic-energy-management>. Accessed 5 Jan. 2021.

Workshops: Participants will join two to three additional training and activity workshops to build expertise in tracking energy performance, engaging facility staff, administrators, educators, and students, and improving the persistence of energy savings. Participants will learn how to work with their Career Technical Education (CTE) or other appropriate department to integrate sustainable energy concepts and strategies into academic curricula and to provide workforce development or internship-type opportunities.

Implementation: Participating school campuses will receive start-to-finish support on capital project implementation, moving from audit findings through construction. In conjunction with the Pathway to Zero program, USSEM will provide procurement support, board approval support, financing support, and construction support.

Phase 3

Phase 3 supports ongoing energy savings actions and longer-term energy efficiency and demand response strategies for each cohort of participants to ensure they meet their long term energy and peak demand reduction goals.

Workshops: Participants will join two to three additional workshops to strengthen their knowledge and skills related to their current energy efficiency and demand response projects. Veteran participants will also share best practices and solutions to barriers they may have faced. Participants will be invited to convene annually or semiannually, if possible, to discuss what savings/opportunities they have considered and/or implemented and to share concerns, best practices, solutions, etc. This convening provides opportunities for veteran cohorts to network with newer cohorts and can provide recognition to staff that are continuing the successful implementation of their action plans.

Implementation: Participating school campuses will benefit from start-to-finish project delivery support on capital project implementation, from audit findings through construction. Participants will be able to provide feedback and suggestions to help the USSEM team make any necessary adjustments and improvements to future workshops.

Program Delivery and Customer Services

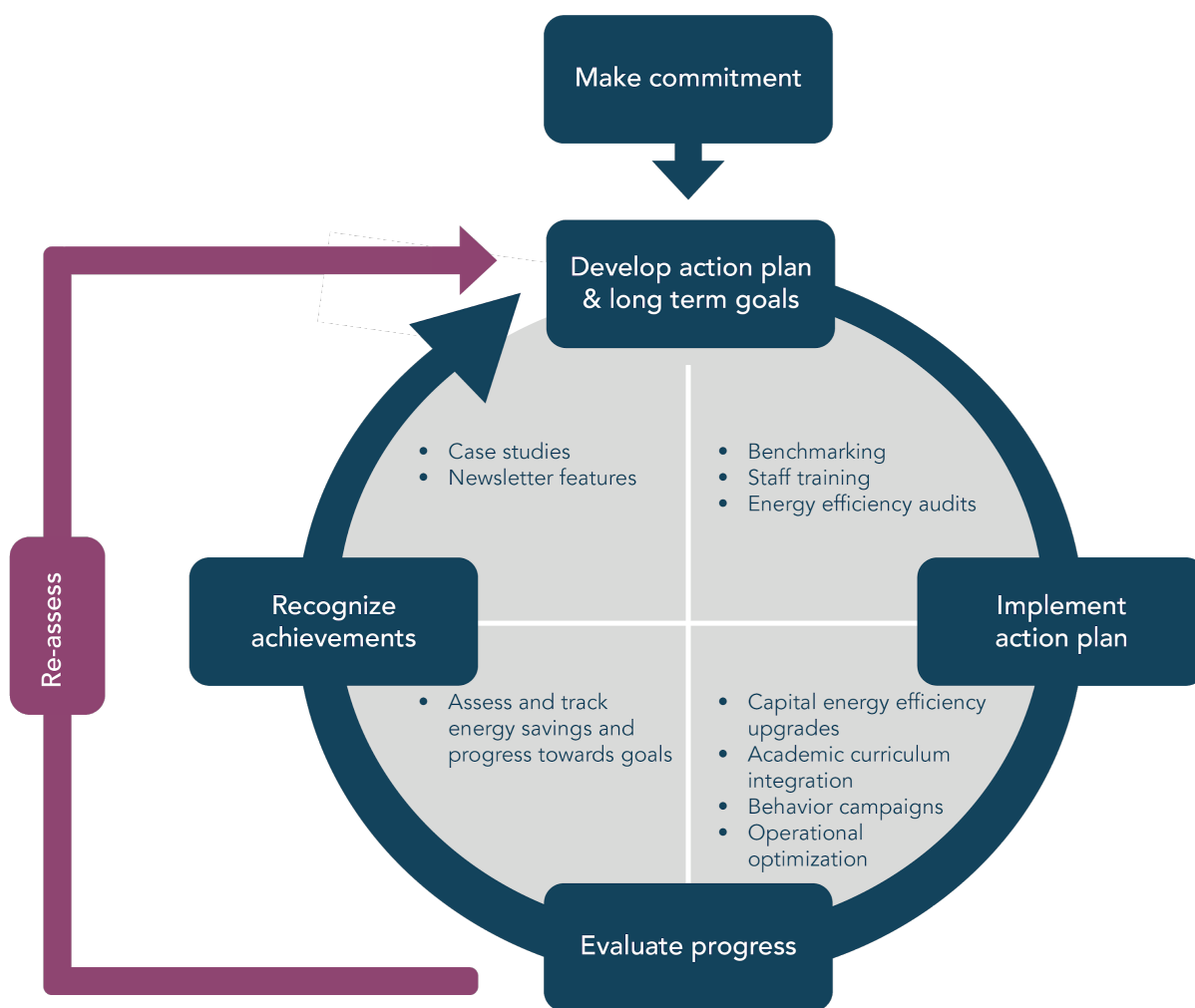
The SoCalREN USSEM program offers customized education, training, and technical services to overcome barriers to improving energy management, identifying and implementing retrofit opportunities, and creating lasting behavior change. While participants have access to all services provided by SoCalREN's Pathway to Zero program, capital projects developed under the SEM schools program are not eligible for participation in other ratepayer-funded resource programs, like SoCalREN's Metered Savings Program. Instead of using ratepayer-funded resource programs, SoCalREN works with participating districts to package capital projects into investment-grade opportunities that can attract interest from larger engineering, procurement, and construction firms, such as Energy Services Companies (ESCOs). Through the program's procurement support services, SoCalREN serves as the Owner's Representative and conducts Requests for Qualifications (RFQ) and Requests for Proposals (RFP) on behalf of the school district, thus alleviating the significant burden that capital project procurement places on staff time and resources. ESCOs can provide project funding at a competitive cost of capital, thus overcoming another crucial barrier for project implementation, but participants are not required to work with a particular contracting model or procurement pathway to receive SoCalREN's support. SoCalREN's turnkey project development process with an NMEC savings methodology ensures that projects are not bogged down by measure-level program eligibility concerns and tracking requirements. Instead, project budgets and timelines are free to align with agency fiscal calendars and install windows. Program participants will also benefit from and be motivated by incremental incentive payments for kW peak demand reductions and kWh savings achieved.

SoCalREN's approach to SEM integrates innovative customer engagement. In parallel with the development of capital and retrocommissioning measures through the Pathway to Zero program, a qualified team of energy trainers meets with Local Education Agency (LEA) faculty and staff to develop a long-term vision and commitment to energy savings targets and milestones. The SoCalREN team will help the LEA with the following actions:

- Develop an action plan to make progress toward these goals;
- Implementation support on action plan goals
- Evaluate progress at regular intervals; and
- Celebrate achievements.

Figure 2 below shows the cycle of the SEM activities and exercises SoCalREN will go through with each individual LEA participating in the program.

Figure 2: Cycle of SEM process



SoCalREN will provide holistic services to help schools implement energy load reduction measures. The program is designed to provide continuous energy load management strategies that will persist over time through the implementation of a load management action plan.

Outreach and Enrollment

SoCalREN will initially recruit from currently enrolled SoCalREN school districts in underserved communities. However, SoCalREN will also consider newly enrolled underserved school districts and community colleges. SoCalREN will use a cohort model to maximize learning opportunities and growth for each participating school district and community college. Each year, additional cohorts with a maximum of 3 schools per district will be enrolled. SoCalREN aims to support 120 schools and community colleges by 2031, as summarized in Table 5.

Table 5. Anticipated Number of Participating School Districts & Community Colleges (2024-2027)

	2024	2025	2026	2027
Number of underserved school districts and/or community colleges participating in cohorts	8	9	10	12
Number of underserved schools or community colleges enrolled (maximum of 3 schools/District per year)	24	27	30	36

Develop Strategic Energy Management Roadmap and Long Term Goals

Once an educational agency makes a commitment to participate in the program, SoCalREN will provide an energy use analysis and benchmarking services to determine baseline energy usage and identify facilities for program participation. SoCalREN will provide benchmarking through the Pathway to Zero program. Educational agency staff will participate in a workshop and be trained on the benefits of benchmarking and the long-term benefits of energy efficiency. As part of Phase 1, facility staff will complete an energy treasure hunt to identify low-to-no-cost operational and behavioral strategies to provide energy savings by the end of their first year of program participation. As part of Phases 2 and 3, the program will conduct more extensive EE audits with a SoCalREN engineering consultant and the Pathway to Zero program will provide technical support.

Implement Action Plan

Based on the goals set during the development of the SEM Roadmap, the SoCalREN USSEM program will:

- Support capital energy efficiency upgrades through the provision of start to finish services by a dedicated Project Manager. The Project Manager will facilitate the energy efficiency measure implementation by supporting the agency’s preferred procurement process, technical performance specifications and scope of work, board approvals, access to financing, and construction;
- Offer academic curriculum integration through SoCalREN’s existing Kits for Kids program;
- Coordinate with facility staff, educators, and students to participate in engaging behavioral change campaigns that will further reduce load, such as the use of smart plug loads and turning off monitors and classroom lights when not in use; and
- Include operational optimization as a key outcome of the implementation of the action plan and additional services offered throughout the process.

Evaluate Progress

The program will track energy savings and load control strategy successes and progress toward targets. Through this process, SoCalREN will engage with stakeholders to discuss progress made to date and align on additional opportunities to intelligently manage energy loads.

Recognize Achievements

Recognizing achievements is critical to build stakeholder buy-in and a culture of change within public agencies. The program will provide highlights on key milestones achieved and participant successes, such as:

- Case studies;
- Newsletter features; and
- Web content for participating schools.

Reassess

The Project Managers will work with participants to reassess initial program outcomes, identify opportunities for continuous improvement, and achieve load management action plan goals. This will become ingrained in the activities of key actors like school administrators and facility staff to support long-term outcomes after the program closes out.

Program Design and Best Practices

This program will follow SEM guidelines for program design, implementation, and savings calculations as defined by the California Industrial SEM Design Guide v1.0¹⁸.

Software tools below may be used for CPUC savings calculations and to ensure that market-based solutions, including financing needs and data workflows, are compatible with program savings calculations.

Market Barriers

This program helps K-12 schools and community colleges serving underserved communities overcome key barriers to energy projects. It goes beyond capital measures to instill a culture of conservation in schools across Southern California, ensuring that energy savings will continue to persist long after the program’s involvement ends. Measures and technologies may come and go over time, but teaching staff, faculty and students to value and conserve energy creates benefits that will last.

Table 6 describes the barriers and example strategies the Underserved Schools Energy Management Program offers to overcome those barriers.

Table 6. Agency Barriers and Program Intervention Strategies

Agency Barriers	Program Intervention Strategies
Limited internal capacity and expertise	USSEM will provide a designated Project Manager to work with the agency throughout their participation in the program. The Project Manager will help facilitate various program services to reduce the staff time needed for energy projects. USSEM will also provide resources such as refresher workshops and annual/semiannual convenings for ongoing learning about current energy efficiency initiatives and peer learning and best practices.
Lack of energy efficiency and sustainability curriculum in academic curricula and extracurricular programs	USSEM will develop and help agencies integrate energy efficiency curriculum. Agencies will leverage CTE or workforce development opportunities to involve students in energy efforts and overcome limited staff. USSEM will provide training workshops for students, staff and faculty to learn and implement their site’s energy management.
Competing priorities with limited resources and funding	USSEM will help each school district or community college with customizing their SEM roadmap. USSEM will help agencies conduct an energy treasure hunt at each site to identify, prioritize, and implement short-term and long-term district-wide energy savings actions based on their available resources and needs. Agencies will be assigned a Project Manager to assist with identifying resources and funding opportunities related to the agencies’ potential projects.

¹⁸ "California Industrial SEM Design Guide." https://neep.org/sites/default/files/CA_Ind_SEM_Design_Guide_v1.0.pdf. Accessed 30 Aug. 2021.

Challenges with long-term energy planning	USSEM will provide the needed tools, templates, and guidance to support school districts and colleges with their long-term strategic energy planning. After identifying and implementing immediate energy savings actions, USSEM will refer to SoCalREN's project delivery team to provide capital project implementation.
Lack of communication between building occupants and centralized facility management and operations	USSEM will present at school districts' school year planning meeting/workshop to facilitate communication and planning between building occupants and centralized facility management and operations. USSEM will provide CTE or workforce development opportunities to train students and staff/faculty on facility management. USSEM will provide guidance on behavioral energy efficiency campaigns to help building occupants move towards their energy goals.
Limited access to resources	USSEM will expand one-stop EE project delivery to include Integrated Demand Side Management audits and recommendations.

Best Practices

When implementing energy efficiency programs, partnerships with stakeholders and market actors are key to achieving performance goals and reducing the cost burden on any one program. The existing SoCalREN PDP and DER DAC programs have developed relationships with over 28 enrolled school districts and actively engage with assigned staff “Energy Champions”. This program will leverage existing contracts with engineering consultants who will provide technical support for the identification and implementation of energy efficiency projects. SoCalREN will also leverage existing third party technical reviewer to calculate NMEC savings for the participating energy savings.

SoCalREN’s Kits for Kids program, which provides educational curriculum and take-home energy efficiency measures, will help drive savings in the community and create lasting impacts on students.

The USSEM program also will adhere to the following best practices:

- Collect feedback on an annual basis for each cohort, specific to each program phase, to make adjustments and improvements;
- Create venue for peer-to-peer best practice sharing by convening all enrolled school districts/community colleges;
- Provide learning space and opportunities for veteran cohorts to network with newer cohorts and expand their network and knowledge;
- Recognize/award key staff helping districts/schools identify and continue successful implementation of their action plans;
- Provide CTE or workforce development opportunities for students to help staff with the daily tasks and maintenance; and
- Recognize achievements via case studies, newsletter features, and web content for participating schools; help school/district identify and recognize key staff who are championing their on-site energy efforts.

Innovation

By developing climate and energy leadership across facility staff, administrators, educators, and students, schools can create and maintain a culture of sustainable energy awareness and habits that will persist far beyond the intervention of the program. A few ways to accomplish this include:

- Creating CTE or workforce development opportunities for students to educate them on and increase their involvement in their schools’ energy goals, while also providing support to limited staff dedicated to energy efforts;

- Having annual or bi-annual cohort convenings to collect feedback for continuous improvement, increase motivation to implement recommended strategies, and work towards long-term energy goals and projects as a community; and
- Designing and facilitating opportunities that allow veteran and new energy champions and dedicated staff and students to attend refresher workshops, share best practices, and stay updated on current initiatives and funding opportunities that pertain to schools.

Metrics

Similar to the other incentive programs within the existing SoCalREN portfolio, the USSEM Program will be reported monthly, quarterly, and annually through CEDARs. In addition to the CPUC-required common metrics and equity metrics, the program will collect and track the following data/performance metrics:

Table 7. Program Metrics

#	Metric	Method
1	Gross 1st year kWh savings	Savings submitted to CPUC
2	Gross 1st year kW savings	Savings submitted to CPUC
3	Participants receiving program benefits and pursuing EE and DR actions	Count of participants receiving EE and DR services
4	Facilities receiving energy benefits through program participation	Count of facilities receiving energy benefits
5	Energy workshops delivered to build participant capacity and expertise	Count of energy workshops delivered
6	Strategic Energy Roadmaps developed and implemented to inspire short, medium, and long term energy actions and result in persistent savings	Count of SEM roadmaps delivered
7	CTE and workforce development opportunities developed	Count of lessons and opportunities developed by SoCalREN USSEM team

To-Code Savings Claims

This program will follow SEM guidelines for program design, implementation, and savings calculations as defined by the California Industrial SEM Design Guide v1.0¹⁹. By using a NMEC approach, to-code savings can be claimed.

Pilots

This section is not applicable.

Workforce Education and Training

In addition to integrating long-term energy goals into regular business practices, the USSEM program will help school districts and community colleges develop strong energy leaders of today and tomorrow through targeted academic curricula and conservation activities. The SoCalREN USSEM team will work closely with administrators and staff at the participating sites to develop in-school campaigns aimed at reducing energy usage through behavioral measures. The USSEM program can develop conservation competitions to encourage building occupant participation in

¹⁹ "California Industrial SEM Design Guide." https://neep.org/sites/default/files/CA_Ind_SEM_Design_Guide_v1.0.pdf. Accessed 30 Aug. 2021.

energy efficiency campaigns. To help students see how their collective efforts make a difference, competitions between districts locally and regionally as well as recognition awards for achievement of various levels of energy reduction will be considered. To provide additional hands-on learning opportunities and alleviate the lack of staff on site to assist with energy efficiency efforts, students can participate as assistant energy champions and put their training into practice by supporting the facilities team with their site's energy efforts. Submetering may be used to track savings from behavioral measures when NMEC methods are unable to discern the impact.

SoCalREN's USSEM will teach students an energy conservation framework to lead their families and communities to a low carbon energy future. The SoCalREN Public Sector implementation team will collaborate with the SoCalREN WE&T sector to engage the local and disadvantaged workforce on USSEM energy projects. SoCalREN will maintain consistency with the WE&T goals of California's Existing Buildings Energy Efficiency Action Plan (AB 758) by supporting the development and employment of a high performance industry for every level of professional involved in energy efficiency transactions. SoCalREN will also support SB 350 in its directive to "Coordinate with the California Workforce Investment Board, the Employment Training Panel, the California Community Colleges, and other entities to ensure a qualified, well-trained workforce is available to implement the program requirements."

Workforce Standards

The USSEM program will provide due diligence to ensure that energy efficiency projects supported by the program adhere to the workforce standards for heating, ventilation, and air conditioning (HVAC) and advanced lighting control programs as applicable. The program will integrate messaging and direction to public agencies during the project lifecycle to ensure projects installed comply with CPUC Workforce Standards as stipulated in D.18-10-008. These standards will be referenced and reiterated during various program services including the following touchpoints:

- Technical specifications will include language that program participants will reference prior to project installation; and
- Procurement kickoff meeting will include an agenda item to highlight the significance of the standards and requirements for agencies to submit applicable documentation and confirm adherence to the guidelines at project closeout.

USSEM may request program participants share documentation to demonstrate adherence to the Workforce Standards, which may include any certifications, apprenticeship programs, accredited degrees, or other workforce training programs.

Disadvantaged Worker Plan

USSEM Program will coordinate with SoCalREN's WE&T programs to present information on career opportunities for disadvantaged workers in the energy efficiency industry.

Additional Information

This section is not applicable.

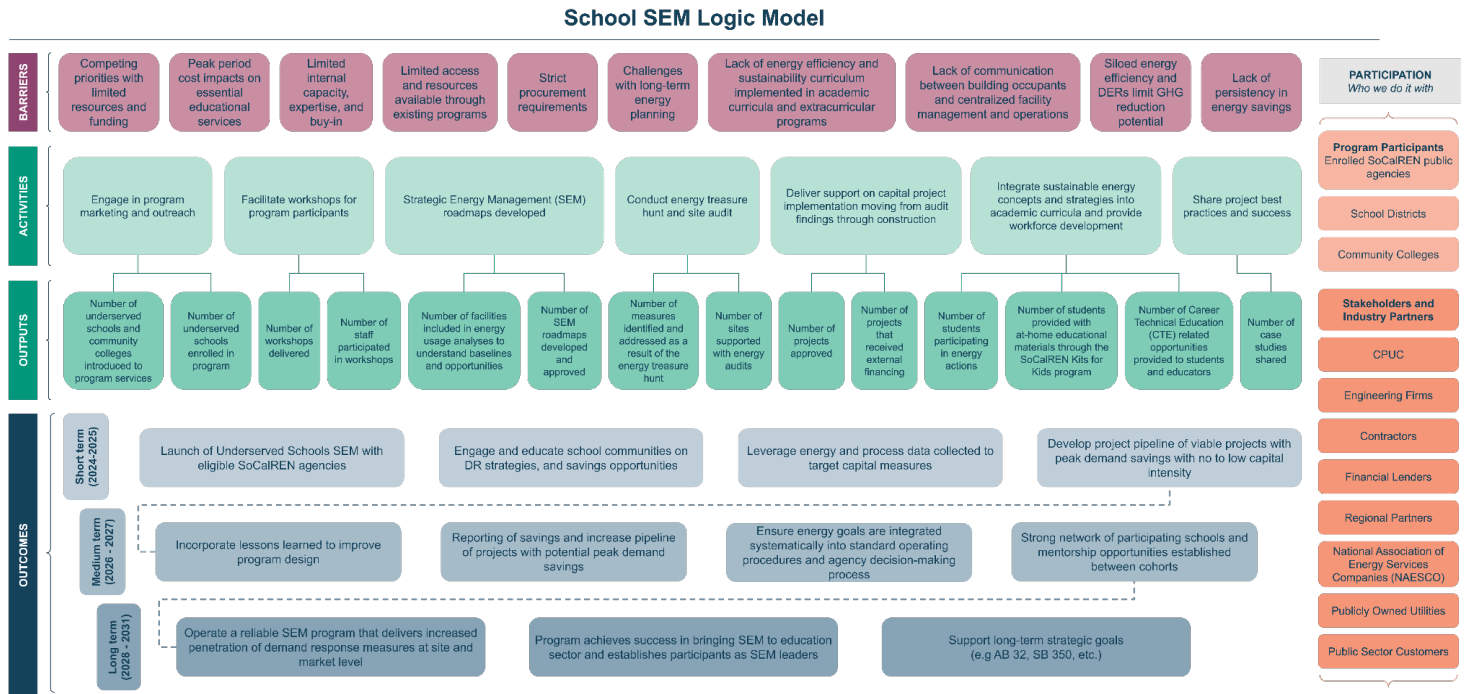
Supporting Documents

Program Manual and Program Rules

A program manual will be developed upon approval of the USSEM program.

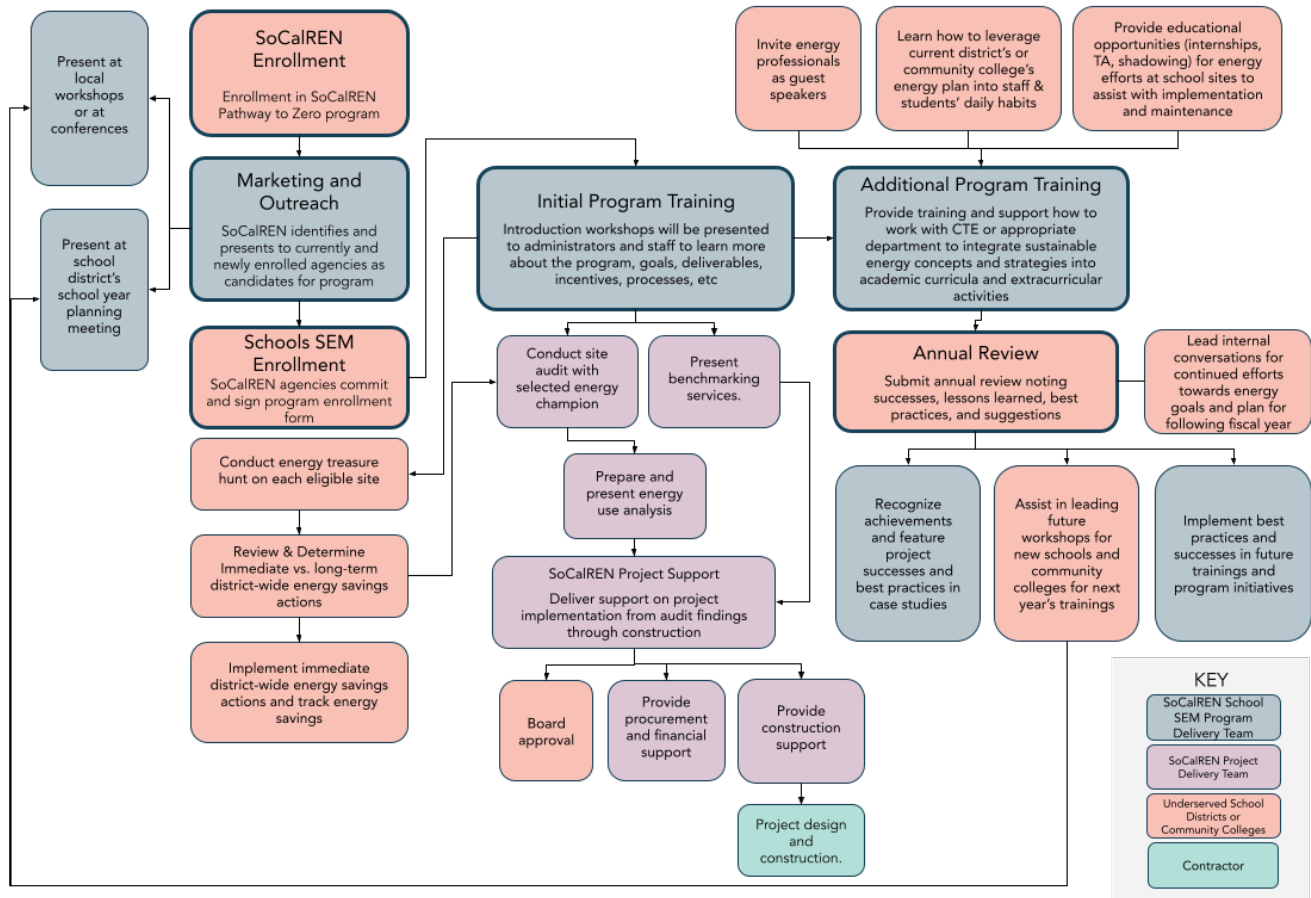
Program Theory and Program Logic Model

Figure 3. Program Logic Model



Process Flow Chart

Figure 4. Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

This meter-based program is measure agnostic; however, some potential target end uses and measures are included in the table below.

Table 8. Target End Uses and Target Measures

Target End Use	Target Measures
HVAC	<ul style="list-style-type: none"> • Demand control ventilation • HVAC controls and occupancy sensors • Supply fan VFD • Packaged units • RTU/AHU/Chiller optimization or replacement • Economizer add-on equipment and controls • Evaporative precool • Retrocommissioning • Supply air reset • Temperature deck reset • Condenser water reset
Lighting	<ul style="list-style-type: none"> • Interior lighting • Exterior lighting • Lighting controls and occupancy sensors
Commercial Refrigeration	<ul style="list-style-type: none"> • Walk In or reach in cooler or freezer

Food Service	<ul style="list-style-type: none"> • Ice machine
Building Envelope	<ul style="list-style-type: none"> • Insulation • Window tinting
Appliance Plug Load	<ul style="list-style-type: none"> • Smart power strip
Service and Domestic Hot Water	<ul style="list-style-type: none"> • Boiler replacement • Pipe insulation • Steam trap repair • faucet aerators

Listed below is a summary of tools that are under consideration for the USSEM Program.

Table 9. Program Tools

Information Required	Short Description	URL link or location name
OpenStudio	Open source energy modeling software supported by DOE	www.openstudio.net/
ECAM	Energy charting and metrics tool: ECAM is a Microsoft Excel®-based tool that facilitates the examination of energy information from buildings to complete pre- and post-energy efficiency project regression analyses of utility interval meter data against outdoor air temperature.	www.cacx.org/PIER/ecam/
ASHRAE Inverse Modeling Toolkit	An industry-recognized toolkit for creating multivariate regression models to calculate savings from energy related upgrades.	www.techstreet.com/ashrae/searches/21801900
CalTrack	CalTRACK methods describe a process of arriving at a calculation of avoided energy use.	www.caltrack.org

Quantitative Program Targets

Table 10. Energy Savings Targets

Program Year	Gross kWh Savings Claimed	Gross kW Savings Claimed
2024	818,474	219
2025	1,091,300	292
2026	3,001,072	802
2027	3,001,071	801

Table 11: Non-Energy Savings Targets

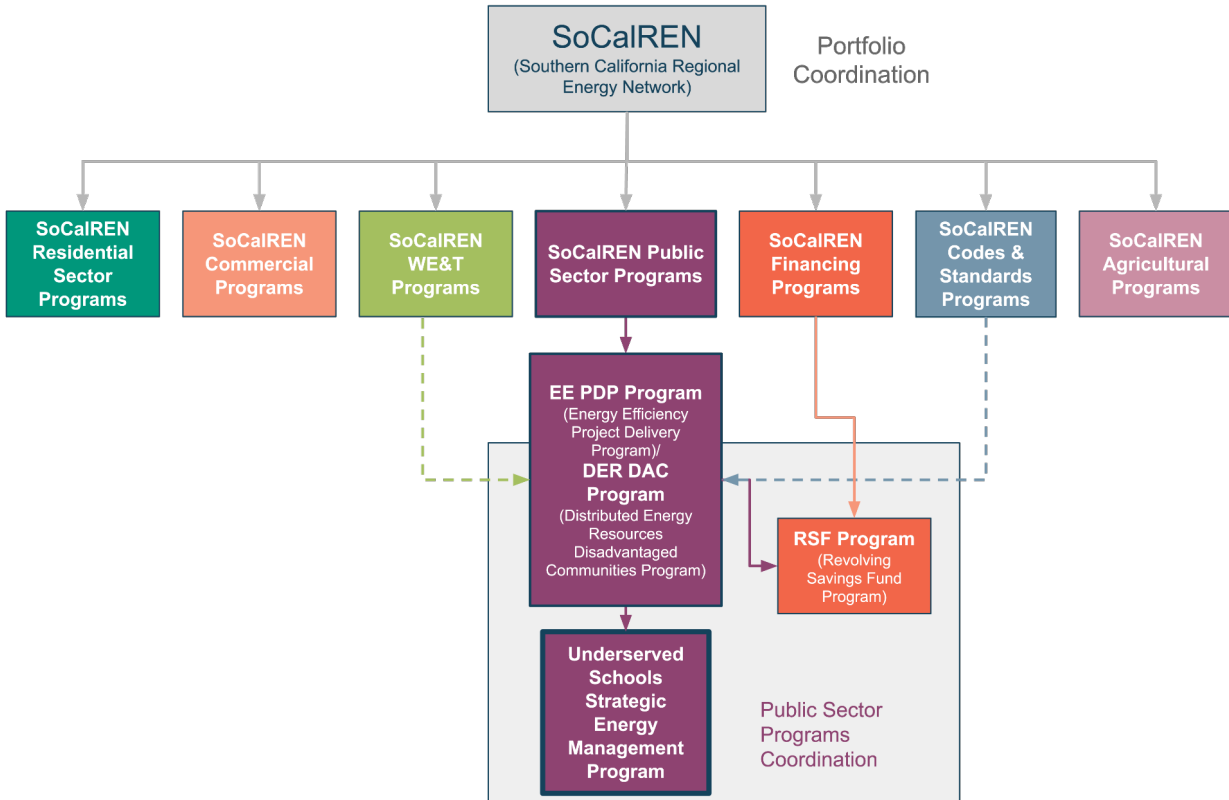
Metric	2024-2027 Target
Number of school districts and community colleges engaged	50
Number of enrolled school districts and community colleges receiving program benefits and pursuing EE and DR actions	39
Number of facilities receiving energy benefits through program participation	117
Number of energy workshops delivered to build participant capacity and expertise	12
Number of Strategic Energy Management (SEM) roadmaps developed	39
Number of CTE and workforce development curriculum, workshops, and other opportunities created	9

Table 12. Program Performance Indicators

#	Indicators	Method
1	Agency Engagement	Number of underserved schools and community colleges introduced to program services
2	Savings Pipeline	Energy savings identified through completed audits
4	Educational Materials	Number of fact sheets, newsletters, and case studies generated
5	Energy Champions Trained	Number of staff participated in workshops
6	Student Participation	Number of students participating in energy actions
7	Integrate Sustainable Energy Concepts Outside of School	Number of students provided with at-home educational materials through the SoCalREN Kits for Kids program
8	Customer Satisfaction	Enrolled agency program satisfaction rating as reported in annual survey
9	Regional Environmental Benefits	Metric tons of greenhouse gas (GHG) emissions reduced regionally as measured by lifetime gross energy savings of completed EE projects
10	Audits and Benchmarking	Number of energy use audits and benchmarking completed and presented at schools/community college facilities
11	EE and DER projects proposals developed	Number of EE and DER project proposals presented to agencies
12	Projects Approved	Number of projects approved by District boards

Diagram of Program

Figure 5: Diagram of Program



Evaluation, Measurement, and Verification (EM&V)

SoCaIREN will conduct program-level evaluation, measurement, and verification (EM&V) activities throughout the program cycle to inform program improvements and future program design. The USSEM program will take the following steps to ensure services and data are tracked and quality controlled so that data can be readily accessed for EM&V studies:

1. **Data Management in Secure SoCaIREN Customer Relationship Management (CRM) Platform:** agency and project data and milestones are tracked in a centralized cloud-based platform. This centralized data hub allows for the development of detailed reports and dashboards to track progress towards program goals and key performance indicators.
2. **Deliverable Quality Control Checks:** all project deliverables and project application/customer agreement materials are put through rigorous internal quality control checks prior to being delivered to clients or the CPUC.
3. **Quarterly Review of Progress Toward Key Performance Indicators:** using the data stored in the SoCaIREN CRM platform, the program will evaluate progress toward key performance indicators (KPIs) and identify areas for improvement at least quarterly.
4. **Project Closeout Surveys and Customer Feedback Solicitation:** customer feedback is collected via a survey upon completion of every project. The survey solicits feedback on the services utilized, the standard of customer service, and recommendations for

program improvements. Further, the SoCalREN Public Agency Programs deliver annual customer surveys to collect portfolio-level feedback. This allows for iterative program enhancements to the suite of SoCalREN Public Agency Programs, including USSEM.

Normalized Metered Energy Consumption (NMEC)

CPUC's Rulebook for Programs and Projects Based on Normalized Meter Energy Consumption (NMEC Rulebook) does not apply to the USSEM program, since industrial SEM is covered by the California Industrial SEM M&V Guide, as directed in M&V Guide itself ²⁰.

²⁰ SCE Implementation Plan (January 2021)



ENERGY EFFICIENCY PROGRAMS

SoCalREN Public Sector Water and Wastewater Strategic Energy Management Program Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
January 2022

Contents

Program Overview	3	Program	Budget	and	Savings
Implementation	3		Plan		Narrative
Program	5				Description
					6
Program Delivery and Customer Services					8
Program Design and Best Practices					10
Innovation					12
Metrics					13
To-Code Savings Claims					14
Pilots					14
Workforce Education and Training					14
Workforce Standards					14
Disadvantaged Worker Plan					15
Additional Information					15
Supporting Documents	14	Program	Manual	and	Program
					Rules
					16
Program Theory and Program Logic Model					16
Process Flow Chart					16
Incentive Tables, Workpapers, and Software Tools					16
Quantitative Program Targets					17
Diagram of Program					17
Evaluation, Measurement, and Verification (EM&V)					17

Program Overview

The Southern California Regional Energy Network (SoCalREN) Water and Wastewater Strategic Energy Management (WWSEM) program helps public agencies with municipally-owned potable water systems and wastewater treatment plants (WWTP) expedite comprehensive peak demand reduction projects. WWSEM offers monetary incentives for qualifying projects based on peak demand reductions. Participants in the WWSEM program receive technical assistance, financing, procurement, and project management services through the SoCalREN Project Delivery Program (PDP) and Pathway to Zero Program. The strategic energy management (SEM) approach, currently authorized for use in the industrial sector in California (D.16-08-019), fully integrates into plant operations and allows the WWSEM program to address each participating plant's unique constraints and opportunities. The program creates a foundation for sustained cost-effective peak demand and energy savings by fostering management and staff's knowledge, ability, and willingness to integrate strategic energy decisions into their workflow. The combined offerings from the SoCalREN Public Sector empower public agencies to lead their communities towards a secure, resilient, and sustainable energy future.

Program Budget and Savings

1. Program and/or Sub-Program Name
Water and Wastewater Strategic Energy Management Program
2. Program / Sub-Program ID number
SCR-PUBL-B8
3. Program / Sub-program Budget Table

Table 1. Projected Program Budget

Budget Category	2024	2025	2026	2027
Administration	\$167,810	\$235,957	\$235,964	\$236,099
Marketing	\$100,685	\$141,574	\$141,580	\$141,660
Direct Implementation	\$1,214,599	\$1,087,199	\$1,042,525	\$996,675
Incentives	\$195,000	\$894,835	\$939,577	\$986,556
Total	\$1,678,094	\$2,359,565	\$2,359,646	\$2,360,990

4. Program / Sub-program Gross Impacts Table

Table 2. Gross Savings Impact Assumptions

Year	Anticipated Gross kWh Savings	Anticipated Gross kW Savings
2024	4,937,538	2,589
2025	5,914,993	3,134
2026	5,892,785	3,121
2027	5,875,827	3,112

5. Program and/or Sub-Program Program Cost Effectiveness

Table 3. Program Effectiveness

Year	TRC	PAC
2024	0.25	0.60
2025	0.24	0.53
2026	0.25	0.55
2027	0.26	0.57

6. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Third party delivered

7. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Public

8. Program / Sub-program Type (i.e., Non-resource, Resource)

Market Support

9. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market channel: Downstream

Intervention Strategies: Technical Assistance, Incentive

Table 4. Campaign Goals and Timeline

Phase	Key Deliverables	Dates
Program Ramp Up	Program launch to customers "Quick wins" projects implementation (Phase 1) Capital projects installation (Phase 2) Marketing and Outreach Project Pipeline Development	Q1 2024 Q1 2025
Program Steady State	Streamline program protocols Incorporate lessons learned to improve program design Peak demand and energy savings realization and incentive payments	Q2 2026 - Q2 2027
Program Ramp Down	Program ramp down plan Energy savings realization and incentive payments	Q3 - Q4 2031

Implementation Plan Narrative

Program Description

Water and wastewater districts and municipal government water divisions have significant peak demand savings opportunities. These agencies provide a suite of water-related services to customers that may include water treatment and distribution, sewer services, wastewater treatment, and provision of reclaimed or recycled water. The processes used to provide these services are energy intensive, so energy-related expenses can make up a significant part of operating expenses.

Relatively simple measures such as scheduling equipment operation for off-peak hours and storing or pre-treating wastewater to allow load curtailment during demand response events can be implemented at low or no cost. Many plants already have the ability to implement these measures today. Furthermore, wastewater plants with on-site energy generation, such as cogeneration systems fed by biogas from anaerobic digestion or large-scale photovoltaic solar installations, can leverage energy storage to dramatically reduce demand for grid services and mitigate capacity shortfalls. A recent Lawrence Berkeley National Laboratory (LBNL) study of California WWTP found that scheduling and use of physical storage reduced peak demand by 6-54%; an NREL study of WWTP participation in capacity markets identified that participants typically shed 5-40% of demand^{1,2}.

¹ "Opportunities for Automated Demand Response in ... - OSTI.GOV." <https://www.osti.gov/servlets/purl/1233609>. Accessed 20 Aug. 2021.

² "Opportunities and Challenges for Water and Wastewater ... - NREL." <https://www.nrel.gov/docs/fy16osti/63931.pdf>. Accessed 20 Aug. 2021.

The Southern California Regional Energy Network’s (SoCalREN) public sector WWSEM program addresses the water and wastewater customers’ load reduction opportunities using a multi-phase SEM approach. The program offers services to identify and complete public sector water and wastewater intelligent demand load control projects that are customized to meet the needs of each enrolled agency. The SoCalREN WWSEM’s goal is to identify and implement cost-effective projects that yield peak demand (kW) and electricity (kWh) savings.

Water treatment and distribution sites have unique operating characteristics that create opportunities for simple measures to shift load in the immediate term. Then, using data collected by load-shifting devices, capital improvement measures can be identified and pursued. Therefore, the WWSEM can address the Governor’s urgent call to action to rapidly deploy clean energy projects to mitigate the risk of capacity shortages and increase the availability of carbon-free energy at all times of the day.

Program Objectives

The WWSEM program’s objectives are outlined in the table below in alignment with SoCalREN’s core values and California’s Environmental and Social Justice (ESJ) Action Plan 2.0 goals:

Table 5. WWSEM Program Objectives

Program Objective	ESJ Action Plan Goal	SoCalREN Core Value
Identify short-term savings opportunities (“quick wins”) by deploying low to no-cost demand reduction strategies with municipally owned potable water systems and wastewater treatment plants (WWTP), with a focus on underserved agencies.	Goal 4: Increase climate resiliency in ESJ communities.	Build capacity and economic resilience, climate action leadership, expand access to EE benefits
Build agency capacity to identify and implement high opportunity capital measures yielding significant energy efficiency (EE) and peak demand reduction to support program and state goals.	Goal 4: Increase climate resiliency in ESJ communities	Build capacity and energy competency
Ensure energy goals are integrated systematically into standard operating procedures and agency decision-making processes.	Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health. Goal 4: Increase climate resiliency in ESJ communities.	Build capacity and economic resilience, climate action leadership
Provide technical expertise and appropriate training to facility personnel to ensure the persistence of savings.	Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Build capacity and economic resilience, expand access to EE benefits
Increase the number of water/wastewater agencies, with a focus on underserved agencies, participating in SoCalREN’s energy efficiency (EE) programs.	Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Build capacity and economic resilience, expand access to EE benefits

	Goal 4: Increase climate resiliency in ESJ communities.	
Deliver peak demand and deep energy savings to public agencies, focusing on underserved communities that will result in reduced water/wastewater plant operating costs relative to a pre-enrollment baseline.	<p>Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.</p> <p>Goal 4: Increase climate resiliency in ESJ communities.</p>	Climate action leadership

Program Delivery and Customer Services

Target Market

The WWSEM program will target enrolled and unenrolled public sector customers with municipally-owned potable water systems and wastewater treatment plants (WWTP) within SCE’s service territory. Project sites supported by the program will include wastewater treatment plants (WWTP), water reclamation facilities (WRF), well pumps, and booster pumping stations.

SoCalREN will build off of the successful relationships and project support it already provides to public agencies within its territory. To rapidly deliver load control energy solutions through the proposed program, SoCalREN will need to establish trust with plant operations teams and collect substantial data for project developers with a thorough understanding of plant or system processes. SoCalREN currently has 31 water/wastewater public agencies enrolled in the program and has built a foundation of trust among these partners. The program will prioritize support to underserved agencies including disadvantaged communities (DACs)³, rural, and low income communities. More than 46 percent of SoCalREN projects since program launch in 2013 have been in underserved communities.

Program Approach and Services

To successfully implement the WWSEM program, SoCalREN will leverage third party technical engineering consultants with experience in ASHRAE energy savings calculation standards, International Performance Measurement and Verification Protocols (IPMVP), and the California Industrial SEM Design Guide and the California SEM Measurement and Verification (M&V) Guide⁴. The program will be delivered in two phases, with a focus on quick wins in phase one and more capital intensive and complex measures delivering energy and peak demand savings in phase two.

Once a water or wastewater agency enrolls in SoCalREN, they will be eligible for the WWSEM program as well as SoCalREN's suite of programs, including services from the Project Delivery Program, Pathway to Zero, and SoCalREN’s Revolving Savings Fund.

The program will deliver services to cohorts of participating agencies on an annual basis and will support them through two key program phases.

³ A "DAC Agency " serves populations in zip codes that overlap with the top 25 percent of census tracts in CalEnviroScen 3.0. A “DAC project” must be located in one of these zip codes for Pathway to Zero program services.

⁴ Dias, S, 2020, California Industrial SEM Cycle 2 Design Guide. Sergio Dias Consulting

Phase I

During this phase, SoCalREN will work with water and wastewater staff and management to develop an Intelligent Load Management Roadmap to set energy savings and operational goals to drive the success and long term program outcomes. Throughout this phase, cohort participants will join two to three training workshops to identify, prioritize, and implement energy-saving actions. Workshops will focus on establishing goals and finding immediate opportunities to save energy. Activities will include an “energy treasure hunt” to identify behavioral, retrocommissioning, and operational (BRO) opportunities with no-to-low implementation costs.

The first phase of the SEM program will leverage plant data, existing control systems, and available physical storage to minimize implementation costs. These no-to-low cost strategies can use existing facility equipment configurations and/or short lead time control equipment that can be deployed rapidly, such as ammonia-based sensor controls and SCADA-integrated energy or process monitoring equipment. Due to drought conditions in California, many wastewater plants are operating well below design capacity and have physical storage capacity that can be leveraged to curtail system load during a demand response event.

Additionally, customers will be guided by a “demand response concierge” through the different demand response (DR) program options available to them. The program will aim for a 10% reduction in demand across participating facilities by summer 2024.

Phase 2

The second phase of the SEM program targets capital measures. In this phase, SoCalREN will leverage energy and process data collected during the first phase to identify project opportunities with <18 month lead times that could further reduce peak demand savings, such as variable frequency drives on large rotating equipment or additional control equipment to maximize operational efficiency. Other key measure opportunities include upgraded SCADA controls, ammonia-based aeration controls, and expanded physical storage.

This phase will also leverage existing on-site energy sources such as biogas or solar to shift load or reduce peak demand directly with storage equipment. Biogas storage can allow cogeneration engines to shift operation to peak demand periods, and battery energy storage could provide similar capacity value from cogeneration, fuel cell, photovoltaic solar, or other on-site generation systems.

Throughout phase 2, participants will join in two to three workshops to build expertise in tracking energy performance, engaging facility staff, and improving the persistence of energy savings.

Program Design and Best Practices

Through SoCalREN’s experience implementing the PDP and feedback collected from a public agency annual survey, SoCalREN learned that the public sector requires additional support when pursuing non-energy efficiency projects, such as on-site generation projects, energy storage, and demand response⁵. Therefore, the WWSEM has been designed to overcome several market barriers in the public sector to address such challenges. Key market barriers identified and resolved by this program include: (1) limited investor-owned utility (IOU) program services for

⁵ 2018 SoCalREN Agency Annual Satisfaction Survey and 2020 SoCalREN Agency Focus Group.

peak demand reduction strategies; (2) funding and financing constraints; (3) limited staff bandwidth; and (4) risk aversion among water operators.

Barrier 1: Limited program services for peak demand reduction strategies

With the closure of a number of IOU programs, there is a programmatic gap in the market to help public agencies address demand response opportunities. The WWSEM program will provide the necessary resources to get these projects completed. Addressing these barriers will help agencies realize peak demand savings and reduce operating costs.

Best Practices

- Deliver comprehensive start-to-finish project management services;
- Deliver an array of load control solutions through the WWSEM program; and
- Acknowledge water operators' risk preferences, work with the customer to develop site-specific DR practices, and educate them on rate schedules and DR necessity

Barrier 2: Water and wastewater customer's funding and financing constraints

Financing capital upgrades often requires multiple funding strategies, which can be complicated for agencies to navigate. The WWSEM program will address this barrier through incentive offerings and a number of other services offered at no cost to the agency. WWSEM-eligible projects can also use the SoCalREN Revolving Savings Fund, which offers zero percent five-year term financing to eligible projects.

Best Practices

- Implement relatively simple and low or no-cost measures such as scheduling equipment operation for off-peak hours and storing or pre-treating wastewater to allow load curtailment during demand response events;
- Utilize wastewater plants with on-site energy generation, such as cogeneration systems fed by biogas from anaerobic digestion or large-scale photovoltaic solar installations, to dramatically reduce demand for grid services and mitigate capacity shortfalls;
- Anticipate the reduction of water/wastewater plant operating costs relative to a pre-enrollment baseline; and
- Monetary incentives of \$150/kW to help offset implementation costs for the customer. Typically, once a process change is implemented at a WWTP, it is unlikely to be changed again without substantial investment.

Barrier 3: Limited staff bandwidth

Implementing auto demand response and energy efficiency strategies within water and wastewater plants is resource-intensive. It presents several practical and perceived challenges, such as the wide variation in loads and concerns about interrupting schedule processes⁶. The

⁶ 1,2 Burgess, J et al. 2014, Industrial Strategic Energy Management Initiative. Consortium for Energy Efficiency:

WWSEM program addresses the limited staff bandwidth barrier by mitigating the need to acquire a public agency participant's in-house expertise and resources to identify and implement DR projects. Further, establishing an SEM approach requires a broad set of skills and a significant commitment of staff time. External technical assistance is often critical to assist the process. Energy efficiency programs across the US have demonstrated that they can be a determining factor in implementing SEM by providing targeted customer assistance.

Leveraging SoCalREN's PDP and Pathway to Zero resources and existing work with third party engineers, WWSEM will help staff overcome their limited capacity to implement load control energy solutions.

Best Practice

- Agencies engaged in the WWSEM program will be offered services by the assigned project manager, who will also act as a DR concierge throughout the program's lifecycle to support the customer with resource intensive services such as procurement, agency board approvals, and financing.

Barrier 4: Risk-aversion among water operators

Water personnel are naturally risk-averse, especially when it comes to changes to how they run their systems, due to the industry's regulatory and compliance requirements⁷. Accordingly, water utilities lean on operational consistency to reduce risk⁸. The WWSEM program aims to address this barrier through an SEM approach to build agency-wide buy-in for short, medium, and long term savings approaches. The program will also offer customized DR strategies that reflect the unpredictability of water operations.

Best Practices

- Highly experienced technical engineering firms with experience supporting water and wastewater projects throughout California and beyond will provide unbiased support, guidance and training throughout the project lifecycle;
- Multiple capacity building workshops to educate facility operators will be offered to increase understanding of unfamiliar strategies and increase confidence in their successful implementation;
- The agency will be guided through DR strategies to increase reservoir operating capacity that include upstream or downstream water storage optimization, long-term operations, maintenance planning (on seasonal time scales), demand-side management for water use⁹, customization of the duration and frequency of DR requests made to water utilities, and other intelligent load management solutions.

<https://library.cee1.org/content/cee-industrial-strategic-energy-management-initiative/>

⁷ "Demand Response Potential Study" LBNL, 2017.

⁸ "Increasing Water and Wastewater Participation in DR programs" R.B. Sowby <https://www.sciencedirect.com/sdfe/reader/pii/S2772427121000012/pdf>. Accessed 19 Jan. 2022.

⁹ "Increasing Water and Wastewater Participation in DR programs" R.B. Sowby <https://www.sciencedirect.com/sdfe/reader/pii/S2772427121000012/pdf>. Accessed 19 Jan. 2022.

Innovation

The WWSEM program brings a proven SEM approach to a new segment of utility customers—public agencies with municipally-owned potable water systems and wastewater treatment plants (WWTP). SEM program design, which is currently authorized for use in the industrial sector in California (D.16-08-019) and as defined by the California Industrial SEM Design Guide¹⁰, will allow SoCalREN to integrate fully into water plant operations and align the goals of the WWSEM program with the unique constraints and opportunities present in each plant. The Industrial SEM program is built on a foundation of statewide SEM program design and M&V guidelines developed in a joint process with the IOUs and the California Public Utilities Commission (CPUC).

Currently, there are no programs in the marketplace that focus on and incentivize peak demand reductions. Incentives of \$150/kW will be offered to help offset implementation costs for the customer. Half of the incentive will be paid after equipment is installed, and the other half will be paid when the demand reduction is confirmed through M&V¹¹. Typically, once a process change is implemented at a WWTP, it is unlikely to be changed again without substantial investment. This consistency helps ensure persistence of demand reduction measures in future years beyond the program's intervention.

The WWSEM program will help eligible public agencies set goals and take actions to reduce peak period charges by identifying opportunities to install more efficient equipment, implementing smart building control systems, educating building occupants and WWTP and system operators on behavioral energy conservation practices, and facilitating load shifting DER technologies and strategies.

By using a proven SEM approach,¹² the Program will realize immediate savings while supporting the development of long-term energy goals and the integration of energy management into standard facility operations and staff decision-making processes. The program builds on trusted relationships and short-term successes from behavioral, retrocommissioning, and operational measures, then moves toward completing peak demand reduction strategies and deep energy efficiency retrofits.

Metrics

Similar to the incentive programs within the existing SoCalREN portfolio, the Water and Wastewater Intelligent Load Control program (WWSEM) metrics will be reported monthly, quarterly and annually through the California Energy Data and Reporting System (CEDARs). In addition to the CPUC required common metrics, the program will collect and track the following data/performance metrics and indicators to be tracked and reported throughout the program cycle provided in Table 9.

Table 6. Program Performance Metrics and Indicators*

¹⁰ "Rolling Portfolio Program Guidance." 1 May. 2018, <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/energy-efficiency/rolling-portfolio-program-guidance>. Accessed 21 Jan. 2022.

¹¹ "Resolution E-3949." https://docs.cpuc.ca.gov/published_docs/published/q000/m232/k460/232460214.pdf. Accessed 24 Jan. 2022.

¹² "Data-Driven, Strategic Energy Management - Energy.gov." <https://www.energy.gov/eere/slsc/data-driven-strategic-energy-management>. Accessed 5 Jan. 2021.

#	Metric	Method	Frequency
1	Permanent peak demand savings	Savings submitted to CPUC	Annually
2	% reduction during peak demand periods	Savings submitted to CPUC	Annually
3	Dispatchable peak demand savings	Savings submitted to CPUC	Annually
4	*Number of projects reviewed	Projects reviewed through energy analysis	Annually
5	Number of low-cost DR projects completed	Count of low to no cost DR projects completed	Annually
6	Number of agencies enrolled in DR programs	Count of agencies enrolled in DR strategies	Annually
7	*Number of public agency participants	Count of participants receiving EE benefits from program services	Annually
8	Number of projects within low-income and DACs	Count of DR projects within DACs	Annually
9	GHG emissions avoided	Calculated lifecycle reductions	Annually
10	*Number of staff people trained	Count of staff people trained by SoCalREN WWSEM team	Annually
11	*Amount of incentive dollars issued	Dollars disbursed to agencies	Annually

* Asterisks designate indicators

SoCalREN will track this information to show the impact of the WWSEM program. The program will work with all SoCalREN Public Sector Programs to obtain updates from the customer on a quarterly basis and as needed.

To-Code Savings Claims

This program will follow Strategic Energy Management guidelines for program design, implementation, and savings calculations as defined by the California Industrial SEM Design Guide v1.0¹³. The program will use a normalized metered energy consumption (NMEC) approach, supported by submetered process and energy usage data collected from targeted equipment, to determine the peak demand savings achieved through program interventions.

Pilots

Offering an SEM approach as a program to a new sector—public agency water and wastewater customers—can be considered a pilot.

¹³ "California Industrial SEM Design Guide." https://neep.org/sites/default/files/CA_Ind_SEM_Design_Guide_v1.0.pdf. Accessed 30 Aug. 2021.

Workforce Education and Training

This section is not applicable.

Workforce Standards

The WWSEM program will provide due diligence to ensure that energy efficiency projects supported by the program adhere to the workforce standards for heating, ventilation, and air conditioning (HVAC) and advanced lighting control programs as applicable. The program will integrate messaging and direction to public agencies during the project lifecycle to ensure projects installed comply with CPUC Workforce Standards as stipulated in D.18-10-008. These standards will be referenced and reiterated during various program services including the following touchpoints:

- The technical specifications will include language that program participants will reference prior to project installation; and
- The procurement kickoff meeting will include an agenda item to highlight the significance of the standards and requirements for agencies to submit applicable documentation and confirm adherence to the guidelines at project closeout.

WWSEM may request that program participants share applicable documentation to demonstrate adherence to the workforce standards, which may include any certifications, apprenticeship programs, accredited degrees, or other workforce training programs.

Disadvantaged Worker Plan

The WWSEM program will coordinate with SoCalREN's Workforce, Education, and Training programs to present information on career opportunities for disadvantaged workers in the water and wastewater industry.

Additional Information

This section is not applicable.

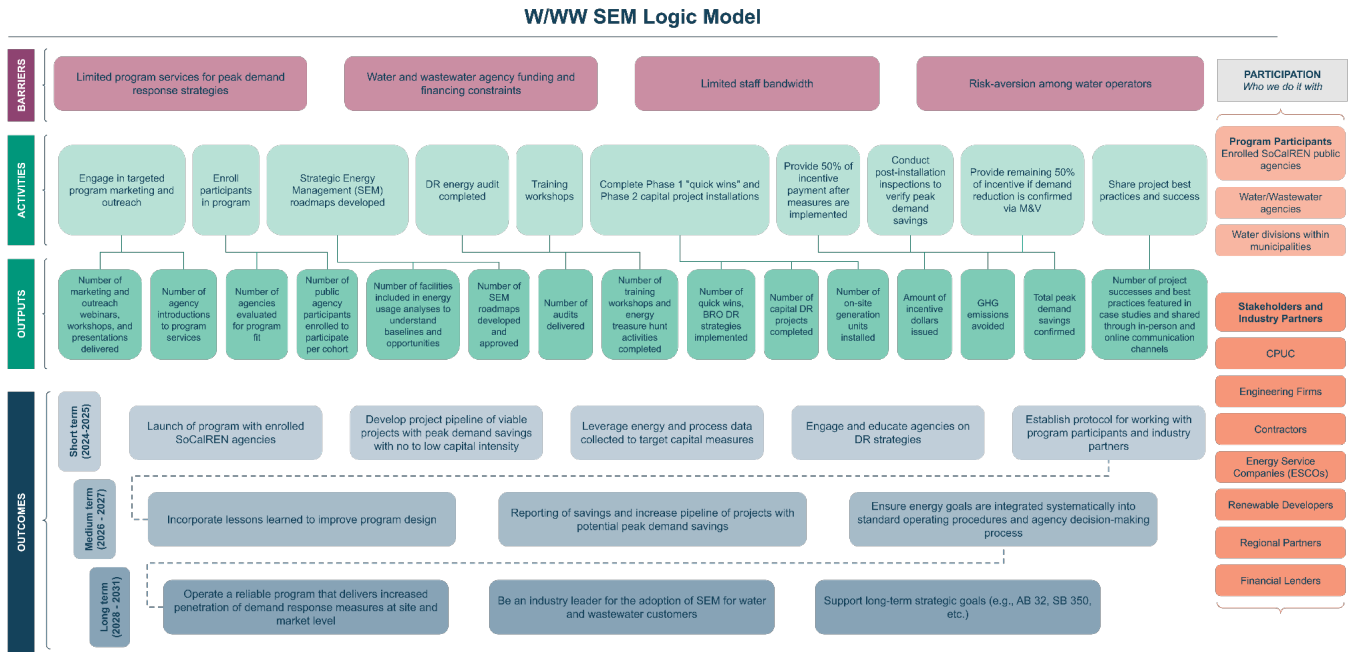
Supporting Documents

Program Manual and Program Rules

A Program Manual will be developed once the program is approved for implementation.

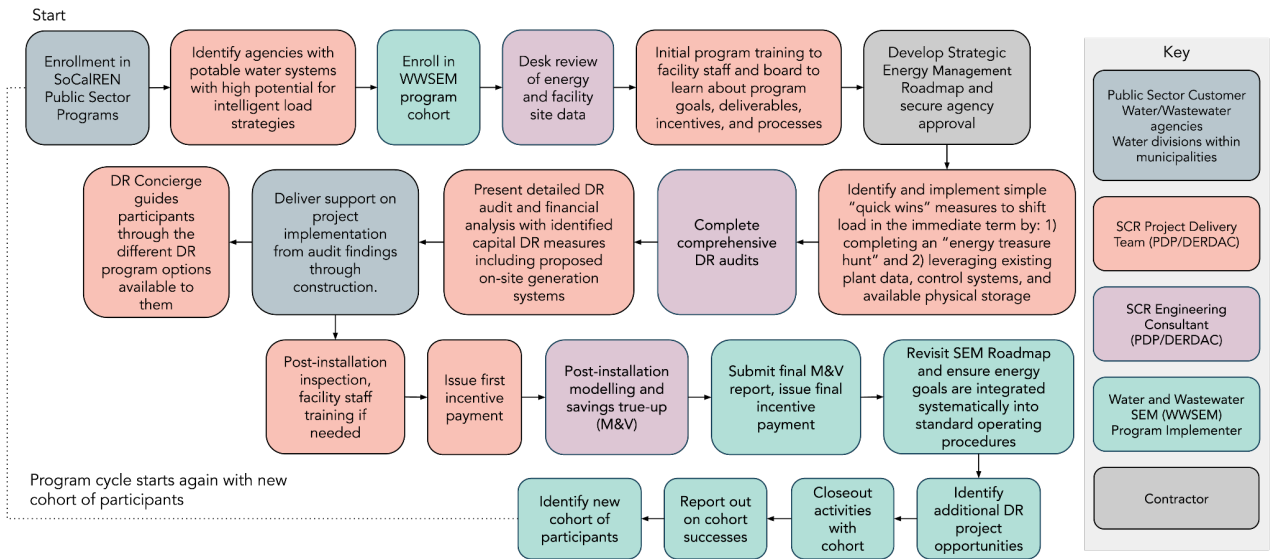
Program Theory and Program Logic Model

Figure 1: Program theory and logic model



Process Flow Chart

Figure 2: Program process flow chart



Incentive Tables, Workpapers, and Software Tools

This program will follow SEM guidelines for program design, implementation, and savings calculations as defined by the California Industrial SEM Design Guide v1.0¹⁴. The program will use a normalized metered energy consumption (NMEC) approach, supported by submetered process and energy usage data collected from targeted equipment, to determine the peak demand savings achieved through program interventions.

The software tools listed in the table below may be used for CPUC savings calculations and to ensure that market-based solutions, including financing needs and data workflows, are compatible with program savings calculations. The table below is a summary of tools that are under consideration for the WWSEM Program.

Table 7. Program Tools

Information Required	Short Description	URL link or location name
OpenStudio	Open source energy modeling software supported by DOE	www.openstudio.net/

¹⁴ "California Industrial SEM Design Guide." https://neep.org/sites/default/files/CA_Ind_SEM_Design_Guide_v1.0.pdf. Accessed 30 Aug. 2021.

ECAM	Energy charting and metrics tool: ECAM is a Microsoft Excel®-based tool that facilitates the examination of energy information from buildings to complete pre and post energy efficiency project regression analyses of utility interval meter data against outdoor air temperature.	www.cacx.org/PIER/ecam/
ASHRAE Inverse Modeling Toolkit	An industry-recognized toolkit for creating multivariate regression models to calculate savings from energy related upgrades.	www.techstreet.com/ashrae/searches/21801900
CalTrack	CalTRACK methods describe a process of arriving at a calculation of avoided energy use.	www.caltrack.org

In certain cases, energy savings for individual projects may also be calculated outside of an energy saving adjustment model and reported as an aggregated bottom-up savings estimate, as described in the SEM M&V Guide. To calculate electric peak demand savings, the program uses a demand savings calculator approved by the CPUC Energy Division. The initial calculator converts annual energy savings (in kWh) to demand savings (kW) based on standard load shapes.

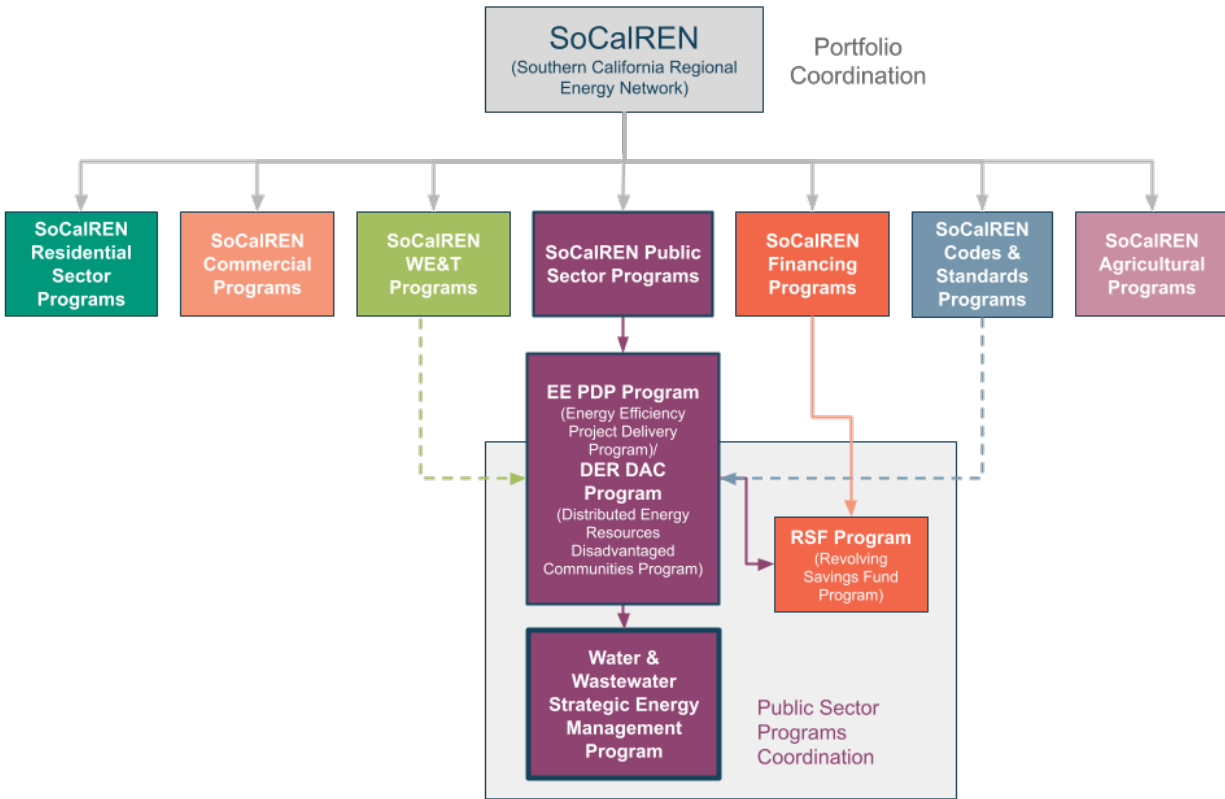
Quantitative Program Targets

Table 8. Quantitative Program Targets

Year	Anticipated Gross kWh Savings	Anticipated Gross kW Savings
2024	4,937,538	2,589
2025	5,914,993	3,134
2026	5,892,785	3,121
2027	5,875,827	3,113

Diagram of Program

Figure 1. Program Diagram



Evaluation, Measurement, and Verification (EM&V)

The program will conduct evaluation, measurement, and verification (EM&V) activities throughout the program cycle to inform improvements and future program design. The USSEM program will take the following steps to ensure services and data are tracked and quality controlled so that data can be readily accessed for EM&V studies:

1. **Data Management in Secure SoCalREN Customer Relationship Management (CRM) Platform:** agency and project data and milestones are tracked in a centralized cloud-based platform. This centralized data hub allows for the development of detailed reports and dashboards to track progress towards program goals and key performance indicators;
2. **Deliverable Quality Control Checks:** all project deliverables and project application/customer agreement materials are put through rigorous internal quality control checks prior to being delivered to clients or the CPUC;
3. **Quarterly Review of Progress Toward Key Performance Indicators:** using the data stored in the SoCalREN CRM platform, the program will evaluate progress toward key performance indicators (KPIs) and identify areas for improvement at least quarterly;
4. **Project Closeout Surveys and Customer Feedback Solicitation:** customer feedback is collected via a survey upon completion of every project. The survey solicits feedback on the services utilized, the standard of customer service, and recommendations for program improvements. The SoCalREN Public Agency Programs also conduct annual

customer surveys to collect portfolio level feedback. This allows for iterative program enhancements to the suite of SoCalREN Public Agency Programs, including USSEM.

Normalized Metered Energy Consumption (NMEC)

CPUC's Rulebook for Programs and Projects Based on Normalized Meter Energy Consumption (NMEC Rulebook) does not apply to WWSEM program, since industrial SEM is covered by the California Industrial SEM M&V Guide, as directed in M&V Guide itself.¹⁵

¹⁵ Southern California Edison (SCE) Strategic Energy Management (SEM) Implementation Plan, updated January 2021



ENERGY EFFICIENCY PROGRAMS

SoCalREN Commercial Sector Small Commercial Direct Install Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
October 2021

Contents

Program Overview	3
Program Budget and Savings	4
Implementation Plan Narrative	7
Program Description	7
Program Delivery and Customer Services	8
Program Design and Best Practices	9
Innovation	10
Metrics	10
To-Code Savings Claims	11
Pilots	11
Workforce Education and Training	11
Workforce Standards	11
Disadvantaged Worker Plan	12
Additional Information	12
Supporting Documents	13
Program Manual and Program Rules	13
Program Theory and Program Logic Model	13
Process Flow Chart	13
Incentive Tables, Workpapers, and Software Tools	14
Quantitative Program Targets	14
Diagram of Program	15
Evaluation, Measurement, and Verification (EM&V)	16
Normalized Metered Energy Consumption (NMEC)	17

Program Overview

The Southern California Regional Energy Network (SoCalREN) Small Commercial Direct Install (DI) Program is an equity program that fills market gaps by serving hard-to-reach businesses that are unsupported by other energy efficiency programs. The DI Program helps small and hard-to-reach businesses achieve no-cost energy and peak demand savings. Services include site inventories, equipment purchasing, installation, recycling, and disposal. The DI Program overcomes numerous market barriers by offering the turnkey installation of a range of prescribed electric energy efficiency measures.

Program Budget and Savings

1. Program and/or Sub-Program Name

SoCalREN Small Commercial Direct Install Program

2. Program / Sub-Program ID number

SCR-COMM-E1

3. Program / Sub-program Budget Table

Table 1: Program Budget Breakdown

Year	Admin	Marketing/ Outreach	Direct Implementation (Non-Incentive)	Direct Implementation (Incentive)	Total
2024	\$150,000	\$75,000	\$400,000	\$875,000	\$1,500,000
2025	\$75,000	\$75,000	\$666,667	\$1,683,333	\$2,500,000
2026	\$75,000	\$75,000	\$666,667	\$1,683,333	\$2,500,000
2027	\$90,000	\$90,000	\$800,000	\$2,020,000	\$3,000,000

4. Program / Sub-program Gross Impacts Table

Table 2: Program Gross Impacts Tables

Year	Gross First Year kWh Savings Claimed	Gross First Year kW Savings Claimed	Gross First Year therm Savings Claimed
2024	270,000	66	-
2025	450,000	110	-
2026	300,000	73	-
2027	337,500	82.29	-

5. Program / Sub-Program Cost Effectiveness (TRC)

Table 3: Program Cost-Effectiveness

Year	TRC
2024	0.06
2025	0.06
2026	0.05

2027	0.04
------	------

6. Program / Sub-Program Cost Effectiveness (PAC)

Table 4: Program Cost-Effectiveness

Year	PAC
2024	0.08
2025	0.08
2026	0.06
2027	0.05

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Third party-delivered

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Commercial

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Non-resource (Equity)

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Phase	Key Deliverables	Dates
Launch Readiness	Implementation Plan Marketing Plan Program marketing materials Program Management Plan QA/QC Plan	Q1 2024
Program Ramp Up	Program launch to customers Marketing Plan implementation Workpaper development/updates Project pipeline development	Q1 - Q2 2024
Program Steady State	Workpaper development/updates Direct Installations	Q3 2024 - Q2 2031

Program Ramp Down	Program Ramp Down Plan Direct Installations	Q3 - Q4 2031
-------------------	--	--------------

Market channel: downstream

Intervention strategy: direct install

Implementation Plan Narrative

Program Description

The DI Program addresses existing commercial sector market gaps that leave energy savings opportunities out of reach for small, hard-to-reach customers. Larger commercial facilities have the capital and resources to take advantage of rebates, and energy programs are typically designed with larger businesses in mind. Smaller facilities have historically been excluded from energy programs due to low energy savings opportunities and strict cost-effectiveness criteria for program administrators. Smaller facilities may have different equipment needs than larger ones, further limiting their ability to participate in energy efficiency programs. SoCalREN's DI program unlocks stranded energy savings for small business customers whose projects might otherwise be left behind in the transition to a clean, safe, secure, and affordable energy future.

The DI Program is designed to help hard-to-reach businesses overcome barriers to energy projects. Energy efficiency is sometimes deprioritized at these facilities due to the low energy usage (though energy may still be a high percentage of operating costs) and limited energy efficiency awareness. Small commercial businesses are short-staffed and often do not have the resources or time to develop energy projects, particularly for small facilities with limited savings opportunities. Business financial plans do not conform well to typical custom incentive program processes due to their complex applications and long approval timelines. The DI Program is designed to address these barriers by providing streamlined, no-cost energy efficiency measures to participating customers. The program will also provide facility staff and owners with education about energy efficiency.

SoCalREN's DI Program offers hassle-free implementation of energy efficiency projects that will save energy and peak demand for small, hard-to-reach businesses. Small, hard-to-reach business facilities will be eligible to participate in the program and receive no-cost measure installations at qualifying sites. Participants will also receive hands-on project management support from project identification through installation and realization of energy savings.

Consistent with the ESJ Action Plan, and the overall goals of the Equity Segment, the DI Program's planned objectives directly supports the following ESJ Action Plan 2.0 goals:

Objectives	ESJ Action Plan Goal	SoCalREN Core Value
Objective #1: Increase SoCalREN participation by small, hard-to-reach businesses	Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Expand access to EE benefits
Objective #2: Deliver streamlined, turnkey energy efficiency projects for small, hard-to-reach businesses	Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Expand access to EE benefits; Build energy capacity and economic resilience

<p>Objective #3: Increase regional reach and delivery of services across SoCalREN territory, including in disadvantaged, rural, and hard-to-reach communities</p>	<p>Goal 4: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.</p>	<p>Expand access to EE benefits; Build energy capacity and economic resilience</p>
<p>Objective #4: Ensure businesses receive education about energy efficiency so they can better understand the benefits and pursue future energy savings opportunities..</p>	<p>Goal 5: Enhance outreach and public participation opportunities for ESJ communities to meaningfully participate in the CPUC's decision-making process and benefit from CPUC programs.</p>	<p>Build energy capacity and economic resilience</p>

Eligible measure types include:

- Lighting;
- HVAC;
- HVAC controls;
- Refrigeration, and;
- Miscellaneous including water heater, window film, and faucet aerator.

Program Delivery and Customer Services

Target Market and Population Served

The target market for this program will be small commercial stores in hard-to-reach areas. Stores will be identified after coordinating with the SoCalREN Business Energy Advisor Program and conducting market studies to identify the customer segments that will benefit most from this program.

Program Delivery Strategies

The program will leverage the SoCalREN Business Energy Advisor Program for outreach to potential customers and to identify eligible enrolled customer facilities. The program will also coordinate with other SoCalREN and investor-owned utility commercial programs to avoid overlap, “double-dipping,” and customer confusion. The program success will depend on the competence of the contractors doing the work, so the program will need a robust process to screen and approve contractors. The DI contractors will be selected using a competitive bid process to ensure cost-effective and high-quality delivery of services.

The program provides equipment purchasing, installation, clean-up, disposal, and information about the installed measures to explain the energy efficiency benefits they have received and operation and maintenance practices to ensure sustained performance.

Figure 1 below depicts DI Program’s complementary services.

Figure 1: DI Program Participation Process



Marketing & Outreach: Marketing and outreach efforts will be coordinated with the SoCalREN Business Energy Advisor Program after market studies are completed to identify the target customer segments. The program will target eligible stores through grassroots and onsite outreach to store owners. It will also utilize online marketing such as websites, social media, and email outreach to engage potential stores. Working with outreach partners, including local governments, chambers of commerce, and nonprofits, the program will collaborate with trusted community-based organizations and actors to reach stores.

Enrollment: The implementer will screen and enroll customers based on interest and eligibility.

Project Identification: The implementer will identify potential candidates for DI participation by completing a project identification checklist to confirm site eligibility and energy efficiency measure applicability.

Equipment Inventory: Once the site is deemed eligible for DI participation, the contractor will go on site to collect an equipment inventory and draft a project application. The implementer will review and approve the application and draft a customer agreement for the customer.

Customer Project Approval: The implementer will answer customer questions and offer support if needed. Then, the customer will execute the customer agreement form to approve the timeline and measure installation.

Measure Installation: The contractor will install the energy efficiency measures at the site based on the agreed upon timeline. After installation, the implementer will complete a post-installation verification to confirm claimable energy savings and adherence to program guidelines. Upon verification, the contractor will be reimbursed for the costs of the project.

Handoff and Customer Education: After the project is installed, customers will receive educational information on the energy savings, cost savings, and non-energy benefits delivered by the program. The program will provide the public agency with additional information about other savings and program opportunities they may benefit from.

Program Design and Best Practices

The direct install approach is not new to business customers, but small, hard-to-reach businesses have previously faced significant barriers to installing energy efficiency projects. Table 5 below outlines the market barriers and DI intervention strategies to overcome them.

Market Barriers

Table 5: Small, Hard to Reach Business Market Barriers

Barriers	Small DI Program Intervention Strategies
Limited energy efficiency program applicability for small facilities and small projects	The longer timelines for custom measure-based programs result in screening out smaller facilities and smaller

	projects to meet cost-effectiveness requirements. A DI program with a quick turnaround time reduces the cost of implementing these measures and therefore is a better fit for smaller facilities and/or smaller projects.
Limited staff to implement energy efficiency and energy efficiency is deprioritized	DI will provide a dedicated project manager to work with the commercial facility throughout the project. The project manager facilitates program services to reduce staff time investment.
Limited energy usage and energy efficiency awareness	Energy usage may be a small percentage of the operating costs to run a business and hence may be a low priority to the business. A DI program takes the least amount of time to deliver energy efficiency projects for such facilities and brings awareness of energy efficiency and its impact to the community.
Funding and financing constraints	The direct measure installations delivered to small commercial facilities at no-cost help businesses overcome funding and financing constraints.

Best Practices

DI programs have historically been successful, though they have not targeted hard-to-reach segments. As with most DI programs, both the messaging and participation requirements for the customer need to be simple. Participation will be higher with hard-to-reach customers if the impact to their business is minimized. The project process will be flexible to address customer concerns (e.g. scheduling or reducing the time at the store) without compromising the quality of service. The program will provide a high level of customer service by making sure the contractors are well trained on customer-facing skills, which will help the program succeed by increasing word-of-mouth promotion from satisfied participants. The program will refine processes as needed based on customer feedback and lessons learned.

Innovation

SoCalREN is proposing an innovative program design that drives energy savings in the commercial sector and addresses multiple barriers, as listed in Table 5 above. The new equipment that will be installed will be demand response capable, whenever it is appropriate and available. The program will educate customers at project closeout about demand response (DR) program opportunities to save them additional money on their utility bills and help address California’s grid reliability challenges. This strategy will enable higher DR participation among commercial customers.

Metrics

Table 6. Commercial Sector Performance Metrics

Metric	Method	Frequency
1st Year Gross kWh Savings Channeled	DEER Deemed Savings	Annually
1st Year Gross kW Savings Channeled	DEER Deemed Savings	Annually

1st Year Gross therm Savings Channeled	DEER Deemed Savings	Annually
--	---------------------	----------

To-Code Savings Claims

This section is not applicable.

Pilots

This section is not applicable.

Workforce Education and Training

Contractors local to the region will be screened, approved, and then trained on energy efficiency, demand response, and CPUC guidelines on eligible measures.

Workforce development efforts supporting Direct Install will include training on:

- Audits: training will be developed to promote a consistent approach and format to facility audits and equipment inventories;
- Soft skills and business training (including customer service, sales, and marketing);
- Program-specific training: training will be developed to familiarize contractors with the program's eligibility requirements, application, processes, etc.;
- Green buildings techniques;
- Codes and standards, and;
- Building end-use technologies such as HVAC and lighting.

SoCalREN will coordinate with the Workforce, Education, and Training sector to build capacity and expertise in the energy efficiency industry.

Contractor recruitment efforts will be conducted primarily through:

- Coordination with SoCalREN's Workforce, Education, and Training programs and graduates from their programs;
- Direct outreach through industry organizations with locally active memberships (e.g. IHACI, U.S.G.B.C., IFMA, AIA, BOMA, etc.);
- Workforce development departments (to target unemployed general contractors), and;
- Community-based organizations with a proven track record of effective outreach to the hard-to-reach workforce.

Workforce Standards

The DI Program will provide due diligence to ensure that energy efficiency projects supported by the program adhere to workforce standards for heating, ventilation, and air conditioning (HVAC) and advanced lighting controls as applicable. The program will integrate compliance checks throughout the project lifecycle to ensure projects comply with CPUC workforce standards as stipulated in D.18-10-008. Workforce standards will be applied for the following measures:

a. HVAC measures

- Contractors installing measures with an incentive of \$3,000 or more are required to be installed by workers or technicians who meet one of the following criteria:
 - i. Enrolled in and/or completed an accredited HVAC internship

- ii. Completed more than five years of work experience at the Journey level per California Department of Industrial Relations definition, passed competency tests, and received specific credentialed training
 - iii. Has a C-20 HVAC contractor license issued by the California Contractors State License Board (CSLB)
- b. Advanced lighting controls measures
 - Lighting control measures with an incentive of \$2,000 or more will need to be installed by technicians who have completed the California Advanced Lighting Controls Training Program (CALCTP).

Disadvantaged Worker Plan

The program will coordinate with SoCalREN's Workforce, Education, and Training programs to present information on career opportunities for disadvantaged workers in the energy efficiency industry. DI will also seek and provide preference to disadvantaged workers to support projects.

Additional Information

This section is not applicable.

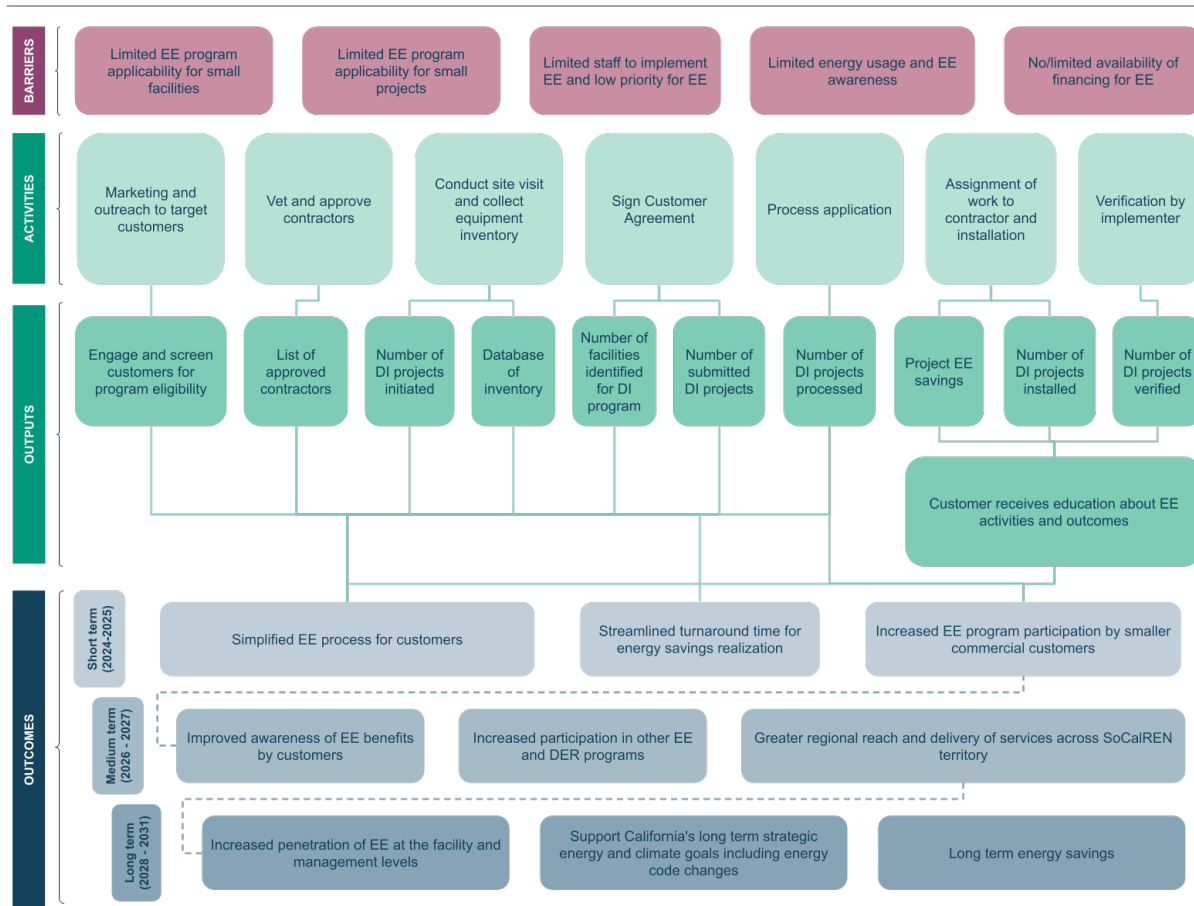
Supporting Documents

Program Manual and Program Rules

Program manual and program rules will be provided upon approval of the program.

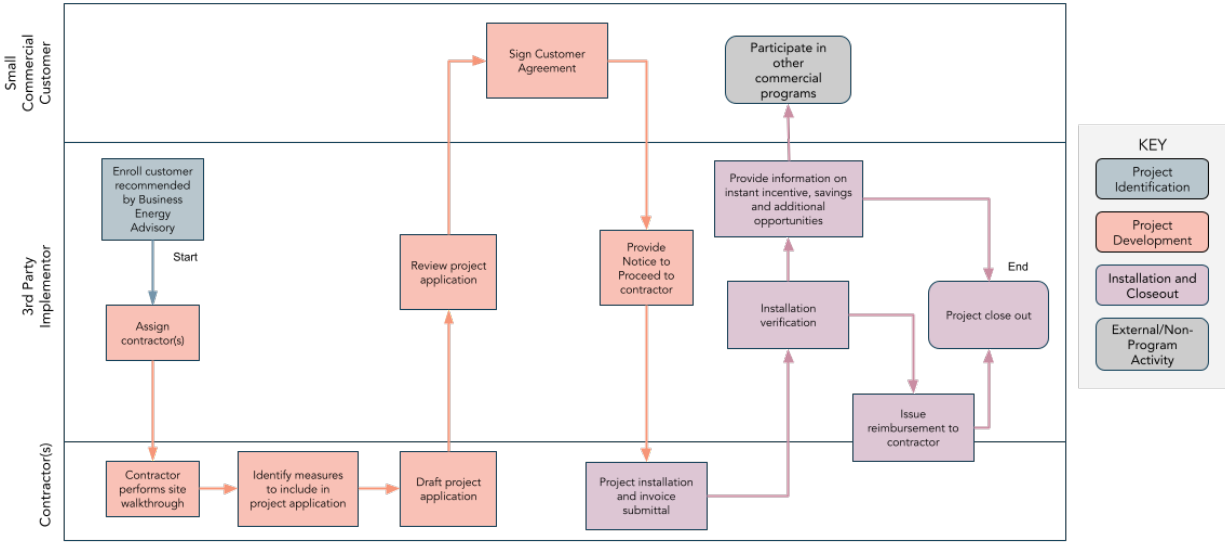
Program Theory and Program Logic Model

Figure 1: Program Theory and Logic Model



Process Flow Chart

Figure 1: Program Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

Table 7: Target Measures and Relevant Workpapers

Target End Use	Target Measures	Relevant Workpapers
HVAC	<ul style="list-style-type: none"> HVAC Equipment Replacement HVAC Tune-Up 	<ul style="list-style-type: none"> SWHC013-02 SWSV002-01 SWSV003-01 SWSV005-0 SWSV010-01 SWSV004-01
Lighting	<ul style="list-style-type: none"> LED Case lighting Lighting Controls LED Indoor Lighting PAR Lamps LED Indoor Lighting High Bay Indoor Lighting TLEDs 	<ul style="list-style-type: none"> SCE13LG098 SCE17LG076 SCE17LG127 SWLG011-03 SWLG009-02
Refrigeration	<ul style="list-style-type: none"> Refrigeration Controls 	<ul style="list-style-type: none"> SWCR002-02 SWCR007-02 SWCR008-02
Miscellaneous	<ul style="list-style-type: none"> Smart Power Strips Window film 	<ul style="list-style-type: none"> SWAP010-01 SCE13HC002

Quantitative Program Targets

Table 8: Energy Savings Targets

Year	Gross kWh Savings Claimed	Gross kW Savings Claimed	Gross therm Savings Claimed
2024	270,000	66	-

2025	450,000	110	-
2026	300,000	73	-
2027	337,500	82.29	-

Table 9: Non-Energy Savings Targets

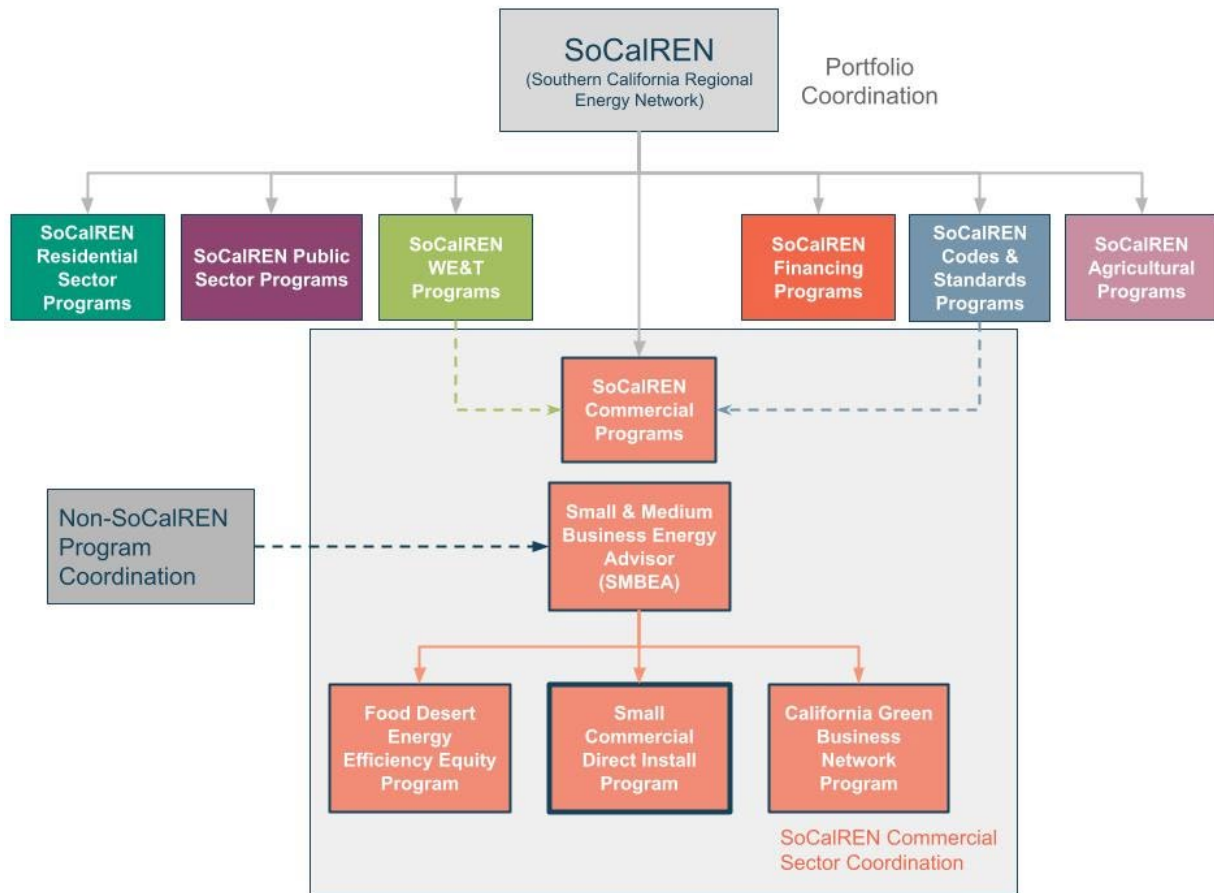
Metric	2024-2027 Target
Number of commercial facilities engaged	500
Number of projects installed	425
Number of equipment installed	800

Table 10: Program Indicators

Indicator	Method	Frequency
Commercial Business Engagements	Number of business introductions to Program services	Quarterly
Applications submitted and reviewed	Number of applications submitted and reviewed	Quarterly
Applications approved	Number of applications approved	Quarterly
Customer agreements signed	Number of customer agreements approved	Quarterly
GHG Reductions	Total GHG emissions avoided based on energy savings achieved	Quarterly
Projects Installed	Number of projects installed	Quarterly

Diagram of Program

Figure 2: Program Diagram



Evaluation, Measurement, and Verification (EM&V)

Program level evaluation, measurement, and verification (EM&V) activities will be conducted throughout the program cycle to inform program improvements and future program design. The DI implementation process involves the following steps to ensure program services and data points are tracked and quality is controlled:

1. **Data Management in Secure SoCalREN Customer Relationship Management (CRM) Platform:** customer and project data and milestones are tracked in a centralized cloud-based platform. This centralized data hub allows for detailed reports and dashboards to track progress towards program goals and key performance indicators.
2. **Deliverable Quality Control Checks:** all project deliverables and project application/customer agreement materials are put through rigorous internal quality control checks prior to being delivered to clients or the CPUC.
3. **Quarterly Review of Progress Toward Key Performance Indicators:** using the data stored in the SoCalREN CRM platform, program progress toward key performance indicators (KPIs) will be evaluated at least quarterly to track progress and identify areas for program improvement.

Normalized Metered Energy Consumption (NMEC)

This section is not applicable.



ENERGY EFFICIENCY PROGRAMS

SoCalREN Residential Sector Small Hard-to-Reach Multifamily Direct Install Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
March 2022

Contents

Program Overview.....	3
Program Budget and Savings.....	5
Campaign Goals.....	6
Timeline	4
Implementation Plan Narrative.....	6
1. Program Description.....	6
2. Program Delivery and Customer Services.....	7
3. Marketing and Outreach.....	Error! Bookmark not defined.
Messaging.....	Error! Bookmark not defined.
Engagement Channels.....	Error! Bookmark not defined.
4. Program Design and Best Practices	8
Whole Building Path.....	Error! Bookmark not defined.
Comprehensive Common Area Path	Error! Bookmark not defined.
Best Practices.....	Error! Bookmark not defined.
5. Innovation.....	10
Marketing Strategy.....	Error! Bookmark not defined.
Delivery Approach.....	Error! Bookmark not defined.
6. Metrics.....	11
7. Pilots	12
8. Workforce Education and Training.....	13
9. Workforce Standards.....	13
10. Disadvantaged Worker Plan.....	13
11. Additional information	14
Supporting Documents.....	15
Whole Building	Error! Bookmark not defined.
Measures.....	Error! Bookmark not defined.
Incentives.....	19
Comprehensive Common Area.....	Error! Bookmark not defined.
Measures.....	Error! Bookmark not defined.
Incentives.....	Error! Bookmark not defined.
Quantitative Program Targets	20
Diagram of Program	21
Evaluation, Measurement & Verification (EM&V).....	22

Normalized Metered Energy Consumption (NMEC)..... 23
Program Manuals.....**Error! Bookmark not defined.**

Program Overview

The Southern California Regional Energy Network (SoCalREN) Small Hard-to-Reach Multifamily Direct Install Program (“Program”) provides energy efficiency measures to tenants and owners of very small, hard-to-reach (HTR) multifamily buildings at no cost to the owner or tenants. The program uses the direct install delivery method to provide energy and cost saving measures to customers that are not typically served by current multifamily resource programs due to the relatively high cost of serving these very small properties, and the low energy savings per transaction.

Eligible properties are those with 50 or fewer tenant units, owned by individuals rather than large real estate investment corporations. Participating properties are required to meet CPUC criteria which broadly classifies HTR as “those customers who do not have easy access to program information or generally do not participate in energy efficiency programs due to a combination of language, business size, geographic and lease (split incentive) barriers.”¹ Additional criteria for residential customers include Income and Housing Type.

The program will result in simple energy efficiency upgrades that will save underserved owners and tenants money on their electric, gas and water bills. Additionally, through information and training provided by the program, small multifamily properties will become more aware of energy saving behaviors and practices to help ensure continued persistence of savings.

Campaign Goals

The Program has established the following goals have been established for 2024-2027:

- Serve 644 small multifamily buildings meeting HTR criteria (assuming an average of 25 rental units per building)
- Provide bill savings measures to 16,000 tenant units
- Establish a team of local Direct Install Contractors to serve a diverse geographic region

Timeline

2024 Q1-Q2	2024 Q1-Q4	2025	2026	2027
<ul style="list-style-type: none"> • Execute contracts with DI contractors • Complete contractor training 	<ul style="list-style-type: none"> • Initiate marketing to eligible MF property owners • Begin sales and enrollment of customers <p>Begin installations</p> <ul style="list-style-type: none"> • Annual reporting and savings claim 	<ul style="list-style-type: none"> • Continue enrollment and installations • Annual reporting and savings claim 	<ul style="list-style-type: none"> • Continue enrollment and installations • Annual reporting and savings claim 	<ul style="list-style-type: none"> • Continue enrollment and installations • Shutdown Plan • Inform Stakeholders • Resolve outstanding items • Final Program Report

¹ CPUC Decision 18-05-041, page 42.

Program Budget and Savings

1. Program and/or Sub-Program Name
SoCalREN Small Hard-to-Reach Multifamily Direct Install Program

2. Program / Sub-Program ID number
SCR-RES-A5

3. Program/Sub-program Budget Table

Budget Category	2024	2025	2026	2027
Administration	\$25,725	\$36,876	\$43,089	\$48,128
Marketing	\$37,304	\$46,278	\$54,076	\$60,399
Direct Implementation—Non-Incentive	\$456,171	\$565,911	\$661,262	\$738,585
Direct Implementation—Incentive	\$1,276,800	\$1,583,958	\$1,850,839	\$2,067,263
Total	\$1,800,000	\$2,233,023	\$2,609,266	\$2,914,375

4. Program/Sub-program Gross Impacts Table

Gross Impacts	2024	2025	2026	2027
kWh	990,921	1,266,177	1,472,710	1,720,259
kW	343	439	515	592
Therms	50,000	63,888	75,166	85,944
Total System Benefit (TSB) \$	\$527,411	\$729,720	\$917,519	\$1,112,736

5. Program/Sub-Program Cost Effectiveness (TRC)

Cost Effectiveness	2024	2025	2026	2027
TRC	0.30	0.33	0.35	0.38

6. Program/Sub-Program Cost Effectiveness (PAC)

Program Administration Cost	2024	2025	2026	2027
PAC	0.29	0.33	0.35	0.38

7. Type of Program/Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Program Implementer	Yes
SoCalREN Only	x
SoCalREN – Statewide Lead	
Other PA – Statewide Lead	
Third Party	
Other	

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Market Sector	Yes
Residential	X
Commercial	
Industrial	
Agricultural	
Public	
Codes & Standards	
Workforce Education & Training	
Finance	
Other	

9. Program/Sub-program Sector (i.e., Resource, Equity, Market Support)

Program Sector	Yes	No
Resource	X	
Equity		X
Market Support		X

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market Channels	Yes	No
Upstream		X
Midstream		X
Downstream		X
Direct Install	X	

Intervention Strategies	Yes	No
Direct Install	X	
Incentive		X
Finance		X
Audit	X	
Technical Assistance	X	

Implementation Plan Narrative

Program Description

The SoCalREN Small HTR MF DI Program provides turnkey installation of energy efficiency measures that will reduce electric, natural gas and water consumption of small apartment buildings that are classified as Hard to Reach or are located within Disadvantaged Communities. The measures will be applicable to both tenant units and common areas, thereby reducing energy costs for both owners and tenants. The program will include outreach needed to enroll buildings in the program, basic energy awareness training to tenants and owners, training and management of direct install contractors, and opportunities for contractors to provide employment and training for disadvantaged workers

Rationale:

Many EE programs offered by IOUs and POU's in SoCalREN's region provide services to large multifamily properties. These programs typically offer technical assistance to identify savings opportunities, and financial incentives that are intended to reduce the total cost of implementing energy efficiency measures. For these larger properties, the owner, who is usually a corporation or real estate investment trust, will bear a substantial portion of the cost of the project, as justified by the need to refresh the property, address deferred maintenance needs, or qualify for subsidized, lower interest rate financing available for energy efficient properties.

The market dynamic within the smaller, independently owned "mom and pop" buildings is different and thus requires a different approach. These small property owners are not as well capitalized as corporate property owners, lack the same financial and tax advantages, and do not have the same level of expertise to manage complex energy efficiency retrofits. As a result, these owners require a more turnkey approach with little to no cash outlay making direct install the best option for market success.

Objectives:

SoCalREN's Small HTR MF DI program will:

- Improve the efficiency of multifamily buildings through simple retrofits, performed by program pre-qualified contractors at no cost to the property owner or tenants, which will benefit both tenants and owners by reducing their energy and water utility bills
- Raise the knowledge and awareness of tenants and owners about energy saving behaviors and practices so that they can make better choices and manage their utility costs to ensure persistence of savings from the program measures.
- Provide valuable energy services to underserved hard-to-reach customers, and those located in Disadvantaged Communities
- Help reduce strain on California's energy grid, while also helping California meet long-term greenhouse gas (GHG) reduction goals
- Provide opportunities for training and employment of Disadvantaged Workers who could work for the direct installation contractors who will be performing the EE measure installations.

Program Delivery and Customer Services

Delivery: The Program will deliver information, training and direct installation of energy and water saving measures. Information will be aimed at raising awareness of tenants and owners about the importance and benefits of reducing energy and water use, with simple pointers about how to manage and reduce usage and save money on utility bills. Town Hall style gatherings will be held in collaboration with city and county agencies, coordinated through SoCalREN's deep connections and relationships with local governments through its Public Agency program. For each building enrolled in the program, simple, easy to understand education will be delivered to tenants and owners and provided with additional supporting materials such as tip sheets and refrigerator magnets to provide additional tenant education.

Services Provided: The Program will offer a menu of retrofit measures that will save natural gas, electricity, and water. All services will be provided at no cost to the customer. As a primarily Equity Sector program, not all energy savings measures will have current DEER workpapers, but the program will work to create new workpapers, or will use data from recently retired

workpapers. In all cases there will be a reduction in grid connected load, and associated grid, GHG and bill savings impacts for measures installed in the program. The program will also provide free training and energy management information as described in sections above. The list of measures is shown in Table 1 below.

Table 1: SCREN Small HTR Multifamily DI EE Program Measures

Type of Measure	Description
Electric	Screw-in LED A-lamp replacing existing incandescent or compact fluorescent lamps
Electric	Screw-in PAR lamp replacing existing incandescent or compact fluorescent lamps
Electric	4' T LED lamp retrofit replacing florescent T12 or T8
Electric	Advanced power strip (plug load controller)
Electric	Kitchen LED ceiling fixture replacing incandescent or fluorescent fixture
Electric	Bath LED ceiling or wall fixture replacing incandescent or fluorescent fixture
Gas/Water	Kitchen sink low flow faucet aerator
Gas/Water	Bathroom lavatory low flow faucet aerator
Gas/Water	Low flow showerhead replacing non-low flow showerhead

Targeted Market/Customer Group: The target group are owners of smaller multifamily buildings with at least 5 and up to 50 rental units. According to recent census data multifamily buildings in this size range account for just over 50 percent of the total multifamily units in the SoCalREN region or more than 1 million properties. Over half of these are in Disadvantaged Communities and many are considered HTR (for example, in Los Angeles County alone, approximately 57 percent of the population speaks a language other than English).

Market Channel: The Program is delivered through third-party direct installation contractors under contract with SoCalREN's prime implementation contractor. SoCalREN will identify targeted customers using a combination of utility billing information, census data, real estate databases and other data sources. Primary characteristics that will inform target customers include zip code, number of rental units, ownership and year built. The list of target customers will be provided to the DI contractors, who will do outbound calling to screen and qualify properties and to arrange a site evaluation and sales appointment. The number and type of measures will be determined during this phase. Another channel will be local governments in coordination with SoCalREN's Public Agency program. Each of these programs will cross sell SoCalREN services and coordinate delivery.

Program Design and Best Practices

The Program design, strategy and tactics all work together to overcome market barriers that prevent customers from implementing energy efficiency measures, and present challenges that can prevent energy efficiency programs from succeeding in the target segment.

Market Barriers ²	Strategy to Overcome Barrier	Program Tactics	Best Practices ³
<ul style="list-style-type: none"> • Lack of capacity • Multiple decision makers • Market confusion and high transaction costs 	Intelligent outreach to reach appropriate decision maker	<ul style="list-style-type: none"> • Targeted marketing and outreach using a variety of communication channels such as social media, email, direct mail, and print advertising • Active engagement with local government partners and CBOs • Program subcontractors that complete installation of EE measures • In-language program outreach to address language barriers 	Consult and target building owners and managers
<ul style="list-style-type: none"> • Market confusion and high transaction costs • Lack of capacity 	Single point of contact to manage property interactions with program	<ul style="list-style-type: none"> • Assigned program representatives based on region • Installation of direct install measures managed through subcontractors 	Provide a one-stop shop for program services
<ul style="list-style-type: none"> • Split incentives • Timing and disruption of tenants • Market confusion and high transaction costs 	Comprehensive program that addresses both common area and in-unit measures	<ul style="list-style-type: none"> • Program subcontractors that complete installation of EE measures • Marketing and education targeted to building owners and tenants 	Integrate direct installation and rebate programs

² Apartment Hunters: Programs Searching for Energy Savings in Multifamily Buildings, ACEEE, December 2013

³ An Overview of Affordable Multifamily Programs: Best Practices and Context for Utilities, ACEEE, September 2021

<ul style="list-style-type: none"> • Split incentives • Lack of capital • Lack of capacity • Market confusion and high transaction costs • Uncertainty about energy savings and other non-energy benefits 	<p>Direct installation of both common area and in-unit measures</p>	<ul style="list-style-type: none"> • Showcase projects to demonstrate “real life” example • Case studies that summarize project opportunities • Proposed EE solutions based on property needs • Installation of direct install measures managed through subcontractors 	<p>Streamline rebates and incentivize in-unit measures</p>
<ul style="list-style-type: none"> • Split Incentives • Lack of capital • Timing and disruption of tenants • Multiple decision makers 	<p>Target properties less than 50 units in HTR areas</p>	<ul style="list-style-type: none"> • Targeted marketing leveraging various data sources • In-language support to address language barriers • No cost direct install of common area and tenant measures to address income barriers • Referral of income-qualified customers to ESA programs 	<p>Serve both low-income and market-rate multifamily households</p>
<ul style="list-style-type: none"> • Market confusion and high transaction costs • Timing and disruption of tenants • Multiple decision makers 	<p>Electric, gas and water efficiency measures with savings support by CPUC approved workpapers</p>	<ul style="list-style-type: none"> • No cost direct install of common area and tenant measures to address income barriers 	<p>Coordinate programs across electric, gas and water utilities</p>

Innovation

The Program embodies innovation in the following ways:

Outreach and Enrollment: By using datasets and analytics to target the eligible customers, messages can be tailored in-language, time and costs are saved from traditional outbound calling or door to door canvassing approaches traditionally used. The DI contractor is furnished

with lists of pre-qualified properties and contact information to aid in their enrollment of customers. The Program provides in-language marketing, education, and outreach (ME&O) to overcome the English as a second language market barrier commonly found with hard-to-reach (HTR) customers. This effort assists Spanish, Chinese, Vietnamese, and Korean property owners develop and complete energy efficiency projects through education, training and general support needed to participate in Multifamily Program.

Small Multifamily Energy Showcase Projects: The Program will develop up to three SoCalREN Multifamily Energy Showcase projects that will be used as an example of best practices and new technologies applicable to smaller multifamily buildings. Sites will be selected based on several factors, such as owner's interest and willingness to be an "ambassador" to other owners of small apartments, suitability of the site to be representative of common apartment types and climate zones. The measures installed will go beyond the normal list of DI measures, and may include electrification EE measures such as heat pump HVAC and water heating systems, high efficiency gas appliances, advanced controls to enable demand response, insulation, window films, and LED lighting.

Common Platform for Tracking and Reporting: SoCalREN's implementation contractor will deploy its Sightline system to improve customer communications, contractor activities, reporting completed projects and energy savings, measurement and verification and customer service.

Metrics

A comprehensive set of Common Metrics are used to measure program success. At a high level, these metrics include:

Project Data:

- Projects in pipeline at all stages of program process (initial interest, to scoped, to committed, to installed, to inspected)
- Project location
- Project classification (DAC, HTR)
- Site information (# of tenant units, age, common/tenant square footage, ownership)
- Customer information (demographics, as reasonably available, of tenants and ownership)

Energy Savings:

- kWh, kW, therms, gallons of water saved per project
- Overall program savings during the reporting period (calendar year)
- Project pipeline savings (anticipated savings of future projects in the pipeline)

Contractors

- Scorecard
- Feedback
- Complaints and resolution
- Workforce opportunities and diversity

Financial:

- All program expenditures, by CPUC reporting categories of administration, marketing, direct implementation non incentive, and DI labor and materials
- Funds encumbered during the enrollment and installation phases
- Funds remaining
- Cost per kWh/kW/therms of energy saved

To-Code Savings Claims

The Multifamily Program includes measures that are above code except for lighting. Lighting recommendations typically include replacing existing incandescent or CFLs with LED fixtures which are mandated by national lighting standards.

- Where to-code savings potential resides:** Small, independently owned multifamily buildings represent a significant opportunity for to-code savings because these buildings have not been well served by IOU EE programs in the past. Additionally, this subsegment face several of the most difficult barriers to overcome (information, first cost, and split incentive).
- Equipment types, building types, geographical locations, and/or customer segments promising cost-effective to-code savings:** The most common opportunity for to code savings will be lighting, where many units will still have incandescent and CFL lamps and fixtures. Through its simple and pro-active direct install delivery mechanism, the Program will quickly and cost-effectively implement accelerated replacement of these and other measures to maximize energy savings for the tenant and owner.
- Barriers preventing code-compliant equipment replacements:** Because of the traditional barriers at play in the small apartment sector, owners will not spend the additional capital to replace failed equipment with costlier above code equipment. For example, if there are fixtures that use T12 lamps, the owner will continue to buy replacement T12 lamps at the home improvement centers, rather than replace the entire fixture with T8 or TLED fixtures. Tenants will not upgrade their units because of the extra cost, and the fact that they don't own the property, and may not be planning to live in the unit long enough to realize the full benefits of above code EE.
- Issues preventing natural turnover:** Natural turnover is not occurring within the small multifamily segment mainly due to owners' reluctance to spend any more money than absolutely necessary on maintenance and upgrade of the property. This is especially prevalent now as owners are trying to recover from COVID-related rent freezes that have impacted revenue streams.
- Program interventions to accelerate equipment turnover:** The direct install delivery method ensures immediate replacement of existing inefficient equipment without the need for owner or tenant outlay of cash.

Pilots

The Program will develop up to three SoCalREN Multifamily Energy Showcase projects that will be used as an example of best practices and new technologies applicable to smaller multifamily

buildings. Sites will be selected based on a number of factors, such as owner's interest and willingness to be an "ambassador" to other owners of small apartments, suitability of the site to be representative of a majority of apartment types and climate zones. The measures installed will go beyond the normal list of DI measures, and may include electrification EE measures such as heat pump HVAC and water heating systems, high efficiency gas appliances, advanced controls to enable demand response, insulation, window films, and LED lighting.

Workforce Education and Training⁴

Describe how the program will support workforce education and training to:

- 1. Expand/initiate partnerships with entities that do job training and placement.*
- 2. Require placement experience for any new partners in the workforce, education, and training programs and new solicitations.*
- 3. Require "first source" hiring from a pool of qualified candidates, before looking more broadly, beginning with self-certification.*
- 4. Facilitate job connections, by working with implementers and contractor partners, and utilizing energy training centers.*

The Program will work closely SoCalREN's Workforce Education & Training Program (SCR-WET-D1) to help direct install contractors employ and train disadvantaged workers.

Workforce Standards⁵

Decision 18-10-008 addresses Workforce Requirements and Third-Party Contract Terms and states that the minimum workforce standards apply "to large non-residential HVAC and lighting controls projects (p. 71)." It further states that "all projects involving installation, modification, or maintenance of heating, ventilation, and air conditioning (HVAC) measures in nonresidential buildings (p. 76)" are subject to the standards. Therefore, the Workforce Requirements do not apply to this Program as it focuses exclusively on the residential sector.

However, all projects completed through the Program are performed by participating contractors who are either licensed General (B) Contractors or hold a specialty license for a particular trade (e.g., C-10 electrical contractor). The Program requires contractors to follow all state and local building codes and to pull permits as required by the authority having jurisdiction. The Program validates compliance with permitting requirements at the completion of project construction through the submittal of a Permit Verification Form.

Disadvantaged Worker Plan⁶

The Program serves as a gateway for the Green Path Careers program to help place graduates with participating Multifamily Program contractors. The Green Path Careers programs provides contractors with access to a trained workforce who can assist in the energy assessment phase and mitigate the cost barrier of hiring entry level workers. The Multifamily Program account managers discuss the Green Path Careers program during the onboarding of new contractors

⁴ D.18-05-041, page 20-21 and Ordering Paragraph 7

⁵ D.18-10-008, Ordering Paragraph 1-2 and Attachment B, Section A-B, page B-1.

⁶ D.18-10-008, Attachment B, Section D, page B-9.

and general communication about the program continue through monthly e-newsletters and other formal and informal communications.

Additional information

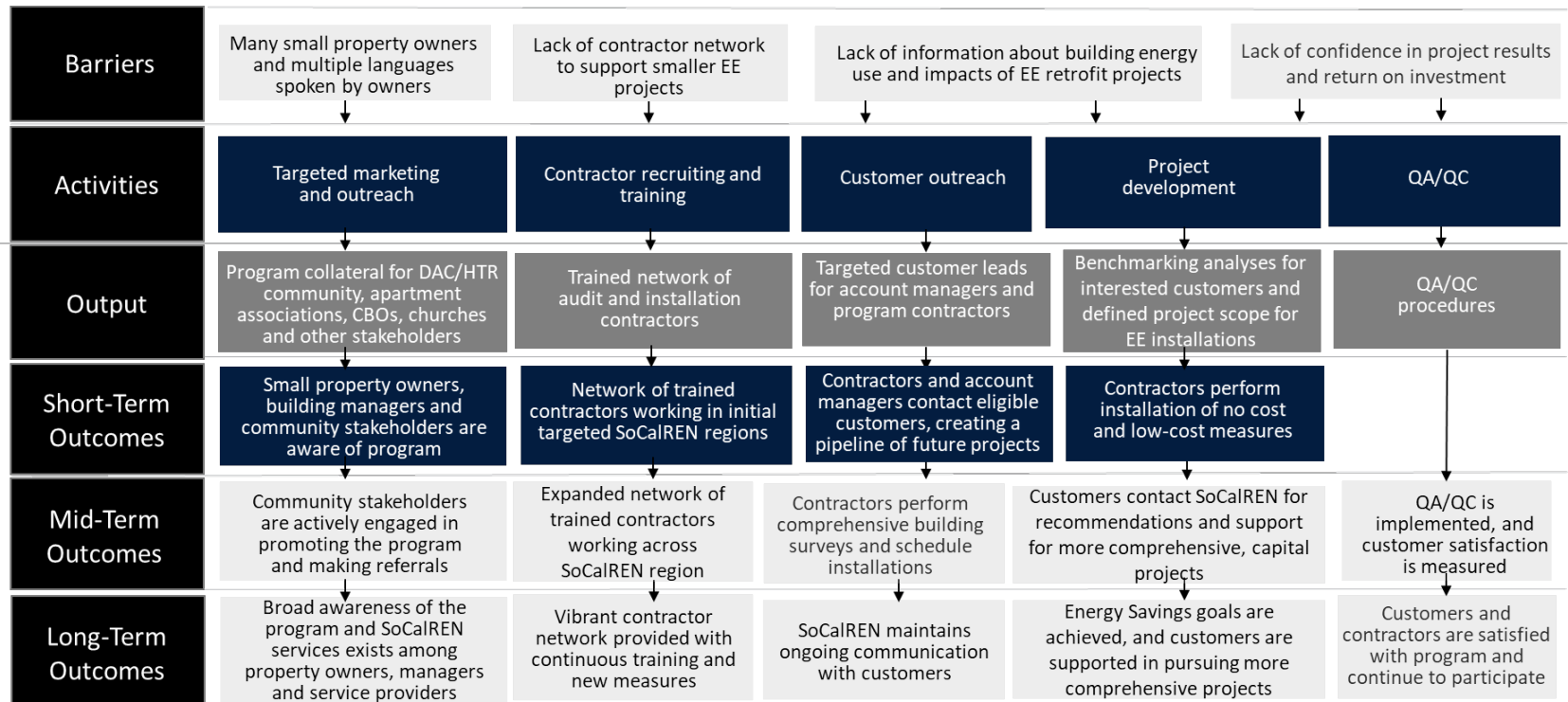
N/A

Supporting Documents

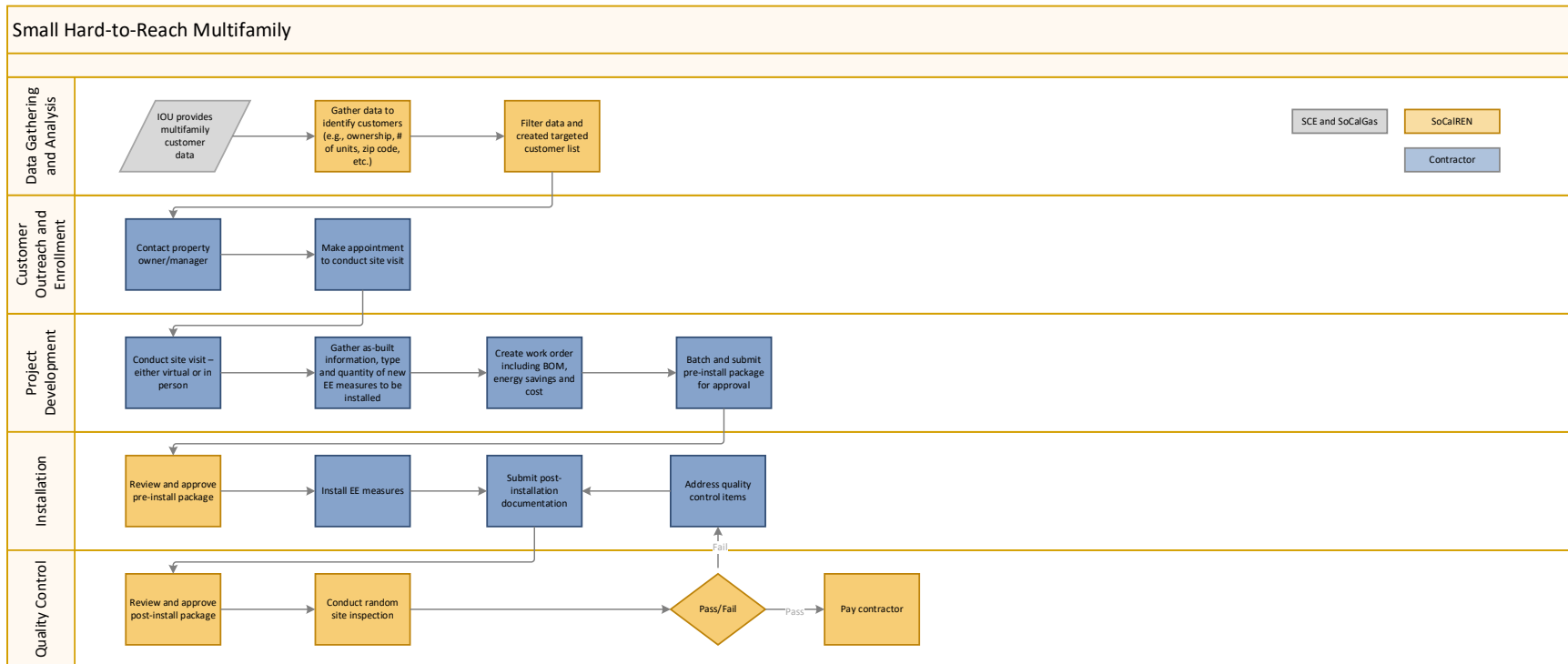
Program Manuals and Program Rules

Program Manual to be developed after approval of the Business Plan.

Program Theory and Program Logic Model



Process Flow Chart



Incentive Tables, Workpapers, Software Tools:

The following table lists all measures available for the Program.

Measures	Referenced Workpapers
(1) 48in T8 Lamp (Common Area) LED replacing (1) 48in T8 Linear Fluorescent	SCE17LG117.0
(1) 48in T8 Lamp (Dwelling Unit) LED replacing (1) 48in T8 Linear Fluorescent	SCE17LG117.0
LED A-Lamps LPW Equivalent Average Mix Dwelling Area	SCE17LG133.2
LED A-Lamps LPW Equivalent Average Mix Common Area	SCE17LG133.3
Ductless Mini-Split Heat Pump (NR) SEER 17 HSPF 9.4 Heat Pump replacing StdEff Furnace and Window AC (fuel sub)	SWHC044-02G
Ductless Mini-Split Heat Pump (NR) SEER 18 HSPF 9.8 Heat Pump replacing StdEff Furnace and Window AC (Fuel sub)	SWHC044-02H
Res DXHP (NR) SEER \geq 15 and HSPF \geq 8.7 Heat Pump replacing SEER14 and TE 80%	SWHC045A
Residential Smart (Communicating) Thermostat replacing Non-Programmable & Programmable Thermostat	SWHC039-01
Residential Smart Thermostat Heat Pump Thermostat replacing Non-Programmable & Programmable Thermostat	SWHC039-01
Attic Insulation \geq R-38	SWBE006D
Central System Natural Gas Water Heater Tier II (\geq 90%TE) (Storage or Tankless)	SWWH010B
DHW Loop Temp Controller Multifamily Gas	SWWH016
DHW Pump Demand Control Gas MF	SWWH015B
Efficient Residential Gas Oven	SWAP017A
Energy Star Dryer	SWAP003G
Faucet Aerator Bathroom Sink 1.0 gpm - MF	SWWH001C
Faucet Aerator Kitchen Sink 1.5 gpm - MF	SWWH001A
High Efficiency Furnace Residential AFUE 95%-VSM MFm	SWHC031B
HW Heater Pipe Sleeve Indoor	SWWH026A
Low Flow Showerhead 1.5 gpm - MF	SWWH002H
Natural Gas Pool Heater \geq 84% TE	SWRE003A
Small Tankless Water Heater Tier 3 (UEF \geq 0.95) Medium Draw	SWWH013
Storage Water Heater 40-Gal Medium Draw (UEF \geq 0.64)	SWWH012
High Efficiency (SEER 18) Central/ ductless HVAC unit replacing existing less efficiency unit	SWHC045
High-efficient and variable speed fan motor for indoor air-conditioner fan replacing constant speed less efficient fan motor	AC-68273
Heat pump water heater with grid enabled controls replacing natural gas water heater (average of all configurations) (fuel sub)	SWWH025
Tier 2 smart connected advanced power strip (APS)	SWAP010A

Incentives

Below are the approved DI costs per measure which is based on actual contractor's quoted prices and workpaper full measure costs where not available.

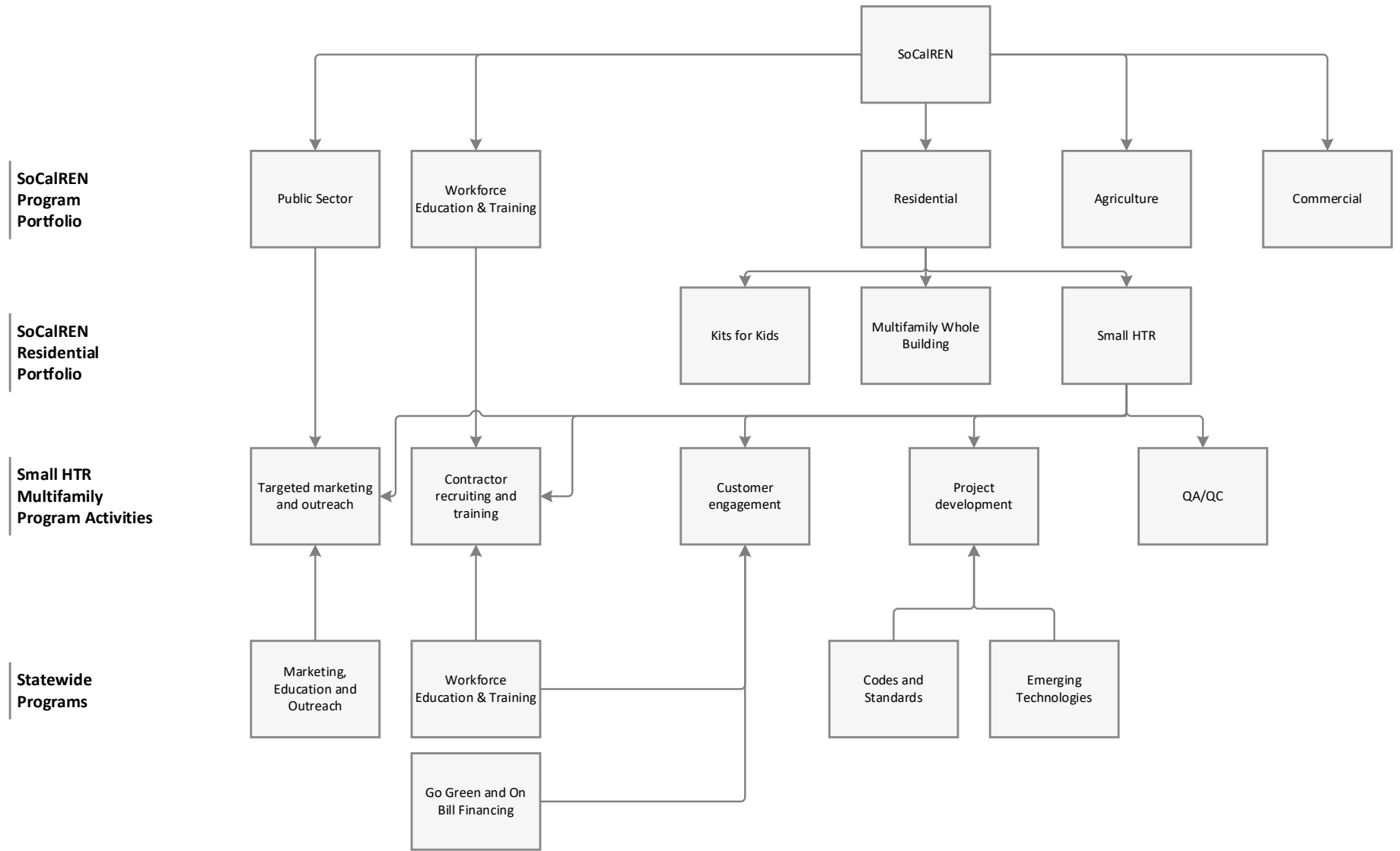
Measures	Normalize Unit	DI Cost
(1) 48in T8 Lamp (Common Area) LED replacing (1) 48in T8 Linear Fluorescent	Lamp	\$17
(1) 48in T8 Lamp (Dwelling Unit) LED replacing (1) 48in T8 Linear Fluorescent	Lamp	\$17
LED A-Lamps LPW Equivalent Average Mix Dwelling Area	Lamp	\$11
LED A-Lamps LPW Equivalent Average Mix Common Area	Lamp	\$11
Ductless Mini-Split Heat Pump (NR) SEER 17 HSPF 9.4 Heat Pump replacing StdEff Furnace and Window AC (fuel sub)	Cap-Tons	\$1,803
Ductless Mini-Split Heat Pump (NR) SEER 18 HSPF 9.8 Heat Pump replacing StdEff Furnace and Window AC (Fuel sub)	Cap-Tons	\$1,858
Res DXHP (NR) SEER \geq 15 and HSPF \geq 8.7 Heat Pump replacing SEER14 and TE 80%	Cap-Tons	\$1,203
Residential Smart (Communicating) Thermostat replacing Non-Programmable & Programmable Thermostat	Each	\$180
Residential Smart Thermostat Heat Pump Thermostat replacing Non-Programmable & Programmable Thermostat	Each	\$180
Attic Insulation \geq R-38	Area-ft2	\$1
Central System Natural Gas Water Heater Tier II (\geq 90%TE) (Storage or Tankless)	Cap-kBTUh	\$33
DHW Loop Temp Controller Multifamily Gas	Household	\$82
DHW Pump Demand Control Gas MF	Household	\$103
Efficient Residential Gas Oven	Each	\$952
Energy Star Dryer	Each	\$940
Faucet Aerator Bathroom Sink 1.0 gpm - MF	Each	\$10
Faucet Aerator Kitchen Sink 1.5 gpm - MF	Each	\$10
High Efficiency Furnace Residential AFUE 95%-VSM MFm	Household	\$452
HW Heater Pipe Sleeve Indoor	Each	\$24
Low Flow Showerhead 1.5 gpm - MF	Each	\$24
Natural Gas Pool Heater \geq 84% TE	Cap-kBTUh	\$17
Small Tankless Water Heater Tier 3 (UEF \geq 0.95) Medium Draw	Each	\$3,098
Storage Water Heater 40-Gal Medium Draw (UEF \geq 0.64)	Each	\$1,273
High Efficiency (SEER 18) Central/ ductless HVAC unit replacing existing less efficiency unit	Household	\$2,538
High-efficient and variable speed fan motor for indoor air-conditioner fan replacing constant speed less efficient fan motor	Cap-Tons	\$93
Heat pump water heater with grid enabled controls replacing natural gas water heater (average of all configurations) (fuel sub)	Each	\$1,945
Tier 2 smart connected advanced power strip (APS)	Household	\$68

Quantitative Program Targets

In addition to the program savings goals, the following goals have been established for 2024:

- Serve 160 multifamily buildings in DAC ZIP codes or meeting HTR criteria
- Provide bill savings measures to 2,400 tenant units
- Establish a team of local Direct Install Contractors to serve a diverse geographic region

Diagram of Program



Evaluation, Measurement & Verification (EM&V)

The M&V process for the Program has been established to validate that measure installation complies with workpaper guidelines and that savings can be claimed accordingly. This validation process involves the following levels of review:

1. **Desk Review:** All projects will be verified through a thorough Desk Review. All program documents are reviewed to ensure that all program requirements and measure requirements specified in the workpaper are confirmed. These documents include customer application/account information, itemized inventory of equipment installed, photos of baseline and new equipment for all measures, specification sheets, and any supplemental measure-specific information as needed. Savings for each measure will be sourced from the work papers previously listed. If the project is greater than \$5,000, it will go through an additional quality control step where the program manager will provide a secondary level of review and approval.
2. **Site Inspection:** On-site inspections will be conducted for randomized 10 percent of projects. The selection for on-site inspection is a system generated parameter that is completed after the project has moved through the Desk Review process. Site inspections include verification of equipment installation, operation, and eligibility. If no discrepancies are found during the inspection, the project is approved for payment and moves into the incentive disbursement process. If discrepancies were found during the inspection, a punch list is provided to the DI contractor listing the issues to be resolved prior to payment. Once the contractor addresses the punch list items, the project is reinspected to verify that all outstanding items have been resolved.

Data gathered through site inspections and M&V activities is documented in the Program database for future use by evaluation teams. This data will also prove useful in helping inform future program design to improve overall cost-effectiveness. Data stored in the database includes the following items as a minimum:

- Contact information for the applicant, site, and contractor for measure installations
- Utility data from SCE and SoCalGas
- Project invoice for installation labor and materials
- Equipment specification sheets
- Project energy savings
- Measure cost
- Project installation date
- Equipment model number
- Any additional measure-specific data points specified in the workpapers to satisfy M&V.

The gross savings will be calculated after the measures are documented and reviewed and the project-specific M&V requirements are satisfied. The per-unit savings will be sourced from approved workpapers available through the California Technical Forum dashboard here: <https://www.caetrm.com/dashboard/>.

Savings are documented in the program database along with the expected useful life (EUL) and measure costs. The EUL will be used to calculate net lifecycle savings. Net savings will be

reported for the program to represent the savings over the lifecycle of the measures with the estimated savings associated with free ridership excluded. The project lifecycle savings will be based on a weighted average EUL method.

Normalized Metered Energy Consumption (NMEC)

The Program will not use the NMEC savings platform.



ENERGY EFFICIENCY PROGRAMS

SoCalREN Commercial Sector
Small and Medium Business Energy
Advisor
Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
September 2021

Contents

Program Overview	3
Program Budget and Savings	4
Implementation Plan Narrative	6
Program Description	6
Program Delivery and Customer Services	7
Program Design and Best Practices	9
Innovation	9
Metrics	10
The following indicators will also be tracked for the program:	10
To-Code Savings Claims	10
Pilots	10
Workforce Education and Training	11
Workforce Standards	11
Additional Information	11
Supporting Documents	12
Program Manual and Program Rules	12
Program Theory and Program Logic Model	12
Process Flow Chart	12
Incentive Tables, Workpapers, and Software Tools	13
Quantitative Program Targets	13
Diagram of Program	14
Evaluation, Measurement, and Verification (EM&V)	14
Normalized Metered Energy Consumption (NMEC)	15
Index of Tables	
Table 1. Finance Sector	3
Table 2. Finance Sector	5

Program Overview

The SoCalREN Small and Medium Business Energy Advisor (SMBEA) program is a commercial sector program that will reduce barriers to energy efficiency actions and program participation for small and medium businesses in the SoCalREN territory. Program services are focused on educating business owners about the cost of energy and the value of efficiency, connecting owners to commercial sector energy efficiency programs, and supporting applications for low or no-cost financing for energy efficiency measures. For SoCalREN Commercial Programs' participants, SMBEA will provide a dedicated Project Manager as a single point of contact to coordinate delivery of services across programs and minimize complexity for business owners. Key program outcomes include supporting long term energy efficiency market success, improving energy knowledge and awareness among small and medium business owners, expanding access to capital to fund energy efficiency projects, and increasing participation in commercial sector energy efficiency programs serving this market segment.

Program Budget and Savings

1. Program and/or Sub-Program Name

SoCalREN Small and Medium Business Energy Advisor

2. Program / Sub-Program ID number

SCR-COM-E4

3. Program / Sub-program Budget Table

Table 1: SMBEA Program Budget

Budget Category	2024	2025	2026	2027
Administration	\$160,000	\$57,996	\$60,800	\$65,000
Marketing	\$96,000	\$34,798	\$36,480	\$39,000
Direct Implementation - Non-incentive	\$1,344,000	\$487,166	\$510,720	\$546,000
Total	\$1,600,000	\$579,960	\$608,000	\$650,000

4. Program / Sub-program Gross Impacts Table

Not applicable

5. Program / Sub-Program Cost Effectiveness (TRC)

Not applicable

6. Program / Sub-Program Cost Effectiveness (PAC)

Not applicable

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Third party-delivered

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Commercial

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Market Support

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.
 - a. Delivery channel: downstream
 - b. Intervention strategies: finance support, project management

Implementation Plan Narrative

Program Description

The Small and Medium Business Energy Advisor (SMBEA) program is designed to address three key barriers to energy efficiency for business owners: 1) lack of awareness of the value of energy efficiency, 2) difficulty accessing capital to fund energy efficiency, and 3) limited staff resources to support participation in energy efficiency programs.

By providing energy education in a business context, SMBEA will help owners understand the relationships between reduced energy costs, balance sheet benefits, and mitigating rate escalation risk. Translating energy cost savings into improved business facilities and operations, better quality products or services, increased staffing, financial resiliency, or even future business expansions will drive buy-in for efficiency action and investments. Awareness of the value of energy efficiency and the financial implications of reducing consumption will drive increased participation in energy efficiency projects and programs, resulting in a stronger long-term energy efficiency marketplace.

Connecting business owners to non-ratepayer funded low and no-cost financing programs, such as Mission Asset Fund's Business Microloan Program, will help small and medium business (SMB) owners purchase and install high-efficiency equipment without substantial capital outlay¹. Business owners may not be aware that low or no-interest financing products are available to fund energy projects; furthermore, they may not fully consider the time-value benefit of low-interest financing when evaluating funding options. Financing support services will help promote and strengthen small market financing by offering turnkey support for SMB applications throughout the financing product lifecycle, increasing the number of loans issued and reducing default rates.

Many SMBs are independently owned and operated, or have very small staff sizes (less than 10 full-time equivalents). Commercial sector energy efficiency programs that require multiple touchpoints can present a barrier to utilizing those programs, and navigating differing eligibility requirements across programs can further inhibit participation. The SMBEA program will serve as the single point of contact for business owners eligible to participate in one or more of the SoCalREN Commercial Sector programs, including the Small/Hard to Reach Commercial Direct Install Program, the California Green Business Network Program, and the Food Desert Energy Equity program. The SMBEA program will assign a Project Manager to each business and they will be responsible for assessing program eligibility, outreach to program implementers, coordination of site visits, and facilitation of all program communication with the business owner. The anticipated outcomes of this service are increased participation in SoCalREN's Commercial Sector Programs, increased uptake in financing products available on the marketplace, and increased energy efficiency projects completed.

¹ "Business Microloans - Mission Asset Fund." <https://www.missionassetfund.org/business-microloans/>. Accessed 11 Oct. 2021.

The SoCalREN SMBEA Program aims to meet the following objectives in alignment with the California Energy Commission’s Environmental and Social Justice Action Plan 2.0² and SoCalREN Core Values:

Objectives	ESJ Action Plan Goal	SoCalREN Core Value
Improve awareness and understanding among small and medium business owners of the relationships between energy use, energy costs, and business operations and financial goals.	4. Increase climate resiliency in ESJ communities	Build Energy Capacity and Economic Resilience
Increase access to capital resources for funding energy projects for small and medium businesses.	2. Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.	Build Energy Capacity and Economic Resilience
Reduce barriers to energy efficiency program participation by providing a single point of contact to manage and coordinate delivery of SoCalREN Commercial Program services.	N/A	Delivering Energy & Climate Impacts

Program Delivery and Customer Services

Targeted Market Segment

The target market for the SoCalREN SMBEA program is small and medium businesses operating in SoCalREN territory. Small and medium businesses are defined as having annual non-coincident peak demand of less than 20kW and less than 200kW respectively. This market segment is inclusive of any and all eligible participants in the SoCalREN Commercial Sector Programs, but participation in those programs is not required.

Strategies and Tactics

Outreach and Business Engagement: The SoCalREN SMBEA program will develop marketing and education materials, including print and electronic materials, to support outreach and engagement. SMBEA will make initial contact through targeted outreach, including in-person store visits, direct mail, paid media, and community-based outreach organizations and local governments.

- Informational Materials
 - In-language program participant materials
 - Fact sheets

² “Draft Environmental and Social Justice Action Plan 2.0”. <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/draft-cpuc-esj-2010262021c.pdf> . Accessed 4 January 2022.

- Interest form/application
 - Case studies
 - Web pages on socalren.org
- Educational Materials
 - In-language materials
 - Energy efficiency education
 - Viewing energy costs in a business context
 - Rate escalation risks
 - Balance sheet impact of efficiency
 - Savings opportunities
 - Energy financing education
 - Value of spreading costs over time at low interest rates
 - Small market financing products available to business owners
 - Actions to further reduce peak demand
 - Eligible energy efficiency programs
 - Highlighting energy savings opportunities and SoCalREN incentive program opportunities

Project Management Support: An SMBEA Project Manager (PM) is assigned to each business and will be the primary point of contact for all SoCalREN services. The SMBEA PM collects energy usage, billing history, and operational and facility data, and is responsible for delivering energy financial analysis and recommendations. The SMBEA PM screens the business's eligibility for SoCalREN Commercial Sector Programs and facilitates all interaction with those programs, including interactions with implementer staff, contractors, or vendors.

Stakeholder Coordination: The SMBEA implementer coordinates with SoCalREN Commercial Sector program implementers and associated market actors, such as contractors, equipment distributors, and non-REN program partners. Other program partners include financiers, state and federal agencies such as the California Chamber of Commerce and US Small Business Administration, and community-based organizations.

Registration/Enrollment: Businesses can enroll in SBMEA services by registering on the SoCalREN website. Participation in other SoCalREN programs may require a formal enrollment process, which the SMBEA implementer facilitates.

Financial Analysis, Recommendations, and Referrals: Interviews with the business owner are conducted by the SMBEA Project Manager in order to understand the challenges and opportunities facing the participating business and to establish goals. This information, along with energy and business data collected by the Project Manager, are analyzed to generate a financial model that forecasts energy costs and potential savings under different scenarios. The SMBEA Project Manager also evaluates business eligibility for other SoCalREN programs and provides referrals to those programs when applicable.

Financing Application Support and Submission: For participants interested in leveraging financing products to fund energy efficiency activities, such as the replacement of outdated or inefficient appliances, the SMBEA Project Manager models the financial impacts of the financing product and supports the application process as needed. Energy efficiency projects supported by financing in this manner do not need to use ratepayer-funded incentive programs in order to receive support.

Program Design and Best Practices

In SoCalREN territory, the investor-owned utilities offer some customer education on efficiency and financing. However, these resources are limited and often focus on businesses that are the largest energy users. Medium and small businesses often do not receive the customized interventions needed to help them become aware of current and future energy costs, understand the business value of energy savings, and access low-interest financing products. This program offers direct support through SMBEA staff, who are trained to guide small and medium businesses through energy use evaluation, cost escalation impacts, and financing applications, and to provide referrals to additional programs.

Customizing financial advisory services for each business is essential in order to communicate the value of efficiency and reduced consumption. SMBEA Project Managers will work closely with owners and managers to understand specific business needs and opportunities for improvement. The SMBEA will meet with business owners to understand their current operations, existing pain points, and future business goals. SMBEA will collect and analyze energy use data to define current annual energy costs and provide future cost forecasts under different business growth scenarios. Other business financial data may be collected to contextualize the potential impacts of improved energy efficiency. SMBEA will develop an energy cost model and deliver it to the business owner, along with a comprehensive list of low-interest energy project financing options and recommendations for energy efficiency program enrollment(s). The energy cost model will draw a direct connection between potential energy cost savings and business improvements needed to meet the business's goals, such as growth, expansion, resiliency, etc. If the owner is interested in pursuing a financing product or enrolling in a SoCalREN commercial sector program, the SMBEA Project Manager will facilitate the next steps, including preparing a financing application and/or outreach to programs to initiate services.

Program design will follow established best practices for reaching small and medium commercial businesses, including partnering with local government agencies, SoCalREN regional partners, and community-based organizations. SMBEA will leverage state agencies such as the California Chamber of Commerce and federal agencies such as the Small Business Administration to provide targeting data and information on additional outreach channels.

Innovation

This program will increase the long-term success of energy efficiency within the small to medium business market through the innovations described below.

- **Education:** Customized energy advisory services ensure small and medium businesses are educated about the benefits of energy efficiency and that proposed solutions are tailored to each business's unique needs.
- **Access to Capital:** Financing application support that does not require participation in a resource program will improve trust in small market energy financing products and services. Furthermore, it will drive investment of non-ratepayer funds into the energy efficiency market by demonstrating the fiscal benefit of low-interest financing and removing barriers to applying and utilizing the funding.
- **Multi-program Coordination:** Reducing the number of touchpoints required to participate in energy efficiency programs helps address a key barrier for businesses with limited staff resources. By coordinating interactions with other SoCalREN programs, the SMBEA will ensure a positive customer experience while maximizing participation rates.

Metrics

Table 2. SMBEA Program Metrics

Activity	Metric	Method	Frequency
Channel participation to SoCalREN Commercial Sector Programs	# of businesses successfully referred to Commercial Sector Programs	As reported by SoCalREN Commercial Sector Program implementer(s)	Annually
Provide project management services to Commercial Sector Program participants	# of projects receiving project management support	As reported by SMBEA implementer	Annually
Provide financial planning services focused on the participant's energy costs and financing options for energy efficiency projects	# of businesses receiving financial planning services	As reported by SMBEA implementer	Annually
Perform financial analysis for specific energy savings opportunity and microloans (external funding source)	# of project financial analyses performed	As reported by SMBEA implementer	Annually
Prepare and submit loan application	# of loan applications submitted and approved	As reported by SMBEA implementer	Annually
Participant accepts offer and receives funding	# of loans accepted	As reported by SMBEA implementer	Annually
	Loan amount disbursed (\$)	As reported by SMBEA implementer	Annually
	# of appliances purchased and installed	As reported by SMBEA implementer	Annually
Agency repays the microloan	# of loans fully repaid	As reported by SMBEA implementer	Annually

The following indicators will also be tracked for the program:

- On-bill cost savings achieved (\$)
- # of projects managed
- Successful referral rate
- Customer satisfaction score
- # of jobs created
- # of businesses in underserved communities

To-Code Savings Claims

Not applicable to this program.

Pilots

Not applicable to this program.

Workforce Education and Training

Not applicable to this program.

Workforce Standards

Not applicable to this program.

Additional Information

Not applicable to this program.

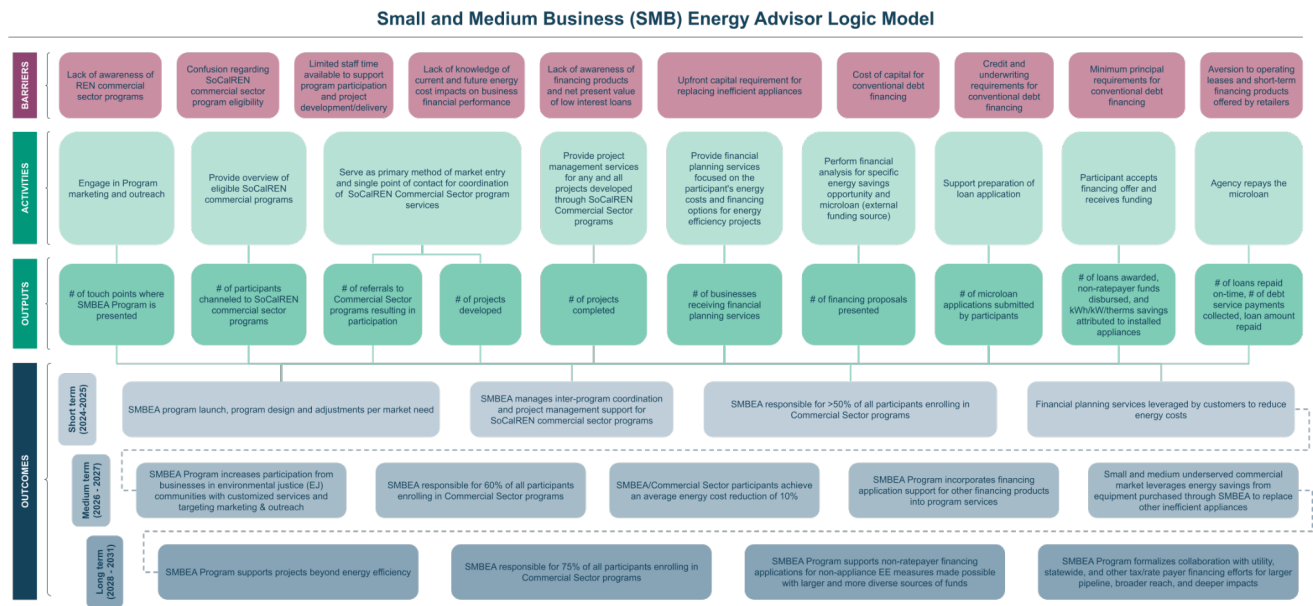
Supporting Documents

Program Manual and Program Rules

To be produced following program approval.

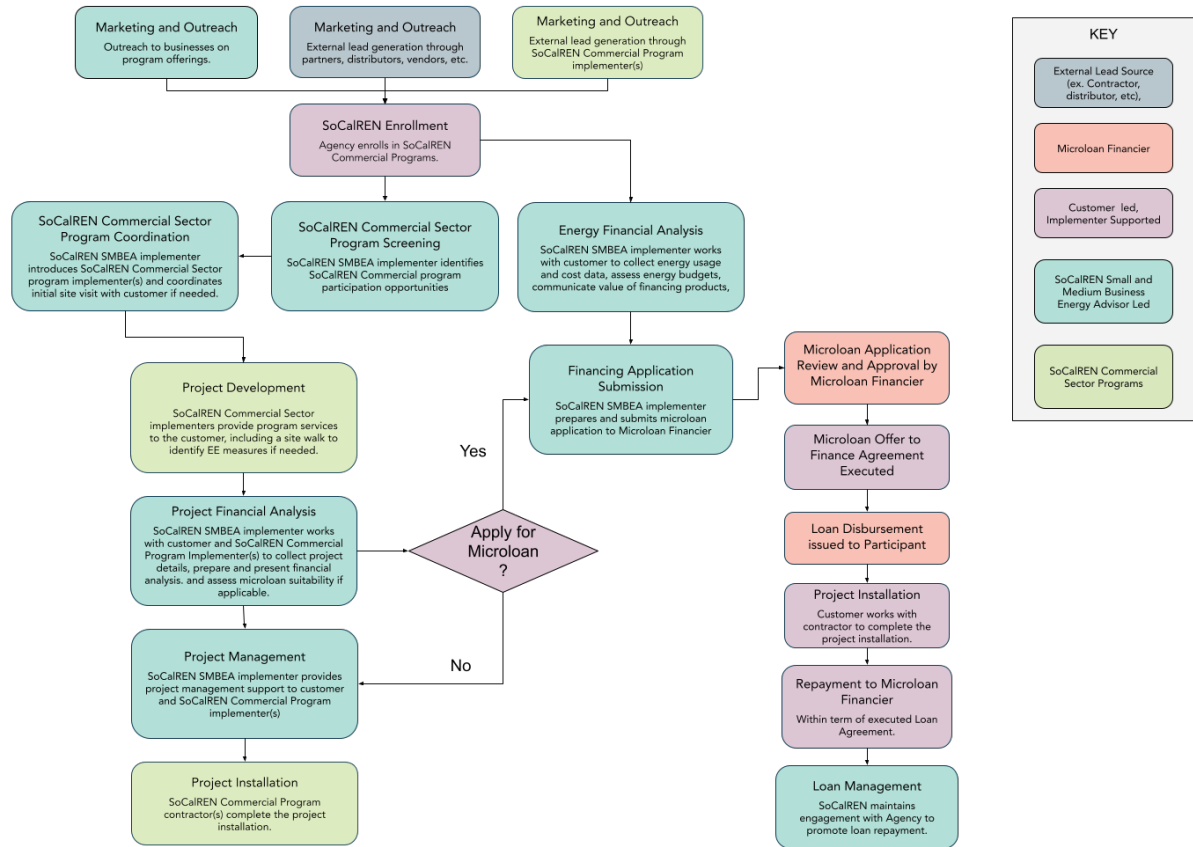
Program Theory and Program Logic Model

Figure 1: Program Theory and Program Logic Model



Process Flow Chart

Figure 2: Program Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

Not applicable to this program.

Quantitative Program Targets

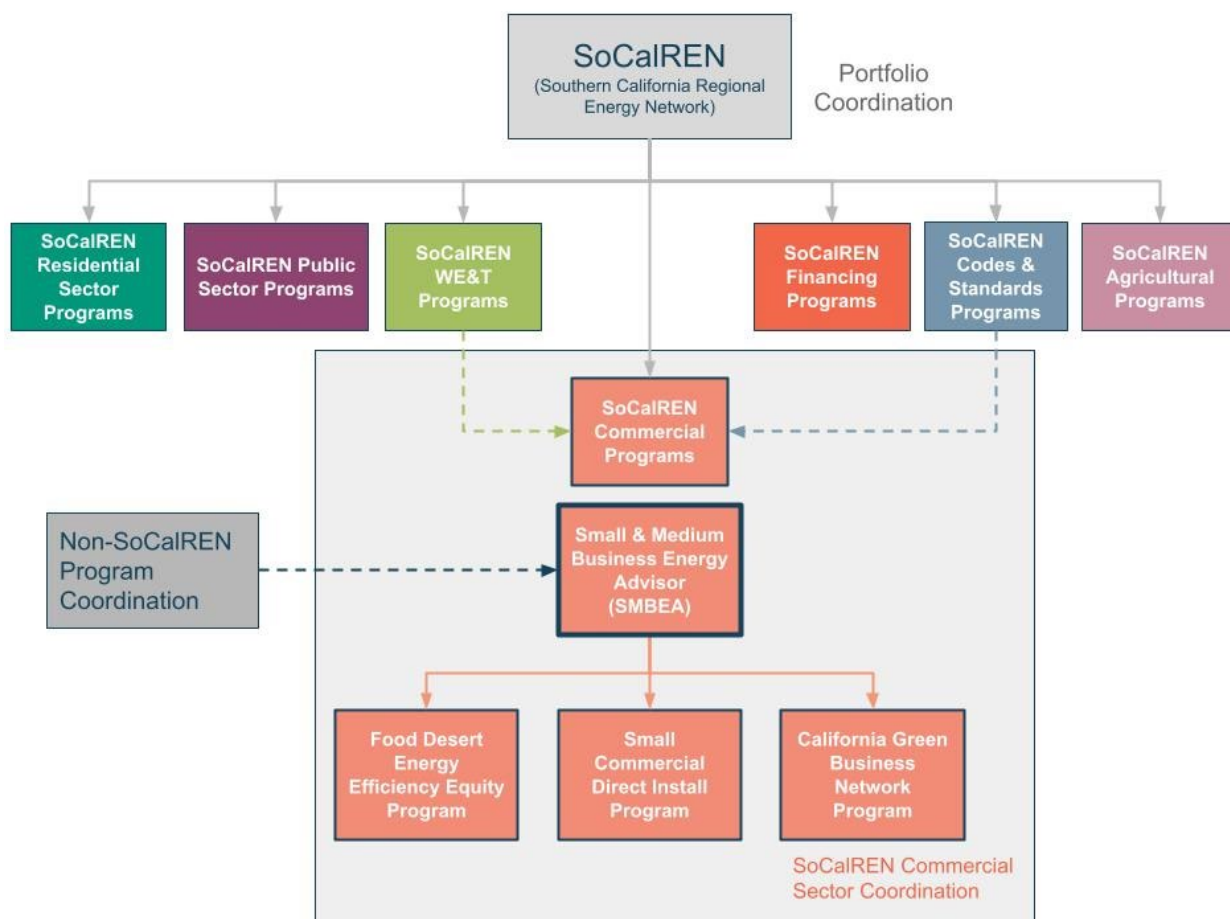
Table 3. SMBEA 4-year Program Targets

Activity	Metric	4 year target
Channel participation to SoCalREN Commercial Sector Programs	# of businesses successfully referred to Commercial Sector Programs	722
Provide project management services to Commercial Sector Program participants	# of projects receiving project management support	1443
Provide financial planning services focused on the participant's energy costs and financing options for energy efficiency projects	# of businesses receiving financial planning services	200
Perform financial analysis for specific energy savings opportunity and microloan (external funding source)	# of project financial analyses performed	100
Prepare and submit loan application	# of loan applications submitted and	90

	approved	
Participant accepts offer and receives funding	# of loans accepted	81
	Loan amount disbursed (\$)	\$202,500
	# of appliances purchased and installed	81
Agency repays the microloan	# of loans fully repaid	79

Diagram of Program

Figure 3: Program Diagram



Evaluation, Measurement, and Verification (EM&V)

SMBEA is a non-resource market support program that supports the long-term growth of the energy efficiency market. In order to demonstrate the program's contribution to the market support objectives, the following EM&V activities will be performed:

- SoCalREN as the PA will conduct a process evaluation through EM&V funding during year 2 of the program operation to identify any process improvements and program recommendations for future program years.

- The program implementer (PI) will establish clear and robust data collection strategies that will be detailed in the program manual prior to program launch. This will include data coordination protocols with other SoCalREN programs and financiers offering financing products used by participants to ensure continuous and timely reporting of the program metrics and indicators.
- The program administrator and program implementer will establish regular data reporting strategies that comply with any established reporting requirements.

Normalized Metered Energy Consumption (NMEC)

Not applicable to this program.



ENERGY EFFICIENCY PROGRAMS

SoCaIREN Public Sector Normalized Metered Energy Consumption (NMEC) Program Publicly known as Public Agency Metered Savings Program

Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
February 2022

Contents

Program Overview.....	3
Program Budget and Savings.....	4
Implementation Plan Narrative.....	5
Program Description	5
Program Delivery and Customer Services	7
Program Design and Best Practices	8
Innovation	9
Metrics	10
To-Code Savings Claims	11
Pilots	11
Workforce Education and Training	11
Workforce Standards	11
Disadvantaged Worker Plan	12
Additional Information	12
Supporting Documents.....	13
Program Manual and Program Rules	13
Program Theory and Program Logic Model	13
Process Flow Chart	14
Incentive Tables, Workpapers, and Software Tools	14
Quantitative Program Targets	15
Diagram of Program	15
Evaluation, Measurement, and Verification (EM&V)	16
Normalized Metered Energy Consumption (NMEC)	17

Program Overview

California has an ambitious goal of doubling energy efficiency savings by 2030. For public agencies to contribute to statewide energy efficiency goals and improve their aging infrastructure, they need resources. Existing energy efficiency programs require bringing facilities above Title 24 standards, which can deter public agencies from acting due to financial constraints—leaving below-code facilities with the largest energy efficiency opportunities “stranded.” SoCalREN’s Public Agency Normalized Metered Energy Consumption (NMEC) Program (publicly named Metered Savings Program or MSP) offers a way to access “stranded” savings with comprehensive project delivery support. The NMEC program uses normalized metered energy consumption to measure energy savings at the meter, unlocking new project opportunities that go beyond the energy efficiency measures typically incentivized by utility custom or deemed incentive programs. [SoCalREN will leverage a novel approach to delivering incentives to public agencies based on lifetime greenhouse gas emission reductions that encourages deep energy retrofits and peak demand savings. In advancement of the Commission’s Environmental and Social Justice \(ESJ\) Action Plan, this program also focuses on underserved communities by offering enhanced incentives to disadvantaged, rural, and low-income communities.](#)

Program Budget and Savings

1. Program and/or Sub-Program Name
SoCalREN Public Agency Normalized Metered Energy Consumption Program
2. Program / Sub-Program ID number
SCR-PUBL-B3
3. Program / Sub-program Budget Table

Table 1. Projected Program Budget

Year	Incentive	Admin	Marketing/Outreach	Direct Implementation	Total
2022	\$385,000	\$110,000	\$66,000	\$539,000	\$1,100,000
2023	\$485,000	\$81,500	\$78,000	\$655,500	\$1,300,000

4. Program / Sub-program Gross Impacts Table

Table 2. Gross Savings Impact

Year	Gross kWh Savings Claimed	Gross kW Savings Claimed	Gross therm Savings Claimed
2022	3,000,000	671	853
2023	3,300,000	738	939

5. Program / Sub-Program Cost Effectiveness

Table 3. Program Effectiveness

Year	TRC	PAC
2022	0.61	2.3
2023	0.63	1.96

6. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)
Third party-delivered
7. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)
Public
8. Program / Sub-program Type (i.e., Non-resource, Resource)
Resource Acquisition

9. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market Channel: Downstream

Intervention Strategies: ~~Incentives~~ Technical Assistance

Table 4: Campaign Goals and Timeline

Phase	Key Deliverables	Dates
Program Ramp Up	Program launch to customers Marketing and outreach Project pipeline development	Q1 2022
Program Steady State	Streamline program protocols Incorporate lessons learned to improve program design Energy savings realization and payouts	Q2 2022 - Q2 2023
Program Ramp Down	Program ramp down plan Energy savings realization and payouts	Q3-Q4 2023

Implementation Plan Narrative

Program Description

The objective of the Southern California Regional Energy Network’s (SoCalREN) Public Sector is to identify and implement energy efficiency projects that yield electricity and gas savings. Currently, the SoCalREN Project Delivery Program (PDP) and SoCalREN Distributed Energy Resources Disadvantaged Communities (DER DAC) program focus on projects that are above code as per most of the investor-owned utility (IOU) core programs. A normalized metered energy consumption (NMEC) strategy under the SoCalREN umbrella allows customers to use another pathway to develop projects: capturing savings that are no longer incentivized by IOU incentives or are considered Industry Standard Practice (ISP). Offering NMEC services furthers SoCalREN’s contribution to California’s SB 350¹ goals, which seek to double energy efficiency savings in electricity and natural gas final end uses by 2030.

The SoCalREN Public Sector’s overarching goal is to support public agencies in the effort to reduce energy and costs in their facilities and infrastructure. The Public Agency NMEC Program (NMEC Program) will contribute to this effort by achieving the following objectives:

1. Pursue projects that may not be eligible for IOU incentives, but still have a minimum of 10% energy savings potential and will support program and state goals
2. Reduce multi-measure project complexity and improve project completion timelines
3. Provide technical expertise and appropriate training to facility personnel to ensure the persistence of savings

¹ www.energy.ca.gov/sb350

4. Deliver deep energy savings to public agencies, with a focus on environmental justice communities

Consistent with the ESJ Action Plan, the MSP objectives directly support the following ESJ Action Plan 2.0 goals in Table 5 below:

Table 5. Alignment and Support of ESJ Action Plan 2.0 Goals

<u>Program Objective</u>	<u>ESJ Action Plan Goal</u>	<u>SoCalREN Core Value</u>
<u>Pursue projects that may not be eligible for IOU incentives, but still have a minimum of 10% of energy savings potential and will supporting program and state goals.</u>	<u>Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health</u> <u>Goal 4: Increase climate resiliency in ESJ communities.</u>	<u>Economic Resilience, Climate Action Leadership</u>
<u>Reduce multi-measure project complexity and improve project completion timelines.</u>	<u>Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.</u>	<u>Economic Resilience</u>
<u>Provide technical expertise and appropriate training to facility personnel so as to ensure the persistence of savings.</u>	<u>Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.</u> <u>Goal 4: Increase climate resiliency in ESJ communities.</u>	<u>Economic Resilience, Climate Action Leadership</u>
<u>Deliver deep energy savings to public agencies, with a focus on environmental justice communities.</u>	<u>Goal 1: Consistently integrate equity and access considerations throughout CPUC proceedings and other efforts.</u> <u>Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.</u> <u>Goal 4: Increase climate resiliency in ESJ communities.</u>	<u>Economic Resilience, Climate Action Leadership, Equity</u>

The SoCalREN will offer NMEC services that support and motivate public agencies, [with a focus on disadvantaged, rural, and low-income communities](#), to complete EE projects that are to or above code. This program will offer technical expertise and project management support by leveraging the PDP and DER DAC suite of services without duplicating activities. NMEC will provide technical reviews and application processing services to verify savings and ensure savings persist into the future. The program will also work with facility staff to develop a measurement and verification plan, a maintenance plan and a training plan to confirm equipment and projects are performing as expected. The program will provide public agencies with quarterly savings reports and technical support to ensure savings persist into the future. By doing so, the NMEC Program will fill in gaps of service for the public sector and help them gain access to even more cost and energy savings. Typical projects include measures that are not eligible through IOU or Third Party programs and other high-impact retrofit, retrocommissioning, or operational measures that will lead to deep energy efficiency savings. Examples include exterior lighting and whole building retrofits.

The NMEC program is a resource program that delivers claimable savings; therefore, energy efficiency savings from these projects will contribute to SoCalREN's Total System Benefit and overall portfolio cost-effectiveness calculations. The program will offer ~~initially, no~~ monetary incentives [based on greenhouse gas \(GHG\) emission reductions will be offered to the agencies](#) based on post-installation energy performance. [Incentive rates will be higher for projects implemented in underserved communities](#). In addition, the NMEC Program will offer technical services customized for each agency and project. These services will complement and supplement the technical services and project management support offered through SoCalREN's non-resource Public Agency Programs.

Program Delivery and Customer Services

Target Market

SoCalREN's NMEC program will target enrolled and unenrolled public agencies within SoCalREN's eligible service territory. Enrollment in SoCalREN Public Agency Programs is a prerequisite for participation. There are over 700 agencies in the SoCalREN territory that are eligible to enroll and participate in the NMEC Program. This includes cities, counties, tribes, school districts, water districts, sanitation districts, and other special districts. The program will focus on and deliver services to environmental justice communities, and will conduct marketing and outreach to educate potential participants and communicate the benefits of the NMEC Program.

Services

The Program plans to use a downstream intervention strategy where all services are offered through a third party implementer. Potential projects will be identified by SoCalREN's PDP and DER DAC programs and if deemed as potential for NMEC, projects will be channeled to NMEC for application processing and additional services. The NMEC method does not require an investment-grade audit to confirm the accuracy of measure savings, saving the program and customers time and money. Next, the Program will conduct an energy baseline analysis to identify potential energy savings. Engineering estimates using measured existing condition baselines will

be used to forecast cost savings and energy savings for the project life cycle, which will then be verified using NMEC methods.

SoCalREN third party engineers with experience in ASHRAE energy savings calculation standards and International Performance Measurement and Verification Protocols (IPMVP) will support NMEC projects and help ensure their success. NMEC project reviews will adhere to CPUC NMEC guidelines and will go through the Custom Measure and Project Archive (CMPA) process.

Once an agency agrees to participate in the NMEC Program, it will unlock continued access to customized technical assistance and project management services offered by SoCalREN's PDP and DER DAC programs. Examples include project scoping, financial analysis, financing support, procurement assistance, and construction support. These services are offered to public agencies all at no cost.

Program Design and Best Practices

The NMEC Program has been designed to overcome several market barriers in the public sector, including: (1) limited IOU core and third party program services for savings below code, (2) lengthy project implementation schedules, and (3) lack of funding and financing.

Barrier 1: Limited IOU core program services for savings below code

~~With the closure of the SCE Public Sector Performance Based Retrofit program, there is no program in the market to help public agencies address holistic (electric and gas) savings opportunities. IOU programs have generally focused on upgrades that are above code or standard practice, leaving energy savings unrealized. As mentioned, the IOU core program design is limited in that it focuses its resources on asset upgrades that are above code or standard practice. The current SoCalREN PDP and Pathway to Zero mirror this design, but also recognize that there are significant energy savings below code that have been left unrealized.~~ The NMEC Program will provide the necessary resources to get these projects completed and to meet or exceed code or standard practice. Addressing this barrier will help agencies realize additional energy and cost savings.

The following best practices have been incorporated into the NMEC Program design to leverage lessons learned throughout the industry.

Best Practices

- Measure meter energy usage before and after installation. Normalize data as needed to support maintenance and monitoring activities managed by facility staff.
- Focus on asset and building controls upgrades including interior lighting, exterior lighting, HVAC, and EMS systems to capture savings up to and above code.
- Offer customized project management and technical expertise as needed for each project to maximize outcomes and minimize program cost.
- Gather and ensure accuracy of project data including inventory, equipment specifications, and maintenance protocols to support ongoing project performance and savings persistence.

Barrier 2: Lengthy project implementation schedules

Typical energy efficiency projects within a public agency can take 18-24 months from identification to completion. This is a major challenge for public agencies because it delays energy and cost savings. Moreover, priorities can change during this time, thus jeopardizing the availability of resources and funding. The following best practices have been incorporated in the program design.

Best Practice

- Expedited reviews of program applications to mitigate the cost of delay and ensure savings are realized as soon as possible. Applications will be reviewed within an estimated 30 business days of application submission.

Barrier 3: Lack of available funding and financing

Financing capital upgrades often requires multiple funding strategies, which can get complicated. This program aims to address this barrier through a three-pronged approach. First, the NMEC Program will provide no-cost technical assistance to support below-code projects and motivate agencies to take action. Second, through PDP and DER DAC offerings, agencies will gain access to financing support services to address capital barriers. The NMEC calculation method will support financing products which require a high level of certainty on project performance, energy and cost savings. Finally, the program will offer monetary incentives to participating agencies based on verified post-installation energy savings, with increased incentive amounts for disadvantaged, rural, and low-income communities. The following best practices have been incorporated in the program design.

Best Practices

- Support whole building energy efficiency efforts, combining elements of mechanical replacement, retrocommissioning, weatherization and lighting where possible to optimize financials and support project approval.
- Offer performance based incentives that encourage deep energy retrofits.

Innovation

Incentive structured around lifecycle avoided GHGs and prioritizing underserved communities. SoCalREN is proposing an innovative incentive structure that drives persistent energy savings, contributes to the State's energy efficiency goals, and prioritizes underserved communities. Incentives will be offered to agencies based on cumulative avoided GHG emissions from their projects' total lifecycle resource energy savings. This incentive structure aligns incentives to the grid impact, TRC of each measure, and the project's contribution to long-term energy reduction goals. This approach also captures the full benefits of fuel substitution measures. Unlike traditional IOU programs that offer flat rate incentives on first-year savings, the NMEC Program will offer enhanced incentives for underserved agencies. SoCalREN believes this structure will promote deep, long-lasting energy savings.

Expedited program application reviews and approvals. Project identification, scoping, application submissions, reviews, and approvals are all housed under the SoCalREN Public Agency Program portfolio. This comprehensive, streamlined, start-to-finish support ensures a smooth project delivery process for participating agencies and reduces the administrative hurdles associated with project handoff to outside parties. Projects participating in the NMEC Program will have a

dedicated SoCalREN Project Manager coordinating services between all SoCalREN public sector programs and the NMEC Program to simplify the agency’s experience.

Deep energy and cost savings. Traditional IOU efficiency program design is limited in that it has focused its resources on asset upgrades that are above code or standard practice. The NMEC program recognizes that there are significant energy savings below code that have been left unrealized. NMEC provides the necessary resources to facilitate these projects and get them completed in order to meet and go beyond code or standard practice. Addressing this barrier removes obstacles faced by agencies in project delivery and helps them realize deep energy and cost savings.

Metrics

The NMEC Program is proposing the following key performance metrics and indicators to be tracked and reported on throughout the program cycle.

Table 6. Program Performance Metrics and Indicators

#	Metric	Method	Frequency
1	Number of projects reviewed	Projects reviewed through energy analysis	Quarterly
2	Number of project applications approved	Projects submitted to CPUC	Bi-monthly
3	Number of projects completed	Savings submitted to CPUC	Quarterly
4	Count and types of facilities (e.g. school, streetlights) for which projects were completed	Count submitted to CPUC	Quarterly
5	Gross and net annual and lifecycle kWh savings claimed	Savings submitted to CPUC	Quarterly
6	Gross and net annual and lifecycle kW savings claimed	Savings submitted to CPUC	Quarterly
7	Gross and net annual and lifecycle therm savings claimed	Savings submitted to CPUC	Quarterly
8	Average percentage of annual electric and gas savings at the meter	Average percentage submitted to CPUC	Annually
9	Number of agency introductions to program services	Count of program engagement presentations and Project Proposals delivered outlining MSP opportunities	Annually
10	Number of projects evaluated for program fit	Count of Project Proposals delivered analyzing MSP viability	Annually
11	Number of projects recommended to follow NMEC path	Count of Project Proposals delivered with MSP pathway recommended	Annually
12	Number of projects eligible for NMEC	Count of projects screened for NMEC eligibility	Annually
13	Number of project applications submitted	Count of projects submitted for technical review	Annually

14	Number of staff people trained	Count of staff people trained by SoCalREN	Annually
15	Amount of incentive dollars issued	Dollars disbursed to agencies	Quarterly
16	GHG emissions avoided	Calculated lifecycle reductions	Quarterly
17	Number of regular energy reports presented to agency	Count of reports presented	Annually

Project information will be gathered through a series of discussions and verification checks with each public agency customer. A database within the existing SoCalREN Customer Relationship Management (CRM) system will be used to track information about the customer, project, energy savings claimed, and other details that will show the impact of this program. Reporting will be done on a quarterly basis and more frequently as needed. Once the information is gathered, it will be entered in the database and then used to generate reports.

To-Code Savings Claims

The program uses normalized metered energy consumption (NMEC) models for pre-and post-installation periods to evaluate savings on an ex post basis at the project level. The program compares this data to an existing conditions baseline and reports full measure costs in accordance with Commission Resolution E-4818 and D.16-08-019. A weighted project-level effective useful life (EUL) is assigned based on measure-level savings since EUL estimates as required by the CPUC’s NMEC Rulebook v 2.0.²

Pilots

This section is not applicable.

Workforce Education and Training

This section is not applicable.

Workforce Standards

The NMEC Program will provide due diligence to ensure that energy efficiency projects supported by the program adhere to the Workforce Standards for Heating, Ventilation, and Air Conditioning (HVAC) and Advanced Lighting Control Programs as applicable. The program will integrate compliance checks to ensure projects installed comply with CPUC Workforce Standards as stipulated in D.18-10-008³. The NMEC Program will ensure the following requirements are met:

² <https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/n/6442463694-nmec-rulebook2-0.pdf>

³ <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M251/K782/251782504.PDF>

- Installation, modification, or maintenance of incentivized HVAC measures of \$3,000 value or more will be required to be installed by workers or technicians who meet at least one of the following:
 - Enrolled in and/or completed an accredited HVAC internship;
 - Completed more than five years of work experience at the Journey level per California Department of Industrial Relations definition, passed competency tests, and received specific credentialed training;
 - Has a C-20 HVAC contractor license issued by the California Contractors State License Board (CSLB), or;
 - The standards outlined in D. 18-10-008 will be required for Direct Install projects.
- Installation of incentivized lighting control measures of \$2,000 value or more will be required to be installed by technicians who have completed the California Advanced Lighting Controls Training Program (CALCTP).

The NMEC Program will ensure compliance by confirming with agencies that the requirements will be met during both the application and installation review.

Disadvantaged Worker Plan

This section is not applicable. Each public agency follows their own procurement requirements.

Additional Information

This section is not applicable.

Supporting Documents

Program Manual and Program Rules

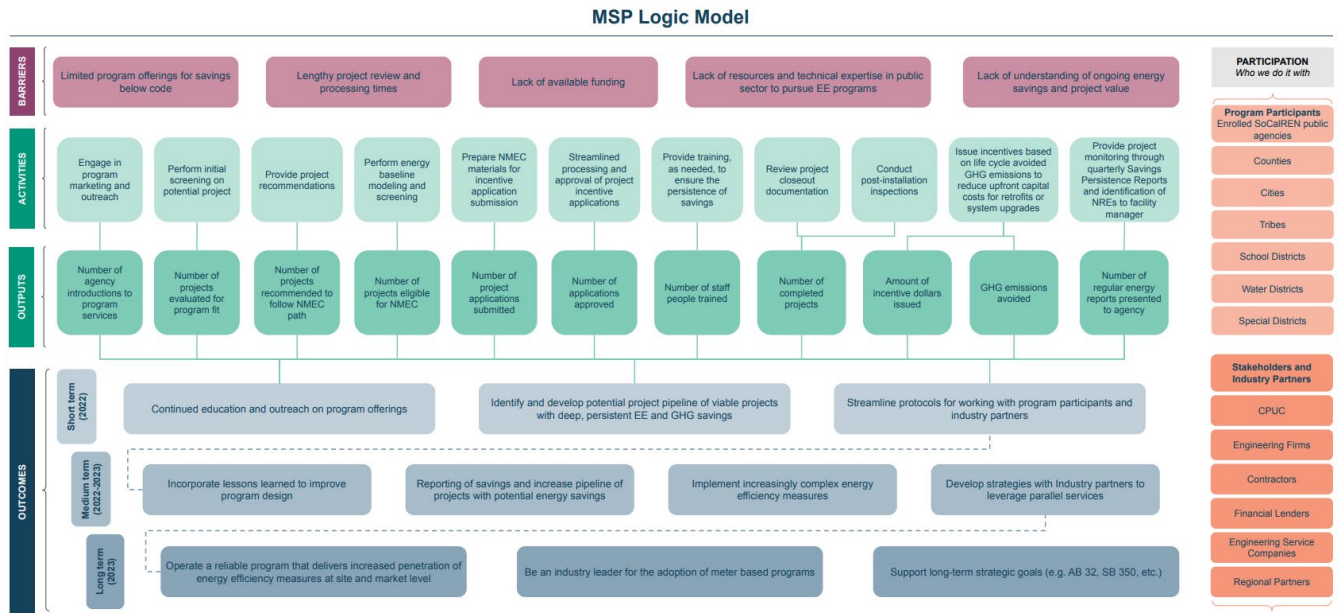
A short description of supporting materials is provided below. Greater detail will be provided in the program manual.

Table 7: Supportive Materials Index

#	Information Required	Short Description
1	Eligible measures or measure eligibility	This meter-based program is measure agnostic; however, all savings will be transparent in their calculations.
2	Customer eligibility requirements	The NMEC Program will work with customers that are eligible for the SoCalREN Public Agency Programs. This includes cities, counties, school districts, tribes and special districts serviced by SCE and/or SoCalGas.
3	Contractor eligibility requirements	The Program will comply with workforce requirements and targets as described in D.18-10-008.
4	Participating Contractors, Manufacturers, Retailers, Distributors	This is a downstream program with technical assistance and monetary post-installation incentives
5	Additional services	The Program will offer education and training services to ensure savings persistence. Post-installation performance reports on a monthly basis will also be presented to the customer.
6	Audits	Audits, pre-installation, and post-installation will be conducted in a manner that aligns with the finalized NMEC Rulebook.
7	Sub-Program quality assurance provisions	Quality assurance checks will be implemented throughout the process to maintain accurate data and customer satisfaction

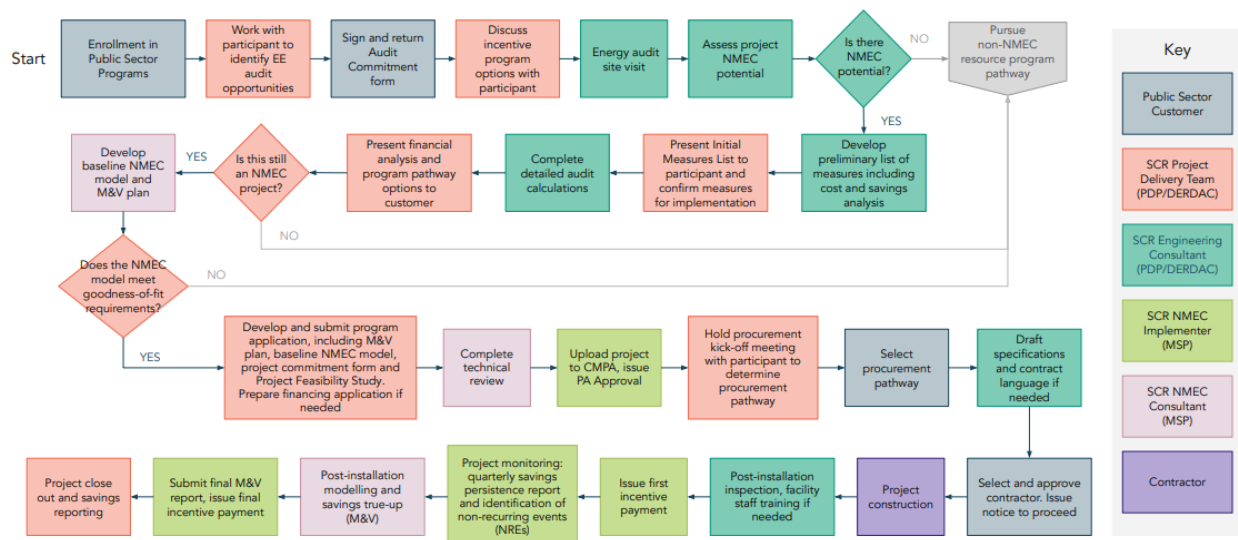
Program Theory and Program Logic Model

Figure 1: Program Theory and Program Logic Model



Process Flow Chart

Figure 2: Program Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

This program will use the Commission direction in Resolution E-4952 for Database of Energy Efficiency Resources (DEER) 2019 and 2020 updated assumptions, methods and values for savings estimates and future planning, implementation and reporting where applicable. If public sector buildings have unique operating characteristics that deviate from DEER, the program will

follow the NMEC procedures for savings documentation. The program will follow the NMEC procedures for claims.

Software tools below may be used for CPUC savings calculations and to ensure that market-based solutions, including but financing needs and data workflows, are compatible with program savings calculations. Listed below is a summary of tools that are under consideration for the NMEC Program.

Table 8. Program Tools

Information Required	Short Description	URL link or location name
OpenStudio	Open source Energy Modeling Software supported by DOE	www.openstudio.net/
ECAM	Energy Charting and Metrics tool: ECAM is a Microsoft Excel®-based tool that facilitates the examination of energy information from buildings to complete pre and post energy efficiency project regression analyses of utility interval meter data against outdoor air temperature.	www.cacx.org/PIER/ecam/
ASHRAE Inverse Modeling Toolkit	An industry recognized toolkit for creating multivariate regression models to calculate savings from energy related upgrades.	www.techstreet.com/ashrae/se/arches/21801900
CalTrack	CalTRACK methods describe a process of arriving at a calculation of avoided energy use.	www.caltrack.org

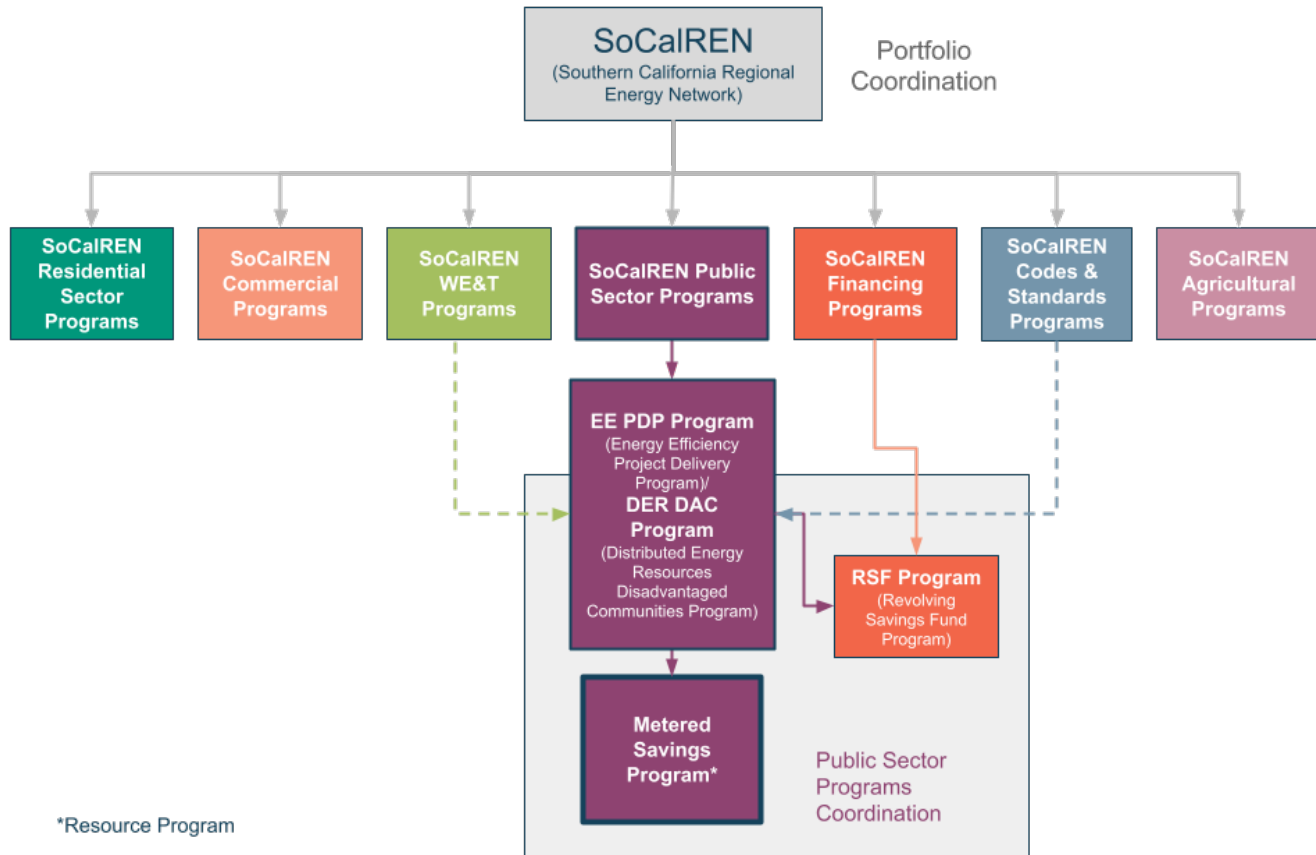
Quantitative Program Targets

Table 9. Quantitative Program Targets

Year	Gross kWh Savings Claimed	Gross kW Savings Claimed	Gross therm Savings Claimed
2022	3,000,000	671	853
2023	3,300,000	738	939

Diagram of Program

Figure 3: Diagram of Program



Evaluation, Measurement, and Verification (EM&V)

Program level evaluation, measurement, and verification (EM&V) activities may be performed to inform program improvements and future program design. The NMEC implementation process involves the following steps to ensure program services are delivered at high quality and in compliance with state and regulatory requirements:

1. **Data management in secure SoCalREN customer relationship management (CRM) platform:** agency-level and project-level data and milestones are tracked in a centralized cloud-based platform. This centralized data hub allows the Program to develop detailed reports and dashboards to track progress towards program goals and key performance indicators.
2. **Deliverable quality control checks:** all project deliverables and project application materials are put through rigorous internal quality control checks before being delivered to clients, third-party technical reviewers, or the CPUC.
3. **Contracted engineering consultant technical review:** after the program conducts an internal review of each project application to ensure completeness and quality, each application undergoes a technical review from an engineering consultant with extensive experience in utility and incentive program application reviews.
4. **Quarterly review of progress toward key performance indicators:** using the data stored in the SoCalREN CRM, the Program will evaluate progress toward key performance indicators (KPIs) at least quarterly to track progress and identify areas for improvement.

5. **Project closeout surveys and customer feedback solicitation:** customer feedback is collected via survey upon completion of every project. Feedback is solicited on the program services utilized, the standard of customer service, and recommendations for program improvements. The SoCalREN Public Agency Programs also distribute annual customer surveys to collect program feedback. This allows for iterative program enhancements to all SoCalREN Public Agency Programs, including the NMEC Program.

Normalized Metered Energy Consumption (NMEC)

Program Measurement & Verification Overview

Measurement & Verification (M&V) is the process of using measurements to reliably quantify savings from a resource savings project within a facility, a process, a building, or a building subsystem. The resource saved for MSP is energy (electric kWh or natural gas therms) and/or demand (electric kW).

M&V is used to verify that an energy efficiency project is achieving its intended savings. Energy savings represents the absence of energy use and cannot be directly measured. Therefore, the M&V approach describes how savings are determined from measurements of energy use before and after implementation of a project, with appropriate adjustments made for changes in conditions. Such adjustments may be routine and expected, while others are non-routine and unexpected, due to factors unrelated to the project.

This M&V Plan conforms to CPUC guidance as codified in its Rulebook for Programs and Projects Based on Normalized Metered Energy Consumption (NMEC Rulebook 2.0), issued on January 7, 2020. MSP is a site-level NMEC program. Project site (or qualifying submeter) energy use models that meet goodness-of-fit criteria will be treated as NMEC.

Site-level NMEC Program M&V Plan - Site-level NMEC Overview

The NMEC Rulebook 2.0 provides the following definition for site-level NMEC approaches:

- Savings are determined on a site-by-site basis and claimed at the level of the individual site or project.
- The method used to estimate savings is developed based on building and/or site-specific characteristics and reflect the unique drivers of savings at the site or project.
- The method may include adjustments for site-specific non-routine events (NREs) that occurred at the site during the baseline, reporting, or installation period.

MSP will conduct site-level NMEC M&V following the framework in the International Performance Measurement and Verification Protocol (IPMVP), using the Option C-Whole Facility method. However, CPUC direction would take precedence over any variance to IPMVP methodology. All projects will be subject to CPUC review and dispositions.

This document covers the Program-level M&V. For each site-level NMEC project, a supplemental site-level M&V plan will be provided. These site-level M&V plans will include the site-specific details indicated above.

Methodology, Analytical Methods, and Software

The initial step in the NMEC approach is to create a mathematical model of the energy consumption at the project site (or submeter). This is a regression model that relates energy consumption (the dependent variable) to one or more independent variables. The specifics of the regression model are determined by observing actual data. In the case of the baseline model, this data comes from the historical performance of the site.

In most cases, weather (outdoor dry-bulb temperature) is the primary independent variable for site-level NMEC models. Secondary variables (such as day-of-week, occupancy rate, or other variables describing operational variation) are added if they demonstrate significant explanatory power on energy use. After collecting 12-months of baseline data, one of three regression models is selected, based on data availability.

- **Model #1: Daily Energy and Daily Weather Data (with Optional Daily Secondary Variable):** Single variable (or optional two variable) least squares linear regression will be performed using 365 data points.
- **Model #2: Hourly Energy and Hourly Weather Data: Time of Week and Temperature (TOWT):** Temperature regression with time-of-week as a proxy for occupancy. Separate models fit within temperature buckets in each month. This allows analysis of sites with custom operation schedules.
- **Model #3: Monthly Energy, Weather, and Secondary Variable Data:** For sites that demonstrate strong correlations with a secondary variable, but have only monthly secondary data available, daily usage and weather data are totaled into monthly data. Two-variable least-squares linear regressions are performed using monthly data (minimum 12 data points).

NMEC modeling calculations will follow recognized CalTRACK 2.0 and LBNL NMEC procedures. These modeling calculations will have the following characteristics:

- Automated collection of utility AMI (or sub-meter) data, weather data import, and NMEC calculations compliant with NMEC guidance. Automation saves engineering effort.
- Scalable and not cost prohibitive for most customers and projects.
- Provision of monitoring capability (necessary for NMEC) and trigger notifications of potential sub-performance or NREs (persistence of savings).
- Calculation of statistical fitness metrics to validate appropriateness of a meter-based approach.

IPMVP Option and Measurement Boundary

IPMVP Option C, Whole Facility will be used for savings determination. Option C was selected because MSP promotes upgrade projects that encompass multiple energy efficiency measures (EEMs) and may have interactive effects.

In most cases, utility meters will be used to provide reference consumption data for energy savings calculations. These meters account for all energy use of the facilities. If a facility is served by more than one meter, then all EEMs must be properly attributed to the meter that

tracks the associated load. Alternatively, meter-level consumption can be summed to the whole-building or site level so long as all meters are included that serve loads affected by the adopted EEMs. In some cases, if a system submeter of appropriate accuracy is present, the submeter may be used for analysis.

Adjustments for COVID-19

To account for the impacts of COVID-19 on energy consumption, a routine adjustment to gross savings will be used to ensure savings claims are not over or underestimated. Any adjustment to projects on account of COVID-19 shall be subject to and in compliance with CPUC approval. The MSP will utilize the most up-to-date guidance and adjustment recommendations for addressing COVID impacts.

Data Collection Plan

The site-level NMEC approach allows for customization of M&V approaches based on site-specific characteristics and unique drivers of savings. The MSP will create project-level M&V plans that describe project-specific data collection for each site-level NMEC project. Below is general program level guidance for site-level NMEC data collection.

For the purposes of NMEC savings evaluation, models of energy use at site level meters will be created for the baseline period (pre-implementation) and reporting period (post implementation) using 12 months of input data as required by NMEC guidelines. Data requirements for site-level NMEC energy use models include:

- Utility Data: Electricity (15-minute or hourly), Natural Gas (daily)
- Other Independent Variables (e.g., occupancy rates)
- Equipment Operating Parameters (e.g., chilled water and supply-air temperatures)
- Weather Data (hourly or daily dry-bulb ambient temperatures)

Monitoring and Documentation During the Reporting Period

Implementation staff will remotely observe energy consumption data for each site-level NMEC project over the reporting period. The purpose of these observations is to identify out-of-range performance or potential non-routine events (NREs) triggering investigation and corrective action. Performance indicating 10% or more savings variance will be considered a justifiable significant NRE triggering further evaluation (ASHRAE 14 Guideline).

Identifying and Adjusting for Non-Routine Events

NREs are unexpected changes in building operation that significantly impact energy use, skewing meter-based results. NREs may occur during baseline, implementation or post M&V periods, and may be one-time occurrences which must be isolated from the regression model, or recurring events requiring adjustments incorporated into the model.

Site-level NREs will be identified by observing baseline and reporting period energy use and identifying where savings deviate from ex-ante estimates by greater than 10% (ASHRAE 14

Guideline). These deviations will be further evaluated, and corrective action will be taken in the form of adjustments to the savings models and/or modifications to the installed measures.

Significant NREs will be quantified regardless of whether they have a positive or negative impact on savings. Typical potential NREs include:

- Equipment outages or maintenance shutdowns
- Equipment replacements, additions, or removals unrelated to program measures
- Building use or tenancy changes, and
- Construction or facility closures.

Typical methods employed to prevent NREs from skewing NMEC results are:

1. Remove the data points from the regression data set during the NRE:
 - a. Data points associated with NREs during the baseline period are removed if they constitute a small portion of the overall data, and remaining data points contribute to models exhibiting acceptable goodness of fit.
 - b. Data points associated with NREs during the performance period are investigated if they cause project savings to move above or below a preset threshold. Before data-point removal, these projects undergo manual review and investigation by program engineering staff to determine the true nature of the NRE.
2. Quantify the impact of the NRE by performing measurements and calculations in compliance with custom calculation guidelines for each NRE. Calculated NRE adjustments are normalized.
3. For deviation caused by project related systems, reconfigure to operate as intended.

Determining Program Influence

NMEC projects will be screened for influence. The following documents will be submitted to demonstrate influence and are based on the most up-to-date Statewide Project Feasibility Study template:

- Timeline of customer-implementer meetings, deliverables, and decision-making milestones
- Description or documentation of customer's replacement and/or upgrade practices, plans, and budgets.
- Reports and business cases of options presented to customer.
- Customer-implementer correspondence (e-mails, letters, meeting notes, letters, etc.)

Depth of Savings Thresholds and Model Accuracy

MSP will use a project threshold of 10% of the site's annual energy consumption as measured at the meter or submeter level to determine if a site-level NMEC approach is appropriate. Site-level NMEC models' goodness-of-fit between energy use and the independent variables will meet thresholds suggested in the LBNL NMEC Guidance and ASHRAE Guideline 14.

Incentive Structure

Site-level NMEC savings will be claimed in accordance with CPUC guidelines. Once the performance period data collection period is over and true NMEC savings are calculated, the program savings will be trued-up against the prior savings claimed at the end of project installation. Incentives will be evaluated based on the realized savings and incentive rates.



ENERGY EFFICIENCY PROGRAMS

SoCaIREN Public Sector Public Agency Streamlined Savings Pathway Program Implementation Plan

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
February 2022

Contents

Program Overview.....	3
Program Budget and Savings.....	3
Implementation Plan Narrative.....	6
Program Description	6
Program Delivery and Customer Services	7
<i>Proposed Measures and Treatment</i>	9
Program Design and Best Practices	10
Innovation	13
Metrics	14
To-Code Savings Claims	14
Pilots	14
Workforce Education and Training	14
Workforce Standards	14
Disadvantaged Worker Plan	15
Additional Information	15
Supporting Documents.....	16
Program Manual and Program Rules	16
Program Theory and Program Logic Model	16
Process Flow Chart	16
Incentive Tables, Workpapers, and Software Tools	17
Program Indicators	18
Diagram of Program	18
Evaluation, Measurement, and Verification (EM&V)	19
Normalized Metered Energy Consumption (NMEC)	20

Program Overview

The Southern California Regional Energy Network (SoCalREN) Streamlined Savings Pathway (SSP) fills public sector market gaps by providing public agencies with an expedited pathway to implement comprehensive energy efficiency projects. SSP creates a viable pathway for public agencies to develop energy projects and capture verifiable electric savings that are no longer eligible for support nor incentives due to Southern California Edison (SCE) program closures. SSP offers monetary incentives for qualifying energy efficiency upgrades based on lifecycle greenhouse gas (GHG) emission reductions. In advancement of the Commission’s Environmental and Social Justice (ESJ) Action Plan, enhanced incentives will be offered to encourage and facilitate energy savings in disadvantaged, rural, and low-income communities. Agencies participating in SSP will receive technical expertise and project management services throughout their projects and at no cost through the Project Delivery Program and Pathway to Zero Program (both non-resource programs). Cumulatively, the joint offerings of the SoCalREN PDP, Pathway to Zero, and SSP Programs unlock a streamlined and expedited energy efficiency project delivery experience for the public sector, empowering and equipping public agencies to leap into the clean energy future.

Program Budget and Savings

1. Program and/or Sub-Program Name
Streamlined Savings Pathway
2. Program / Sub-Program ID number
SCR-PUBL-B4
3. Program / Sub-program Budget Table

Table 1: Program Budget Breakdown

Year	Incentive	Admin	Marketing/Outreach	Direct Implementation	Total
2022	\$450,000	\$110,000	\$66,000	\$474,000	\$1,100,000
2023	\$650,000	\$75,000	\$84,000	\$591,000	\$1,400,000

4. Program / Sub-program Gross Impacts Table

Table 2: Program Gross Impacts Tables

Year	Gross kWh Savings Claimed	Gross kW Savings Claimed
2022	2,512,500	295
2023	6,425,000	670

5. Program / Sub-Program Cost Effectiveness (TRC)

Table 3: Program Cost-Effectiveness

Year	TRC
2022	0.37
2023	0.82

6. Program / Sub-Program Cost Effectiveness (PAC)

Table 4: Program Cost-Effectiveness

Year	PAC
2022	0.42
2023	2.14

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Third Party Delivered

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Public

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Resource Acquisition

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market channel: Downstream

Intervention strategy: Incentive

Table 5: Campaign Goals and Timeline

Phase	Key Deliverables	Dates
Launch Readiness	Implementation plan Marketing plan Program marketing materials Program management plan QA/QC Plan	Q1 2022
Program Ramp Up	Program launch to customers Marketing plan implementation Workpaper development/updates Project pipeline development	Q1 - Q2 2022
Program Steady State	Workpaper development/updates Energy savings realization and payouts	Q3 2022 - Q2 2023

Program Ramp Down	Program ramp down plan Energy savings realization and payouts	Q3 - Q4 2023
-------------------	--	--------------

Implementation Plan Narrative

Program Description

SoCalREN's SSP will drive the implementation of energy efficiency projects that yield electricity savings through an expedited and streamlined process. The program fills public sector market gaps left by closing utility programs and third-party programs that have yet to launch by addressing the cost of delay, lack of available funding, and limited program offerings focusing on underserved public agencies. SSP will allow SoCalREN to continue serving customers and deliver on its mission to help public agencies increase energy efficiency adoption and lead their communities on a pathway to a clean energy future.

The SSP is designed as a downstream offering that will provide deemed and custom incentive opportunities based on lifecycle greenhouse gas (GHG) emission reductions. The program seeks to provide expedited project application reviews and to encourage and facilitate energy savings in disadvantaged, rural, and low-income communities. This new offering will support agencies' resiliency efforts and will enable SoCalREN to further contribute to California's SB 350 goals, which seek to double energy efficiency savings in electricity final end uses by 2030. In alignment with statewide energy efficiency goals, the public agency SSP aims to achieve the following objectives:

1. Generate persistent and long-term electric savings (kWh and kW) and GHG emissions reductions to support program and state goals.
2. Increase energy efficiency program participation in underserved communities by offering enhanced monetary incentives to fund energy upgrades.
3. Mitigate the cost of project implementation delays for public agencies through an expedited incentive application review process. SSP will offer an estimated 10-business day turnaround for initial application processing, followed by an estimated 30-business day turnaround for application technical review.
4. Reduce project delays and complexities by leveraging in-house technical expertise and existing agency relationships.

The SSP reduces project delays and complexities for public agencies by implementing strict timelines for project application technical review and approval, and by leveraging start-to-finish technical services and financial analysis support at no-cost from a SoCalREN single point of contact who guides public agencies through SoCalREN's portfolio of energy programs. In addition, monetary incentives based on avoided GHG emissions over the life of the project, with enhanced incentive rates offered to underserved customers, support increased energy efficiency program participation.

Consistent with the ESJ Action Plan, the SSP objectives directly support the following ESJ Action Plan 2.0 goals in Table 6 below.

Table 6. Alignment and Support of ESJ Action Plan 2.0 Goals

Program Objective	ESJ Action Goal Alignment	SoCalREN Core Value
-------------------	---------------------------	---------------------

Generate persistent and long-term electric savings (kWh and kW) and GHG emissions reductions to support program and state goals.	<p>Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.</p> <p>Goal 4: Increase climate resiliency in ESJ communities.</p>	Economic Resilience, Climate Action Leadership
Increase energy efficiency program participation in underserved communities by offering enhanced monetary incentives to fund energy upgrades.	<p>Goal 1: Consistently integrate equity and access considerations throughout CPUC proceedings and other efforts.</p> <p>Goal 2: Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.</p>	Economic Resilience, Climate Action Leadership, Equity
Mitigate the cost of project implementation delays for public agencies through an expedited incentive application review process. SSP will offer an estimated 10-business day turnaround for initial application processing, followed by an estimated 30-business day turnaround for application technical review.	Goal 4: Increase climate resiliency in ESJ communities.	Economic Resilience, Climate Action Leadership
Reduce project delays and complexities by leveraging in-house technical expertise and existing agency relationships.	Goal 4: Increase climate resiliency in ESJ communities.	Economic Resilience, Climate Action Leadership

Program Delivery and Customer Services

The SoCalREN SSP will offer the following innovative services to public agencies to accelerate the implementation of energy efficiency projects: expedited in-house SoCalREN project application review process, monetary incentives based on lifecycle GHG reductions, and enhanced incentive rates for disadvantaged, low-income, and rural customers. The SSP will prioritize facilities and infrastructure with high-value, comprehensive energy efficiency project opportunities within underserved communities. Projects funneled through the SSP will receive technical expertise and project management services at no cost through the SoCalREN PDP and Pathway to Zero program. An assigned SoCalREN Project Manager, acting as a customer’s single point of contact, will guide public agencies through all public sector offerings to mitigate customer confusion and ensure seamless service delivery across all programs. Projects submitted to the SSP will be reviewed and approved by a subcontracted engineering consultant

held to strict timeline agreements for technical review. Custom SSP projects will be submitted through the Custom Measure and Project Archive (CMPA) process.

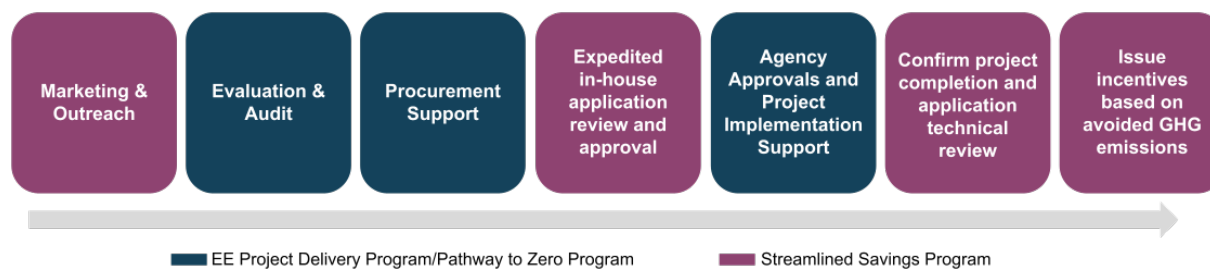
By leveraging the complementary technical support services provided by the PDP and Pathway to Zero program, the SSP will give public agencies streamlined access to cost and energy savings. Program strategies for expedited support include: exclusion of early screening phase typically required by third party and IOU core programs, 10-business day in-house processing and initial review of incentive applications, 30-business day technical review by contracted engineering consultant, and start-to-finish project management support from a SoCalREN Project Manager.

The SSP will be a resource program; therefore, energy efficiency savings from these projects will contribute to SoCalREN portfolio savings goals, Total System Benefit (TSB), and grid demand forecasting and resource planning. Monetary incentives are offered based on lifecycle avoided GHG emissions resulting from projects' resource savings (as measured by the CPUC's Avoided Cost Calculator required for the relevant program reporting year). Unlike traditional IOU and third-party programs that offer flat rate incentives for first-year kWh and kW savings, incentive rates will be higher for underserved agencies given their heightened need for financial support.

The SSP will engage enrolled and unenrolled public agencies eligible for SoCalREN's programs, leveraging existing relationships and data analysis tools to identify opportunities for successful projects. The Program will conduct marketing and outreach to communicate the benefits of the SSP and what it means for each customer.

The SSP will deliver savings using a downstream intervention strategy where all services are offered through a third-party implementer. Potential SSP projects are funneled to SSP by either SoCalREN's PDP or Pathway to Zero program, which identify measure opportunities through either conducting a new energy efficiency audit or utilizing an existing audit of buildings and facilities. The SoCalREN PDP or Pathway to Zero program will complete engineering calculations to determine expected cost savings and energy savings for the project lifecycle based on energy consumption data and savings from the existing baseline associated with the measures included in the project scope. Once an agency confirms the project scope and selects to move forward with incentives through SSP, an incentive application is developed. Once submitted to SSP, applications will receive an initial review within 10 business days and a completed technical review within 30 business days following the initial review. After project approval and construction completion, the SSP will conduct a post-inspection (as needed) to verify implemented measures, update energy models and engineering calculations, determine final claimable lifetime savings and avoided GHG emissions, and finalize an incentive amount to be disbursed to the customer.

Figure 1. Streamlined Savings Pathway Participation Process



Agencies participating in the SSP will benefit from a customized and comprehensive approach to technical assistance and project management through SoCalREN's non-resource PDP and Pathway to Zero program. Services offered through these programs include project scoping, financial analysis, financial support services, procurement assistance, energy modeling, and engineering calculations. SoCalREN third-party engineers will support SSP projects from start to finish and help ensure their success. All of these services will be provided to agencies at no cost.

Target Markets and Served Population

SoCalREN's SSP will target enrolled and unenrolled public agencies within SoCalREN's eligible service territory. Enrollment in the SoCalREN PDP or Pathway to Zero program is a prerequisite for participation in SSP. There are over 700 agencies in the SoCalREN territory that are eligible to enroll and participate in SSP. This includes cities, counties, tribes, school districts, water districts, sanitation districts, and other special districts. There will also be a targeted effort to focus on and deliver services to underserved communities.

Proposed Measures and Treatment

The SSP is a resource program that will promote long-term energy savings from energy efficiency projects, resulting in reduced GHG emissions, cost savings, and increased energy savings for public agencies. Eligible energy efficiency measures will include downstream deemed and custom measures. Reported energy savings claims will be based on deemed measures in the adopted California Electronic Technical Reference Manual (eTRM) and approved work papers as well as calculated savings for eligible custom measures.

Target end uses and measures may include, but are not limited to, those outlined in Table 7 below. Additional measures will be evaluated and added to the program offerings as necessary.

Table 7. Target End Uses and Target Measures

Target End Use	Target Measures
HVAC	<ul style="list-style-type: none"> ● Demand control ventilation ● HVAC controls and occupancy sensors ● Supply fan variable frequency drive (VFD) ● Packaged units ● RTU/AHU/c ● filter optimization or replacement ● Economizer add-on equipment and controls ● Evaporative precooler ● Supply air reset ● Temperature deck reset ● Condenser water reset ● DCV SDEC and CO2 sensor ● AC unit VFD ● HVAC equipment replacement ● HVAC tune up
Lighting	<ul style="list-style-type: none"> ● Interior lighting

	<ul style="list-style-type: none"> • High bay lighting • Integrated retrofit kit for troffer • T8 replacement • Exterior lighting • LED roadway lighting • Lighting controls and occupancy sensors
Pumping	<ul style="list-style-type: none"> • Pump overhauls • Pump replacements • Pump sequencing/scheduling • Pump VFD
Process Optimization	<ul style="list-style-type: none"> • Optimize fluid flow system • Optimize zone pressure • Aeration Blower VFD • Chemically-enhanced primary sedimentation (CEPS) • Ammonia-based aeration controls • Blower sequencing/scheduling • Return activated sludge (RAS)/waste activated sludge (WAS) optimization • UV tertiary treatment upgrade • Ultra-fine pore diffuser retrofit • Wastewater controls automation

Program Design and Best Practices

Key Program Activities

Engage in program marketing and outreach. SoCalREN will introduce SSP and its services to all existing and newly enrolled public agencies. Agencies will be notified if their current projects are good candidates for the new program and will learn how program services can support their planned and future projects. Education through marketing and outreach helps agencies recognize the opportunity and value of services and understand the various programs and technical resources available to support project implementation.

Expedited in-house processing and review of project incentive applications. In-house application processing mitigates communication and coordination delays typically experienced when projects are channeled to external energy efficiency programs. The program will adhere to a goal of 10 business days for the initial review process to expedite project implementation.

Expedited technical review and approval of project incentive applications by contracted engineering consultant. The application package will be reviewed by a SoCalREN engineering subconsultant and be held to strict timelines for review and approval of project application packages. Streamlined processing will shorten the time period between project identification and construction completion, enabling agencies and their communities to realize savings sooner and avoid the costs of delay.

Review project closeout documentation. SoCalREN will review project closeout documentation to finalize the incentive amount to be issued to the customer.

Conduct post-installation inspection as needed. If required, SoCalREN will conduct a post-installation inspection for completed projects to ensure the project is installed per the agency's selected scope and in alignment with deemed and custom program requirements.

Technical review and approval of completed projects by contracted engineering consultants. The SoCalREN third-party implementer will subcontract with experienced engineering firms to perform rigorous post-installation technical review to verify measure installation and finalize energy savings.

Issue incentives based on lifecycle avoided GHG emissions to reduce up-front capital costs for retrofits and system upgrades. Incentives will be based on the project's total resource lifecycle avoided GHG emissions. Incentives are critical to helping public sector customers overcome funding and financing barriers by reducing the up-front cost of capital for projects.

Short-Term Tactics (Program Launch)

Launch of Streamlined Savings Pathway with enrolled SoCalREN agencies. Upon approval by the Commission, SoCalREN will develop and upload a Program Implementation Plan and Program Manual to CEDARs through the required process. SoCalREN will also develop tracking and reporting processes for key performance metrics and program outcomes. SoCalREN will market the program through collateral, presentations, social media, and website integration. SSP will create internal tools, processes, and templates to ensure a successful program. Current and newly enrolled participating agencies will be introduced to the new SSP and services.

Identify and develop a potential project pipeline of viable projects with long-term persistent EE and GHG savings. Agencies will be notified if their active projects are good candidates for the new SSP program and will learn how program services can support their future projects. SoCalREN will track projects identified and key data points to demonstrate measurable progress toward the achievement of program goals.

Establish protocol for working with program participants and industry partners. SoCalREN will develop program processes and procedures to deliver a streamlined, user-friendly program. Coordination with industry partners, including IOUs and third-party implementers will help mitigate customer confusion about program offerings and opportunities. Since the Public Agency Programs launched in 2013, SoCalREN has demonstrated successful coordination with industry partners to ensure disjointed program offerings are introduced to agencies in a streamlined fashion to avoid decision fatigue and potential project delays. Participant and stakeholder coordination will ensure program "double-dipping" is avoided and savings are not double-counted across multiple resource programs.

Mid-Term Outcomes (Program Ramp-Up)

Incorporate lessons learned to improve and streamline program design. SoCalREN's organizational structure affords nimble and quick adaptation to evolving customer needs.

Feedback and lessons learned will be discussed and incorporated into the program design to improve program efficiency and service offerings.

Begin reporting savings and increase the pipeline of projects with potential energy savings. Completed projects will be reported in the program year in which the installation report is submitted for custom projects or when the deemed application is submitted. SoCalREN will work with agencies to develop an ongoing pipeline of projects with the potential for deep, long-lasting energy savings.

Implement increasingly complex energy efficiency measures. Program participants will be motivated to implement comprehensive and complex energy efficiency measures with persistent savings due to the nature of a lifecycle GHG-based incentive structure.

Long-Term Outcomes (Program Steady-State)

Operate a reliable program that delivers increased penetration of energy efficiency measures at the site and market levels. The program will offer public agencies an incentivized program to drive energy projects forward. SSP will increase customer knowledge and awareness of the benefits of energy efficiency measures and programs, ultimately increasing the long-term penetration of measures and future uptake of energy efficiency programs.

Long-term reduction in kWh, kW, and GHGs. The program will encourage measures with deep, long-lasting savings, offering attractive incentives for measures with long effective useful lives (EULs).

Support long-term strategic goals (e.g. AB 32, SB 350, etc.). Deep, persistent savings and GHGs avoided through the program's projects will contribute to the state's long-term strategic goals.

Market Barriers Addressed and Program Best Practices

Several market barriers faced by public sector customers in the SoCalREN service area are addressed through the SSP.

Barrier 1: Program offerings that focus on underserved public agencies are limited. Underserved public agencies may face significant capital barriers when considering energy efficiency upgrades. While the SSP enables all public agencies to pursue energy projects that result in energy, cost, and GHG savings for their communities, underserved agencies will be called to action through the provision of a higher incentive rate.

Best Practices

- Increased incentive values for underserved agencies.
- Incentives rates based on lifetime GHG emissions, which encourages investment in long-term emissions reductions.

Barrier 2: Lengthy project review and approval times. Traditionally, the program offerings available to public agencies have lengthy review and processing times, which can lead to a significant cost of delay for the project. The SSP will expedite processing times by leveraging subcontracted engineering consultants to review and approve project applications. The program will adhere to strict timeline agreements for technical review, allowing public agencies to realize energy and cost savings sooner.

Best Practice

- Expedited reviews of program applications to mitigate the cost of delay and ensure savings are realized as soon as possible. Applications will receive a preliminary review within 10 business days from application submission, and will receive an in-depth technical review within 30 business days from the preliminary review.

Barrier 3: Lack of available funding and financing. Financing capital upgrades often requires multiple funding strategies. Third-party programs offer limited funding and financing support to the public sector. SPP's monetary incentives will provide needed funding, alongside the SoCalREN PDP and Pathway to Zero no-cost services that allow agencies to continue developing and implementing energy saving projects.

Best Practices

- Support comprehensive whole building energy efficiency projects, combining elements of mechanical replacement, retrocommissioning, weatherization, and lighting where possible to optimize financials and support project approval.
- Screen projects for all available funding and financing combinations, including SSP incentives and SoCalREN Revolving Savings Fund loan offerings, as applicable.

Barrier 4: Lack of resources and technical expertise in the public sector to pursue EE programs. Public sector customers often lack the in-house resources and technical expertise to apply for and secure funding and financing for energy efficiency projects. The SoCalREN PDP and Pathway to Zero programs provide critical resources to assist enrolled agencies with identifying viable projects and applying for SSP monetary incentives.

Best Practice

- A dedicated SoCalREN Project Manager is assigned to each enrolled agency and guides the agency through project identification, viability assessment, and funding/financing applications across the suite of SoCalREN Public Agency Programs.

Innovation

Lifecycle avoided GHG incentive structure prioritizing underserved communities. SoCalREN is proposing an innovative incentive structure that drives persistent energy savings, contributes to the State's energy efficiency goals, and prioritizes underserved communities. Incentives will be offered to agencies based on cumulative avoided GHG emissions resulting from projects' total lifecycle resource energy savings. This incentive structure aligns incentives to the grid impact and TRC of each measure, along with the project's contribution to long-term energy

reduction goals. This approach also captures full benefits of fuel substitution measures. Unlike traditional SCE programs that offer flat rate incentives on first-year kWh and kW savings, SSP will offer enhanced incentives for underserved agencies. SoCalREN believes this structure will promote deep, long-lasting energy savings.

Expedited program application reviews & approvals. In coordination with SoCalREN’s non-resource PDP and Pathway to Zero program, project identification, scoping, application submissions, reviews, and approvals are comprehensively housed under the SoCalREN Public Agency program portfolio. This comprehensive, start-to-finish support and streamlining of services ensures a smooth project delivery process for participating agencies and reduces the administrative hurdles associated with project handoff to outside parties. Projects participating in the SSP will have a dedicated SoCalREN Project Manager coordinating complimentary services between the SoCalREN non-resource programs and the SSP to present a comprehensive, turnkey solution to the agency.

Metrics

Table 8. Annual Program Savings Targets

Year	Gross kWh Savings Claimed	Gross kW Savings Claimed
2022	2,512,500	295
2023	6,425,000	670

To-Code Savings Claims

This section is not applicable.

Pilots

No pilots are currently planned.

Workforce Education and Training

This section is not applicable.

Workforce Standards

SSP will provide due diligence to ensure that energy efficiency projects supported by the program adhere to the Workforce Standards for Heating, Ventilation, and Air Conditioning (HVAC) and Advanced Lighting Control Programs as applicable. The program will integrate compliance checks during the project lifecycle to ensure projects installed comply with CPUC Workforce Standards as stipulated in D.18-10-008. The SSP will ensure the following requirements are met:

- Installation, modification, or maintenance of incentivized HVAC measures of \$3,000 or more will be required to be installed by workers or technicians who meet at least one of the following:
 - Enrolled in and/or completed an accredited HVAC internship;

- Completed more than five years of work experience at the Journey level per California Department of Industrial Relations definition, passed competency tests, and received specific credentialed training;
- Has a C-20 HVAC contractor license issued by the California Contractors State License Board (CSLB), and;
- The standards outlined in D. 18-10-008¹ will be required for Direct Install projects.
- Installation of incentivized lighting control measures of \$2,000 or more will be required to be installed by technicians who have completed the California Advanced Lighting Controls Training Program (CALCTP).

SSP will ensure compliance by requesting that agencies confirm the requirements will be met on both the application and installation review package materials.

Disadvantaged Worker Plan

This section is not applicable. Each public agency follows their own procurement requirements.

Additional Information

This section is not applicable.

¹ <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M251/K782/251782504.PDF>

Supporting Documents

Program Manual and Program Rules

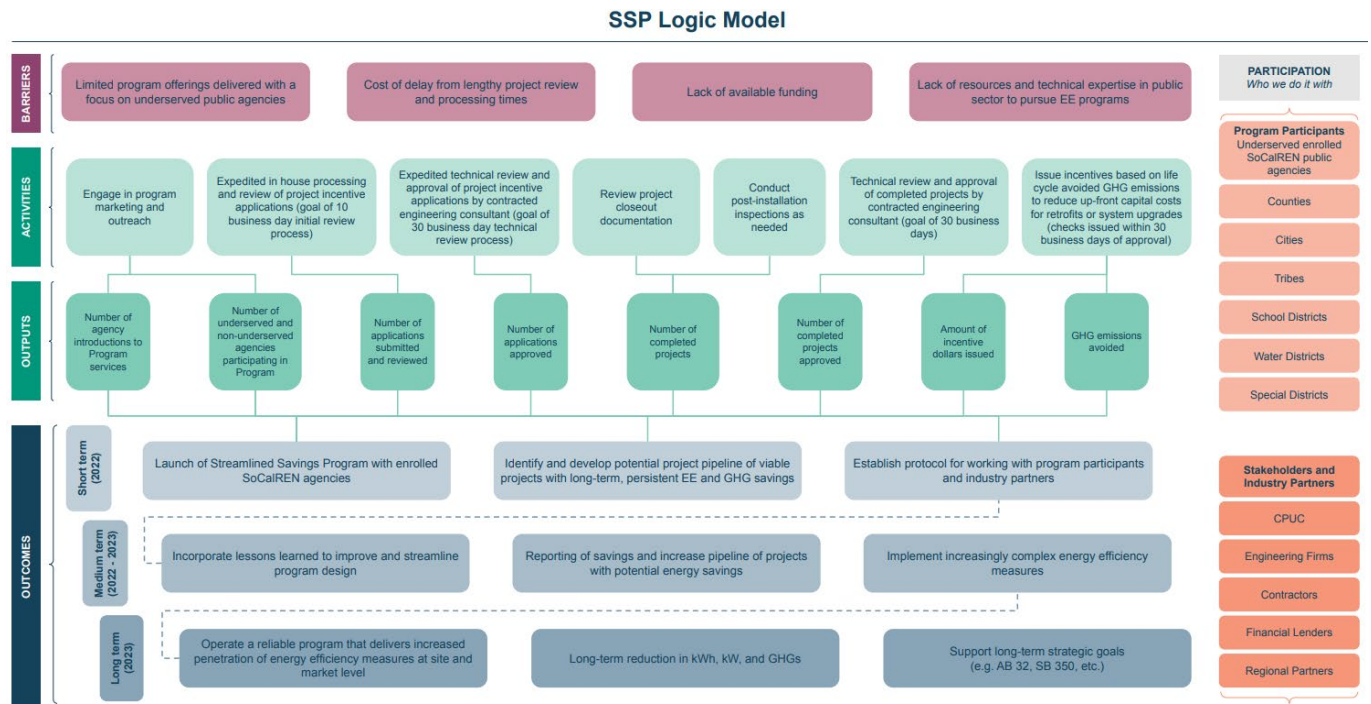
See separate program manual document outlining program rules and processes.

Program Theory and Program Logic Model

The program theory is that incentives based on GHG reductions will encourage public sector agencies to pursue projects that will result in deeper energy savings over the projects' lifetime. By aligning the incentives to the grid impacts of efficiency measures, the program aligns with the state's GHG reduction goals and those of the public agencies SoCalREN serves. The program prioritizes underserved participant agencies who will be awarded a higher incentive rate.

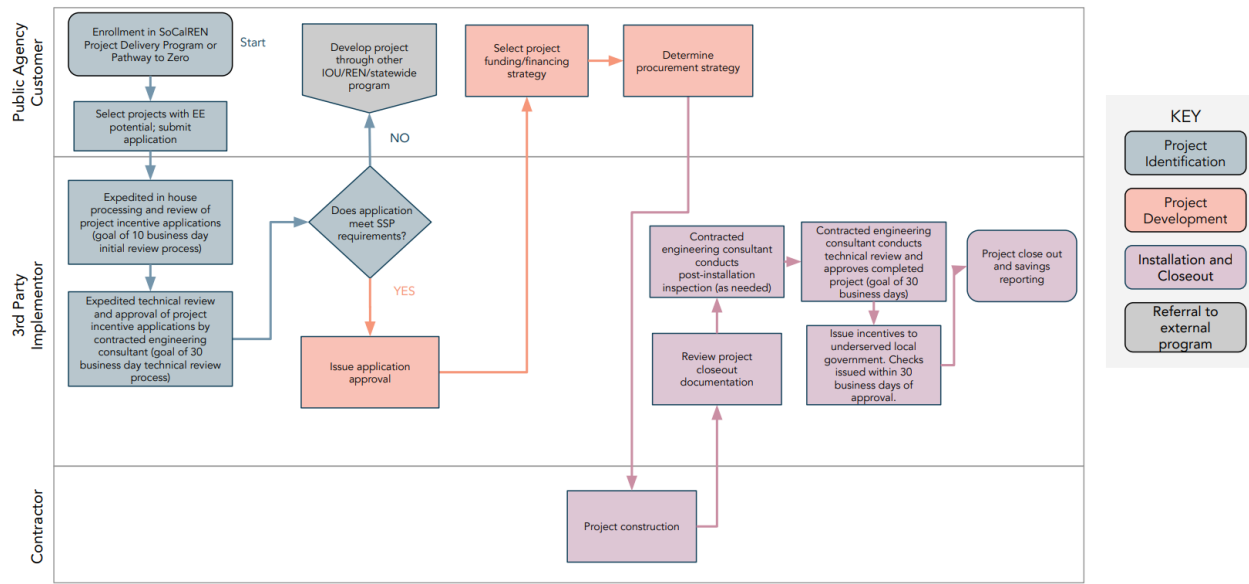
Through participation in the SSP, SoCalREN expects that public agencies will generate deep kWh and kW savings and create long-lasting benefits for their communities resulting in a more safe, secure, resilient, affordable, and sustainable clean energy future.

Figure 2. Streamlined Savings Pathway Logic Model



Process Flow Chart

Figure 3. Streamlined Savings Pathway Flow Chart



Incentive Tables, Workpapers, and Software Tools

Table 9. Target Measures and Relevant Workpapers

Target End Use	Target Measures	Relevant Workpapers
HVAC	<ul style="list-style-type: none"> • Demand control ventilation • HVAC controls and occupancy sensors • Supply fan variable frequency drive (VFD) • Packaged units • RTU/AHU/Chiller optimization or replacement • Economizer add-on equipment and controls • Evaporative precooler • Supply air reset • Temperature deck reset • Condenser water reset • DCV SDEC and CO2 sensor • AC unit VFD • HVAC equipment replacement • HVAC tune up 	<ul style="list-style-type: none"> • SWHC006-01 (demand control ventilation) • SWHC023-02 (enhanced ventilation) • SWHC042-02 (evaporative pre-coolers) • SWHC018-02 (HVAC fan controls VSD)
Lighting	<ul style="list-style-type: none"> • Interior lighting • High bay lighting • Integrated retrofit kit for troffer • T8 replacement • Exterior lighting • LED roadway lighting • Lighting controls and occupancy sensors 	<ul style="list-style-type: none"> • SWLG011-03 (high bay) • SWLG012-01 (retrofit kits) • SWLG009-02 (T8 lamps) • SWLG018-01 (LED tube type B & C)
Pumping	<ul style="list-style-type: none"> • Pump overhauls • Pump replacements • Pump sequencing/scheduling • Pump VFD 	<ul style="list-style-type: none"> • SWWP004-01 (pump upgrade) • SWWP002-02 (VFD on well pump)

Process Optimization	<ul style="list-style-type: none"> • Optimize fluid flow system • Optimize zone pressure • Aeration blower VFD • Chemically-enhanced primary sedimentation (CEPS) • Ammonia-based aeration controls • Blower sequencing/scheduling • Return activated sludge (RAS)/waste activated sludge (WAS) optimization • UV tertiary treatment upgrade • Ultra-fine pore diffuser retrofit • Wastewater controls automation 	
----------------------	---	--

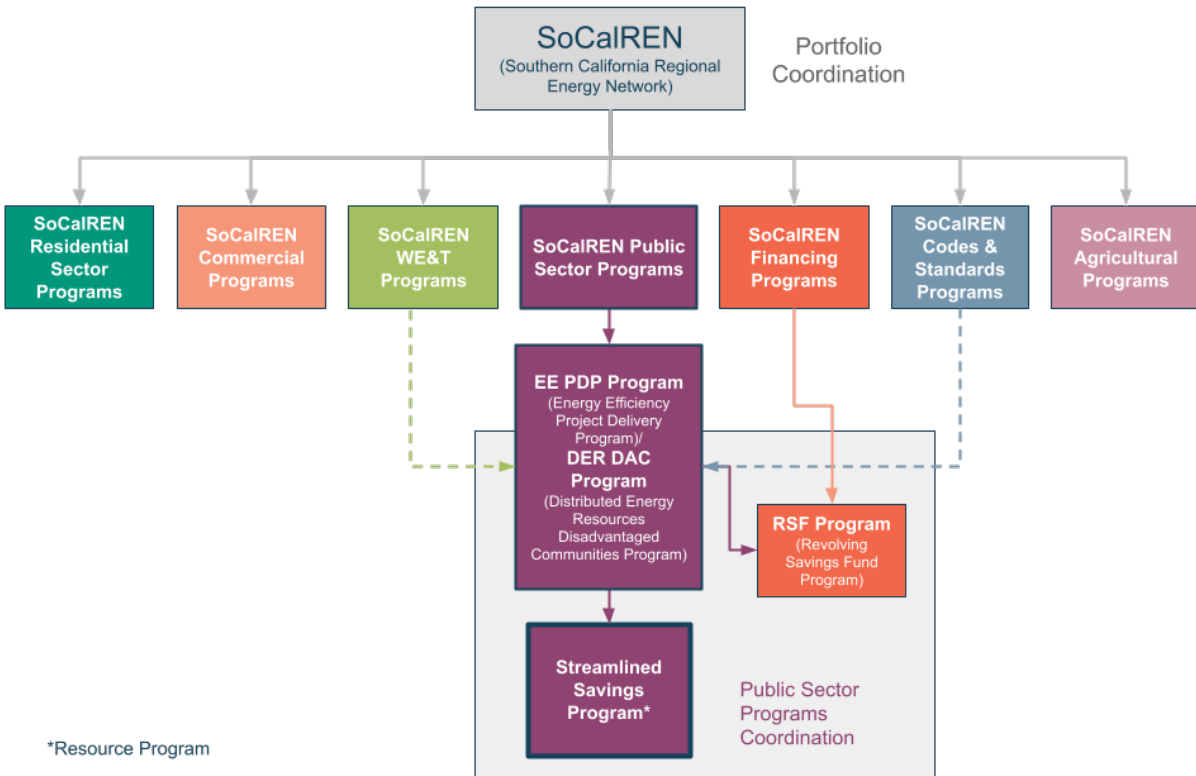
Program Indicators

Table 10. Quantitative Program Indicators

#	Metric	Method	Frequency
1	Number of agencies Introduced to Program services	Program engagement presentations and Project Proposals delivered outlining SSP opportunities	Annually
2	Number of underserved and non-underserved agencies participating in Program	Projects submitted to the program	Annually
3	Number of applications submitted and reviewed	Projects submitted for technical review	Annually
4	Number of applications approved	Count submitted to CPUC	Quarterly
5	Number of completed projects	Count with verified installation	Annually
6	Number of completed projects approved	Count with post-installation technical review completed	Annually
7	Amount of incentive dollars issued	Dollars disbursed to agencies	Quarterly
8	GHG emissions avoided	Calculated lifecycle reductions	Quarterly

Diagram of Program

Figure 4. Streamlined Savings Pathway Program Diagram



Evaluation, Measurement, and Verification (EM&V)

Program level evaluation, measurement, and verification (EM&V) activities may be conducted at various intervals during the program cycle to inform program improvements and future program design. The SSP implementation process involves the following steps to ensure program services and data points are tracked and quality controlled so that data can be readily accessed for EM&V studies:

1. **Data Management in secure SoCalREN customer relationship management (CRM) platform:** Agency-level and project-level data and milestones are tracked in a centralized cloud-based platform. This centralized data hub allows for the development of detailed reports and dashboards to track progress towards program goals and key performance indicators.
2. **Deliverable quality control checks:** All project deliverables and project application materials are put through rigorous internal quality control checks prior to being delivered to clients, third-party technical reviewers, or the CPUC.
3. **Contracted engineering consultant technical review:** After the program conducts an internal review of each project application package to ensure completeness and quality control, each project application undergoes a robust technical review from a contracted engineering consultant with extensive experience in utility and incentive program application reviews.
4. **Quarterly review of progress toward key performance indicators:** Utilizing the data stored in the SoCalREN CRM, program progress toward key performance indicators (KPIs) will be evaluated at least quarterly to track progress and identify areas for program improvement.

- 5. Project closeout surveys and customer feedback solicitation:** Customer feedback is collected in the form of a survey upon completion of every project. Feedback is solicited on the program services utilized, the standard of customer service, and recommendations for program improvements. Further, the SoCalREN Public Agency Programs deliver annual customer surveys to collect portfolio level feedback. This allows for iterative program enhancements to the suite of SoCalREN Public Agency Programs, including SSP.

Normalized Metered Energy Consumption (NMEC)

This section is not applicable.



ENERGY EFFICIENCY PROGRAMS

SoCaIREN Public Sector Water Infrastructure Program Program Implementation Plan



*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
March 2022

Contents

Program Overview.....	4
Program Budget and Savings.....	4
Implementation Plan Narrative.....	6
Program Description.....	7
Program Delivery and Customer Services.....	8
Program Design and Best Practices.....	10
Innovation.....	12
Metrics.....	13
To-Code Savings Claims.....	13
Pilots.....	13
Workforce Education and Training.....	13
Workforce Standards.....	13
Disadvantaged Worker Plan.....	14
Additional Information.....	14
Supporting Documents.....	15
Program Manual and Program Rules.....	15
Program Theory and Program Logic Model.....	15
Process Flow Chart.....	15
Incentive Tables, Workpapers, and Software Tools.....	16
Quantitative Program Targets.....	17
Diagram of Program.....	18
Evaluation, Measurement, and Verification (EM&V).....	18
Normalized Metered Energy Consumption (NMEC).....	22

Index of Tables

Table 1. Program Budget Table.....	4
Table 2. Program Impact Table.....	5
Table 3. Program Cost Effectiveness (TRC) Table.....	5
Table 4. Program Cost Effectiveness (PAC) Table.....	5
Table 5. Program Total System Benefit (TSB) Table.....	5
Table 6. Program Implementer.....	5
Table 7. Market Sector.....	6
Table 8. Program Type.....	6
Table 9. Market Channel.....	6
Table 10. Intervention Strategies.....	7

Table 11. Program Metrics.....	13
Table 12 WIP Custom Measure Incentives Level and Rates.....	16
Table 13 WIP Workpaper List.....	17
Table 13. Quantitative Program Targets	17

Program Overview

The Program Overview, which consists of the Program Budget and Savings Implementation Narrative sections, shall be completed consistently by all IOUs for statewide programs.

SoCalREN's Water Infrastructure Program (WIP) is a downstream offering within the SoCalREN service territory providing long-term Energy Efficiency (EE) solutions to water production, distribution, and treatment systems. WIP serves facilities/systems including Water Agencies, Wastewater Agencies, Special Districts, Local Government Agencies, Water Investor-Owned Utilities (IOUs), and other water pumping or treatment customers (Customer) paying the Public Purpose Programs (PPP) charge.

WIP delivers demand reductions (EE kW) and energy (EE kWh and therms) savings. The Program processes, qualifies and verifies project documentation to pay rebates and incentives to program participants. Rebates and incentives are provided for eligible measures to drive energy efficiency projects improving the efficiency of simple and complex water and treatment systems.

Program Budget and Savings

The CEDARS platform generates summary views of the following information, based on application tables that the PAs upload to CEDARS. The information is organized at the program level and, if applicable, sub-program level to enable multiple cross tabulations and outputs for stakeholders' review and consideration. Programs with subprograms will be displayed at subprogram level and will roll up to a program summary page.

1. Program and/or Sub-Program Name
Water Infrastructure Program
2. Program / Sub-Program ID number
SCR-PUBL-B10
3. Program / Sub-program Budget Table

Table 1. Program Budget Table

Year	Administration	Marketing/Outreach	Direct Implementation	Incentives	Total
2024	\$106,374	\$63,824	\$893,538	\$0	\$1,063,736
2025	\$212,747	\$127,648	\$955,063	\$832,013	\$2,127,472
2026	\$287,209	\$172,325	\$1,119,620	\$1,292,934	\$2,872,088
2027	\$361,670	\$217,002	\$1,258,309	\$1,779,722	\$3,616,703
Totals	\$968,000	\$580,800	\$4,226,530	\$3,904,669	\$9,679,999

4. Program / Sub-program Gross Impacts Table

Table 2. Program Impact Table

Year	Gross kWh	Gross kW	Gross Therms	Net kWh	Net kW	Net Therms
2024	0	0	0	0	0	0
2025	8,497,773	858	0	5,396,855	515	
2026	10,358,161	1,111	8,230	6,577,478	666	3,703
2027	12,050,370	1,219	9,796	7,700,872	731	4,408
Totals	30,906,303	3,188	18,026	19,675,206	1,913	8,112

5. Program / Sub-Program Cost Effectiveness (TRC)

Table 3. Program Cost Effectiveness (TRC) Table

	2024	2025	2026	2027	Total
Expected TRC	0	0.86	0.86	0.90	0.78

6. Program / Sub-Program Cost Effectiveness (PAC) and Total System Benefit (TSB)

Table 4. Program Cost Effectiveness (PAC) Table

	2024	2025	2026	2027	Total
Expected PAC	0	1.00	1.03	1.07	0.90

Table 5. Program Total System Benefit (TSB) Table

	2024	2025	2026	2027	Total
Expected TSB	\$0	\$1,935,193	\$2,475,768	\$3,000,487	\$7,411,448

7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Table 6. Program Implementer

Program Implementer	
PA-Delivered	<input type="checkbox"/>
Third-Party Delivered	<input checked="" type="checkbox"/>
Partnership	<input type="checkbox"/>

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Table 7. Market Sector

Business Plan Sector	
Residential	<input type="checkbox"/>
Commercial	<input type="checkbox"/>
Industrial	<input type="checkbox"/>
Agricultural	<input type="checkbox"/>
Public	<input checked="" type="checkbox"/>
Cross-Cutting	<input type="checkbox"/>

9. Program / Sub-program Type (i.e., Non-resource, Resource)

Table 8. Program Type

Program Type	
Resource	<input checked="" type="checkbox"/>
Non-Resource	<input type="checkbox"/>

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Table 9. Market Channel

Market Channels	
Upstream	<input checked="" type="checkbox"/>
Midstream	<input checked="" type="checkbox"/>
Downstream	<input checked="" type="checkbox"/>

Table 10. Intervention Strategies

Intervention Strategies	
WET - Training	<input type="checkbox"/>
PDP – Technical Assistance	<input type="checkbox"/>
Direct Install – No Cost	<input type="checkbox"/>
Retrofit - Incentive	<input checked="" type="checkbox"/>
Finance	<input type="checkbox"/>

Implementation Plan Narrative

PAs shall include the following narrative description for each program (and sub-program, if applicable):

Program Description

Describe the program, its rationale, and objectives.

a. Program Description

The Water Infrastructure (WIP) Program is a downstream offering within the SoCalREN service territory providing long-term Energy Efficiency (EE) solutions to water production, distribution, and treatment systems. WIP serves facilities/systems including Water Agencies, Wastewater Agencies, Special Districts, Local Government Agencies, Water Investor-Owned Utilities (IOUs), and other water pumping or treatment customers (Customer) paying the Public Purpose Programs (PPP) charge.

WIP delivers demand reductions (EE kW) and energy (EE kWh and therms) savings. The Program processes, qualifies and verifies project documentation to pay rebates and incentives to program participants. Rebates and incentives are provided for eligible measures to drive energy efficiency projects improving the efficiency of simple and complex water and treatment systems.

b. Program Rationale

Since most utility programs are required to be cost-effective, they can typically only offer energy efficiency solutions that are simple and do not require long lead times. This creates a gap to provide support for more complex and time intensive projects that other program administrators cannot undertake. To address this gap, WIP Program will provide effective deemed and custom solutions that require multiple years to fully develop and implement. The first year of the program will be entirely focused on working with customers to plan intricate water projects such as wastewater mixing, ultraviolet controls, and pump sequencing projects. The second program year will then deliver initial program benefits through shorter-term opportunities such as behavioral and retro-commissioning measures. By the end of the third and fourth program years, the

program will achieve significant benefits through the completion of multi-year custom projects that were first identified during program launch.

The program targets long term projects, where project identification to project installation and verification is within 3-10 years. Influencing this risk-averse customer segment to install energy efficient options takes between 3 and 10 years from initial customer introduction because trust needs to be established before water and wastewater customers seriously consider and are convinced of a recommendation to their water systems.

c. **Program Objectives**

To meet the program goals, WIP will:

- Offer incentives/rebates to facilitate customer installations of EE Measures.
- Support program participants through various stages of project development such as marketing energy efficient technologies to targeted groups, identification of new measures to incentivize, measure installation verifications, and providing financial incentives, rebates, and funding options.
- Be a Resource Acquisition Program, providing measurable direct electricity and gas savings, reducing GHG emission and contributing toward the goals of SB32.
- Provide project monitoring and inspection support necessary to verify savings delivery.

Program Delivery and Customer Services

Describe how the energy efficiency program will deliver offerings (including program strategies/tactics, market channel, and targeted market/customer group); how it will reach customers, including those in CPUC-defined hard-to-reach and/or disadvantaged communities (if applicable), and any services that the program will provide. Describe all services and tools that are provided.

Program strategies and anticipated outcomes described below are shown visually through the Program's logic model in the Supporting Documents section.

Intervention Strategies

Customer Enrollment – Accelerate implementation by leveraging existing relationships with customers, deemed EE measures in water and wastewater systems, and SCR PDP identified projects to influence every decision made in these systems to incorporate EE.

Marketing – Overcome segment risk aversion by leveraging testimonials, case studies, and demonstration projects in California based on past participants of programs in this segment.

Influence – Address systemic infrastructure longevity barriers and indefinite repairs only upon failure through developing new workpapers and identifying new custom measures for more efficient technologies in this market and monitoring standard practice trends. Develop life-cycle cost analysis to assist customers in making more energy efficient decisions.

Funding – Address limited funding availability by leveraging IOU and external funding sources including OBF, bridge funding, ESCO models, and external grants.

Staffing – Overcome the systematic shortage of staff and the prioritization of operations and environmental compliance by offering program resources to support project critical efforts such as project qualifications, inspections, and verification services.

Decision Making – Facilitate energy efficient decisions by performing standardized approaches to engage customer decision-makers including ISO50001 methodologies, established trusted advisor relationships, phased project executions, and project management support services.

Cost-Effectiveness – Increase market measure adoption and program cost effectiveness by introducing new measures into the program through developing new workpapers, while closely monitoring program, project, and measure TRC so that measures are sunset at the right time.

Customer Reluctance – Address customer reluctance to participate in IOU programs through technical and financial assistance, increased incentives on complicated measures with long effective useful life and offering a deemed measure mix for simplified participation.

Short-term outcomes:

- Trade Allies stock and promote higher efficiency equipment to other Stakeholders
- Increased energy savings
- Increased market adoption of uncommon EE technologies
- Customers understand the significant and costly energy in their water systems
- Install EE projects on water/wastewater systems

Long-term outcomes:

- Environmental and non-energy benefits
- Energy savings persist
- New equipment efficiency standards at the State and Federal level
- EE technologies and processes become standard practice
- Increased market penetration of higher efficiency equipment
- Measurable reduction in kW, kWh, and Therms usage across

Program includes an end-to-end process to streamline and reduce confusion for customers, while ensuring compliance with policies and procedures and maintaining customer satisfaction. The end-to-end process is described below and illustrated in the Process Flow Chart in the Supporting Documents section.

End-to-End Process

1. **Customer Engagement:** Program marketing and training will be set up to inform SoCalREN program managers of program services. These program managers will then distribute the information to relevant enrolled participants.
2. **Program Participant Verification:** Program will qualify SoCalREN enrolled participants for program eligibility.

3. **Project Assessments:** Project identification occurs through other SoCalREN programs.
4. **Application Review:** Facilitate project application reviews, inspections, and approvals through the CPUC Ex Ante Review process for custom measures.
5. **Project Installation, Commissioning and Optimization:** Provide project support to verify installed energy savings and project monitoring, in compliance with approved M&V Plans.
6. **Installation Report Review:** Facilitates project installation report review, inspections, and approvals. If project was Ex Ante Review selected, follow CPUC project disposition requirements.
7. **Payment of Incentives:** Pay incentives for verified project savings to the customers or upstream participant.

Target Market

WIP serves facilities/systems including Water Agencies, Wastewater Agencies, Special Districts, Local Government Agencies, Water Investor-Owned Utilities (IOUs), and other water pumping or treatment customers (Customer) paying the Public Purpose Programs (PPP) charge.

Program Design and Best Practices

Describe the program strategies/tactics that will be used to reduce the identified market barriers for the targeted customer group and/or market actor(s). Describe why the program approach constitutes “best practices” and/or “lessons learned.” Include descriptions of key software tools that are significant to program strategy and implementation, including audit tools. Provide references where available.

Market Barriers Addressed

Implementing energy efficiency in water and wastewater infrastructure is not a simple process due to systemic challenges present in water utilities. Operational, institutional, political, regulatory, and financial barriers present a direct risk in a program’s ability to successfully carryout implementation actions and deliver its expected outcomes.

These challenges rest on the culture of a water utility and the outside constraints placed on water utilities. The culture at a water utility centers around the public health aspect of providing high quality drinking water with the lowest possible burden through the operation of permanent infrastructure. Utilities take this mandate very seriously, and because of that obligation and various other regulations, utility employees are highly trained in their field.

The principal program risks and barriers can be summarized as follows:

1. Expertise in water treatment is not directly translatable to expertise in energy efficiency. Employees usually cannot identify and implement energy efficiency projects despite comprehensive technical knowledge of their water systems. Energy engineering is critical to increasing water system efficiency.

2. Water system management requires balancing public demands for low-cost water and regulatory agency demands to meet quality standards. Rarely will the public welcome a rate increase. While energy efficiency measures can reduce costs over time, the upfront capital investment can often be hard for the public to accept. Resistance from the public can often dissuade managers from timely implementation of infrastructure improvements.
3. Regulatory constraints placed on water utilities are daunting. Failure to meet any of the standards can result in a dramatic loss in public confidence and possibly hefty fines from regulatory agencies. Federal fines for some infractions can cost utilities thousands of dollars a day. As a result, utilities often take a more risk-averse approach by implementing oversized equipment or maintaining processes that work even if energy-intensive.

Financial constraints revolve around the nature of utilities providing what is seen as a public good. Utilities operate on very tight margins. In many situations, utilities must ask for approval from customers before undertaking new capital expenditures or raising rates. Taken together, this creates an environment where non-essential capital expenditures often sit on the shelf until resources are available. It is not uncommon for pumps to operate for 30+ years, well below the efficiency curve, and still not be scheduled for repair until they fail completely.

Market barriers to EE in this segment include short-term, start/stop program cycles with long-term projects, Customer risk aversion, infrastructure longevity with repair practices upon failure, limited funding, limited staff availability and EE knowledge, and complex decision-making process. The program activities and intervention strategies address and reduce the impact of the market barriers for water and wastewater customers within the limitations created by the short 4-year program cycle.

Leverage Established Customer Relationships The short-term and start/stop program cycle and complex decision-making process barrier is addressed by leveraging established customer relationships in this segment to streamline program enrollment and project identification, deliver project recommendations to all relevant decision makers at once, and connect customers with the SoCalREN enrolled technical consultants and public agencies for design, contractor selection, installation and commissioning support. These lessons learned are being implemented to shorten the project timelines from identification to customer decision-making to installation verification. Customer aversion to risk and repair/replace upon failure maintenance practices barriers is also reduced through providing case studies, customer testimonials, and customer referrals of completed projects in past programs while delivering project recommendations.

Deemed Measure Mix is available in the program to use the financial incentives to increase sales of energy efficient technologies within the water and wastewater segment. This enables program participation with minimal impact to customer personnel availability.

Project Funding Options have been identified to prevent project implementation cycle delays in waiting for the next capital budgeting to approve the project. Incentives, OBF, Bridge funding, external funding (EPIC, DOE, financing), and ESCOs are methods of reducing the customers' upfront costs. Funding options are recommended while qualifying project applications.

Cost-Effective Measure Expansion – Increase market measure adoption and program cost-effectiveness by introducing new measures into the program through developing new

workpapers for common custom measures and qualifying new customized measure offerings for proven technologies, while closely monitoring industry standard practice so measures are sunset at the right time.

Innovation

The implementation of lessons learned, and qualitative comparison resulted in 7 innovations to past program offerings, which are listed below to increase the uptake of EE in this market.

Innovation #1 – Technology & Delivery Approach: Offering a comprehensive measure mix to enable system optimization-based EE, which phases projects from component efficiency improvement to controls to system-wide water system or treatment process optimization. Customers who are new to EE tend to start with component efficiency improvement before progressing to controls. Comprehensive, deep, and persistent, long-term energy savings energy savings of progressive customers implementing EE on their system for decades are ready for complex system-wide water or treatment process optimization. Offering incentives for a comprehensive measure mix keeps the program relevant for all customers in this market segment. Monitoring standard practice trends, developing new workpapers and adding new custom measures ensure new measures are introduced to the program prior to sunsetting ISP or less cost-effective measures.

Innovation #2 – Marketing: Collaborative marketing with other programs to facilitate program participation. This tactic leverages existing SoCalREN program managers with existing customer relationships to introduce the program offerings enabling customer interest in the program and reducing marketing and outreach costs.

Innovation #3 – Delivery Approach: Targeted approach to project development and implementation support. Not all customers have a robust project management team to ensure projects remain on target for the delivery timelines. When operations personnel are unable to move forward with the identified projects, whether it be related to limited funding, limited staff resources to manage project implementation, or a lack of understanding of the project scope, Program overcomes these specific customer/project barriers by leveraging project qualification, inspections, and verification support services, financial incentives, and external funding options.

Innovation #4 – Delivery Approach: Leverage established relationships with stakeholders at multiple levels of the organization to understand their needs and barriers, communicate EE and non-EE benefits of projects, and drive decision making. Established relationships with operations, engineering, financial, and board/council personnel to ensure recommendations address the various needs and barriers of these decisionmakers and facilitate EE project installations. These practices help customers make the connection between their broader business objectives (e.g., productivity, safety, sustainability) and EE.

Innovation #5 – Delivery Approach: Qualify a sufficient customized project pipeline in the first program year to meet annual EE savings goals in 2025-2027. Projects often drop out due to customer cancellation, lack of funding, delays in the implementation timeline, and value engineering where the project completes with less savings than the approved amounts. Implementer will ensure sufficient projects are qualified and committed in 2024 to meet program goals and supplement the pipeline with short implementation timeline deemed or custom EEM projects in 2025-2027, as necessary. These back up measures ensure program goals are attained in anticipation of projects dropping out.

Innovation #6 – Delivery Approach: Perform standardized customer and project qualifications to prevent projects falling out of the identified pipeline. Project and customer selection criteria increases results and reduces project development costs. Project and customer prequalification is performed prior to project development. Qualifications are based on 1) Unique customer and project selection criteria; 2) Project cost-effectiveness selection criteria; and 3) DAC site preference.

Innovation #7 – Delivery Approach: Prioritized EE project implementation in Customers’ capital budgeting process. Leverage established customer relationships to recommend EE projects and incremental project scopes for inclusion in their capital budgeting process and prioritize their capital budgeting items based on EE. The lifecycle cost analysis benefits of EE projects are included with energy assessments to provide customers with the supporting documentation to convince decisionmakers to prioritize and make it more difficult to delay or cancel EE projects.

Metrics

Provide metrics that will be used to track program progress. For programs design and implemented by third parties, include the required performance metric for innovation. Metrics can include non-energy metrics if applicable.

Table 11. Program Metrics

Common Problem	Final Common Metric or Indicator	Category: Metric or Indicator
Capturing energy Savings	First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)	Metric
Disadvantaged Communities	Percent of projects completed in disadvantaged communities	Metric

To-Code Savings Claims

WIP program design has a mix of measures above code or BRO-RCx. To-Code Savings may be claimed if in-flight projects become Standard Practice prior to project approval or the standard practice baseline is applied retroactively.

Pilots

This section is not applicable.

Workforce Education and Training

This section is not applicable.

Workforce Standards

CPUC Workforce Standards have not be developed and mandated for energy efficiency measures associated with this market. As applicable, WIP will provide due diligence to ensure energy efficiency projects supported by the program adhere to the Workforce Standards for

Heating, Ventilation, and Air Conditioning (HVAC) and Advanced Lighting Control Programs. The program will integrate compliance checks during the project lifecycle to ensure projects installed comply with CPUC Workforce Standards as stipulated in D.18-10-008. If applicable, WIP will ensure the following requirements are met:

a. HVAC Measures

- Installation, modification, or maintenance of non-residential HVAC measures with an incentive of \$3,000 or more are required to be installed by workers or technicians who meet one of the following criteria:
 - i. Enrolled in and/or completed an accredited HVAC internship
 - ii. Completed more than five years of work experience at the Journey level per California Department of Industrial Relations definition, passed competency tests, and received specific credentialed training
 - iii. Has a C-20 HVAC contractor license issued by the California Contractor's State License Board (CSLB)

b. Advanced Lighting Controls Measures

- Installation of non-residential lighting control measures with an incentive of \$2,000 are required to be installed by installation technicians who have completed the California Advanced Lighting Controls Training Program (CALCTP).

Disadvantaged Worker Plan

This section is not applicable. Each participant follows their own procurement requirements.

Additional Information

This section is not applicable.

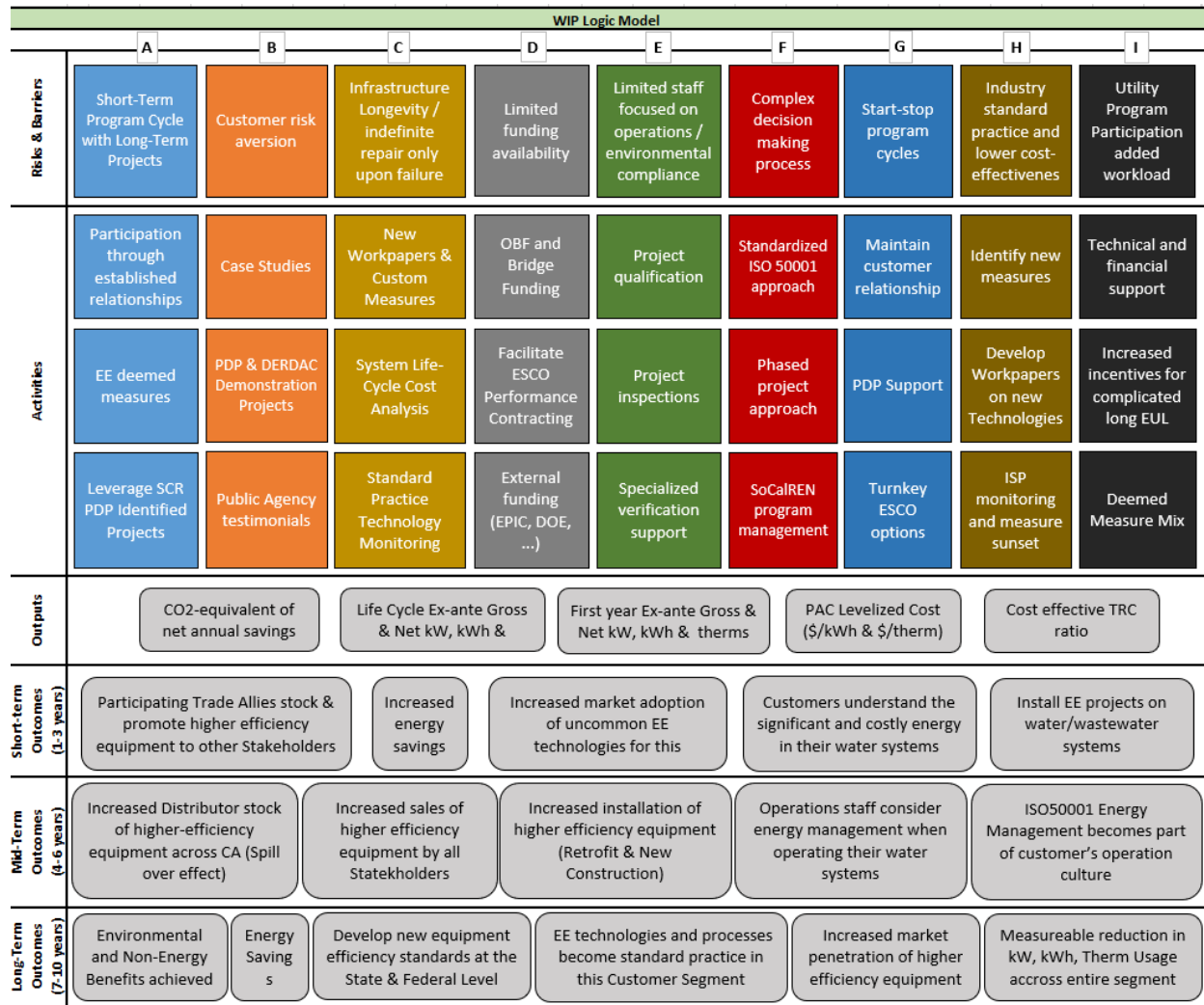
Supporting Documents

Program Manual and Program Rules

Please see attached PDF. **Not required at this time.**

Program Theory and Program Logic Model

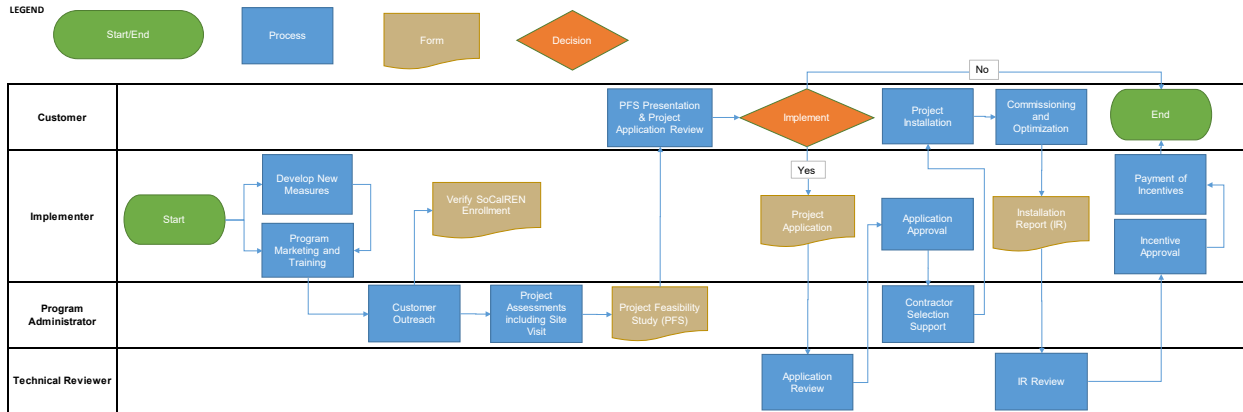
To address the risks/barriers, a logic model was developed to further dive into the risks and describes the proposed solutions. The following logic model is a graphical depiction of the underlying theory, key implementation actions and strategies, key program milestone and performance indicator outputs, and anticipated outcomes. Program's resource and non-resource strategies:



Process Flow Chart

The figure below describes the process flow for the Offering New Measures, Program Marketing and Training, Customer Outreach, Participant and Project Qualification to Project Review and Verification to Payment of Incentives of the WIP Program.

Figure 1. Water Infrastructure Program Flow Chart



Incentive Tables, Workpapers, and Software Tools

Provide a summary table of measures and incentive levels, along with links to the associated workpapers.

The incentive level specified by customized measure we are using for WIP are specified in the table below.

Table 12 WIP Custom Measure Incentives Level and Rates

Incentive Rates	\$/kWh	\$/kW	\$/therm	Incentive Cap
Above Code	\$0.12	\$150	\$1.50	50% of project cost for AOE measures and 100% of incremental cost of NC and NR MATs
BRO & To Code	\$0.06	\$150	\$0.75	50% of Project cost

Unit Incentives: Customized incentive rates will be based on the gross first year savings while deemed incentive rebates will utilize latest workpaper data.

Table 13 WIP Workpaper List

	Workpaper Name	Short Description
1	SWWP004-01	WATER PUMP UPGRADE
2	SWWP002-02	VFD ON WELL PUMP, <=300 HP
3	SWWH017-02	HOT WATER PIPE INSULATION, NONRESIDENTIAL & MUTLIFAMILY

Measure Mix:

Year	Measure Mix
2024	No savings delivery
2025	Less cost-effective BRO and AOE
2026	Custom measure mix and 25% deemed measure mix
2027	Custom measure mix and 25% deemed measure mix

Target End-Uses

End-use equipment that will be targeted include irrigation systems and water distribution systems such as going beyond well pumps and booster to look at connected canals, piping, or treatment process systems and more. Furthermore, the program will target and prioritize water and wastewater end-users with potential for embedded energy savings.

Quantitative Program Targets

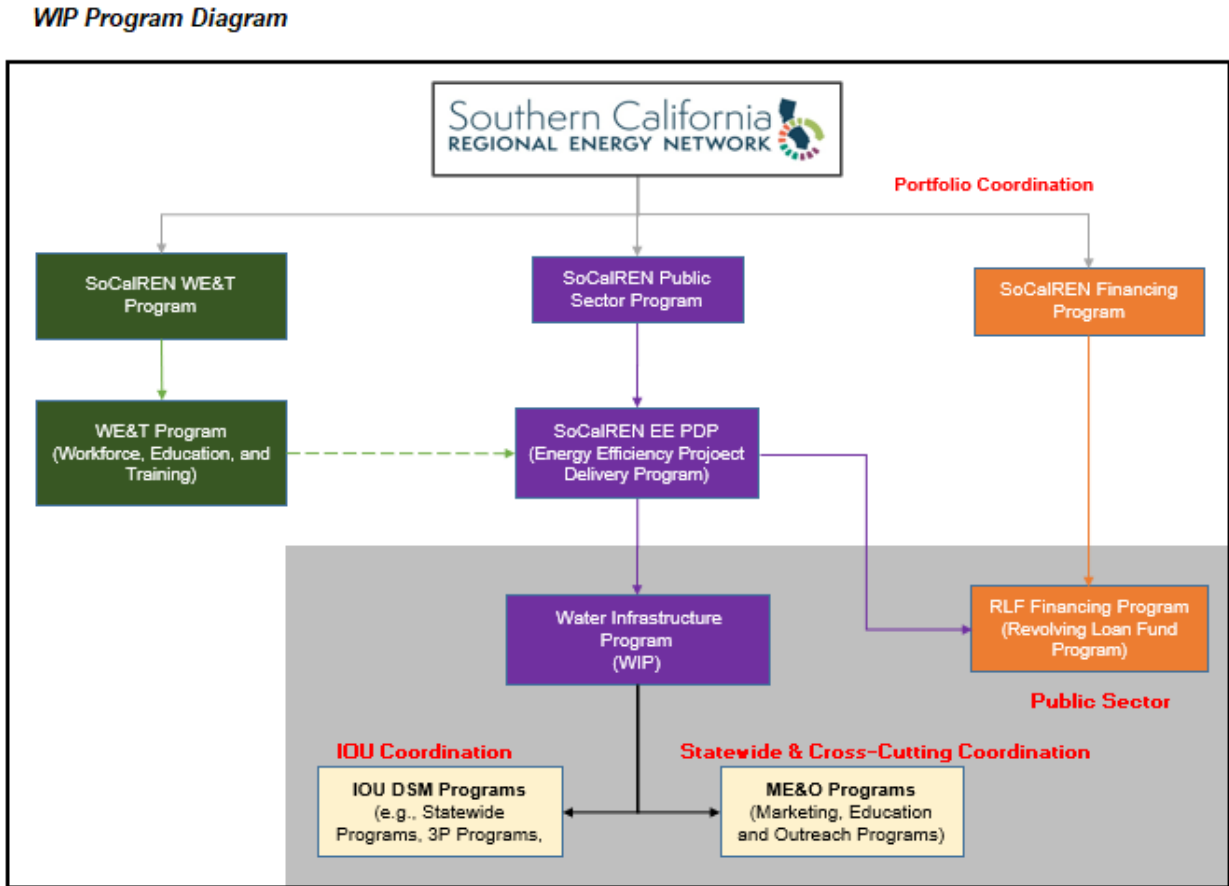
Table 14. Quantitative Program Targets

#	Metric	Method
1	Number of new measures added to the program	Number of new CPUC approved workpapers and customized measures offered
2	Number of applications received	Number of projects submitted for inspections or review
3	Number of pre-installation applications approved	Number of projects released from CPUC Ex Ante Review and deemed project applications received
4	Number of completed projects approved	Total number of projects with completed post-installation inspections or technical reviews
5	Amount of incentive dollars issued	Dollars disbursed to participants

6	GHG emissions avoided	Calculated lifecycle reductions
---	-----------------------	---------------------------------

Diagram of Program

Figure 2. Water Infrastructure Program Diagram



Evaluation, Measurement, and Verification (EM&V)

Describe any process evaluation or other evaluation efforts that the program administrator (PA) or program implementor (PI) will undertake to identify the evaluation needs that must be built into the program, clearly identifying who will be responsible for which evaluation activity. These might include:

- Data collection strategies embedded in the design of the program or intervention to ensure ease of reporting and near-term feedback, and
- Internal performance analysis during deployment
- Performance metrics
- All PAs should indicate what coordination support and funding, if any, they will provide to support program evaluation.

1. Overview

WIP is a resource program. As such, EM&V for the program focuses on both project

energy savings claimed by the IOUs as well as program performance metrics for services offered in alignment with the CPUC's California Long Term Energy Efficiency Strategic Plan¹. For data related to energy savings projects, the WIP works in close coordination with the IOUs to collect project measure data on a monthly basis through a data transfer process.

Energy savings are determined by calculating the energy consumption of the system or facility before (referred to as the "baseline" period) and forecasting savings after the measures are implemented, adjusted for any differences, such as operating conditions. Additionally, behavioral, retro-commissioning, and operational (BRO) strategies may utilize a measured existing conditions baseline, and may require additional energy model or simulation data.

The Measurement and Verification (M&V) process built into WIP procedures is in accordance with IOU downstream intervention program requirements and follows M&V standards as required by the resource program through which the project is implemented.

The M&V plan methodology is based on the principles, procedures, and guidelines set forth in the International Performance Measurement and Verification Protocol (IPMVP) Options A-D², and the Federal Energy Management Program (FEMP) M&V Guidelines³. The full M&V plan can be used as the basis for project verification. The project M&V plan is submitted within the Project Feasibility Study at the time of application submission and included in the Installation Report after project implementation.

The SoCalREN customer relationship database (CRM) is used to record most program and project related information and to generate reports that indicate progress toward program goals. In addition, the WIP seeks feedback from its customers with a project specific survey after each project closeout, through an annual customer survey.

2. Project Process

This section serves to provide a high-level description of the Deemed and Custom M&V approach to be taken for the WIP program; in practice custom projects will receive a site-specific M&V plan, tailored to the specifics of the unique project while also adhering to the guidelines laid out in this document. The program will comply with the policies and procedures laid out for Customized, Deemed and BRO-RCx measure categories specified in the Statewide Customized Offering Procedures Manual, Statewide Custom Project Guidance Document Statewide Customized Calculated Savings Guidelines, Statewide Express Program Manual, Pump Overhaul Guidance Document, and IOU BRO Program Guidelines.

Custom Projects

There are four overarching phases to a custom project:

- 1. Pre-screening phase:** Each site will be pre-screened for program eligibility.

¹ California Energy Efficiency Strategic Plan, <http://www.cpuc.ca.gov/general.aspx?id=4125>

² International Performance Measurement and Verification Protocol, http://www.eepperformance.org/uploads/8/6/5/0/8650231/ipmvp_volume_i_2012.pdf

³ Federal Energy Management Program (FEMP) M&V Guidelines, <https://www.energy.gov/eere/femp/downloads/mv-guidelines-measurement-and-verification-performance-based-contracts-version>

Implementer will notify SoCalREN of the potential project so that pre-screening activities can be conducted in collaborative manner. ES will ensure the customer account and past program participation adhere to current CPUC policies.

2. **Pre-Installation Application Technical Review:** Following pre-screening, the project will be assigned for a technical review. Pre-installation site visit may be performed to verify the baseline conditions. Application Review (PA Review) is a formal review of Energy Conservation Measures (ECMs) before the installation of any ECMs where the PFS acts as the submission package. The PA Review verifies each ECM to comply with SoCalREN Program rules, Standard Practices (SPs), CPUC guidelines, and CPUC dispositions and documents the review results. The PA Review locks-in the baseline, calculation methodology, and lists prerequisite data for projects requiring an Installation Review (IR).
3. **CMPA Review:** If project's technical PA Review is approved to proceed, the project will be uploaded to the CMPA list. The project may be selected for CPUC review within 10 business days of being uploaded. If the project is not selected for review within 10 business days, the project is allowed to proceed with installation. If the project is selected, the CPUC will then have 30 business days to review aside from supplemental data requests (SDRs). Implementer, program advisor, and ES will respond to these SDRs. The CPUC will provide a disposition at the end of the review. CPUC review timeline is pursuant to Senate Bill 1131 and details are provided in the CPUC's Timing Protocol document.⁴
4. **Installation Verification:** Installation of ECMs will be verified through site inspections or pictures provided by the customer for all custom projects. Invoices for the installation will also be collected. For very low and low rigor projects, photos and remote data gathering will be sufficient in lieu of an on-site inspection. For medium to high rigor projects (i.e. when incentive is \$25,000 or higher), on-site verification will be done in accordance with the installation review parameters listed in the Pre- Agreement Review.
5. **Measure Verification & Reporting:** After sufficient data is collected, and the M&V activities and analysis is complete, a Post-Installation Report (PIR) will be completed in accordance with the Statewide Post Installation Report Template on the CPUC website.⁵ The report will present and compare the post-installation savings and savings analysis to the pre-installation savings and savings analysis. Changes to the baseline, modeling methodology employed, and the measurement period will be noted, if applicable. If deviations from the original proposed M&V plan occurred, this will be documented and substantiated. For behavioral, retro-commissioning, and operational measures, a repair and maintenance plan that adheres to CPUC rules

⁴ The CPUC Staff Selection and Response Timing Protocol for Energy Efficiency Custom Projects Review document can be accessed here:
<https://www.cpuc.ca.gov/General.aspx?id=4133>

will be formulated. The participant must agree to carry out the plan for a minimum of three years via a signed customer agreement.⁵

6. **Post-Installation Technical Review:** Following receipt of the Post-Installation Report (PIR) completed in accordance with the Statewide Post Installation Report Template on the CPUC website,⁵ project will be assigned for a technical post-installation review. A post-installation site visit unless it waives it due to sufficient project data and supporting documentation, is performed to verify the installed equipment is fully-operational. Technical reviewer will verify and approve the final project energy savings.
7. **Post-Measurement CMPA Review:** If required by the CPUC, the project will be uploaded to the CMPA list for a post-M&V review. The CPUC post-M&V review timeline is pursuant to Senate Bill 1131 and will still follow the details in the CPUC's Timing Protocol document.⁶

Tracking/recording

Data gathered through site inspections and M&V activities will be documented for future use by Program Administrators and evaluation teams. This data will also prove useful in helping inform future program design to improve overall cost-effectiveness.

Custom Project M&V Guidelines

Custom measures will follow the IPMVP. At a high-level, M&V can be executed in through the following options⁷:

- **Engineering Calculations (IPMVP Option A):** Inputs are sourced from known specs and/or measurements. This method is ideal for straightforward ECMs that have a high level of certainty around the load profile and equipment specifications.
- **Metering and Monitoring (IPMVP Option B):** Measurements are used to fill in knowledge gaps around the ECM. Spot measurements are sufficient for constant load profiles and continuous measurements can be taken when the load is quite variable. Most ECM savings can be determined with Option B, but the difficulty and costs can be great if metering requirements are complex and are not already in place for other purposes. In general, it is harder and more costly than Option A, but more certain.
- **Utility Bill Analysis (IPMVP Option C):** This method is exclusive to the site level, which poses challenges regarding understanding how a specific ECM is contributing to differences in utility data before and after the project. There are risks that factors unrelated to the ECM (i.e., water demands, system failures, etc.) that can cause changes to the utility data post-project. These changes from unrelated

⁵ California Public Utilities Commission, 'Rulebook for Programs and Projects Based on Normalized Metered Energy Consumption', Version 2.0 2020, see Section II.1.B. & Section II.1.C, pg 10

⁶ The CPUC Staff Selection and Response Timing Protocol for Energy Efficiency Custom Projects Review document can be accessed here: <https://www.cpuc.ca.gov/General.aspx?id=4133>

⁷ The various IPMVP options are discussed thoroughly throughout this document: International Performance Measurement and Verification Protocol, Efficiency Valuation Organization, 'Concepts and Options for Determining Energy and Water Savings, Vol 1, 2012

factors could be significant and eliminate the ability to see the effects of the ECM. Ideally, this option will only be employed for single pump, single service account projects.

- **Calibrated Computer Simulation (IPMVP Option D):** In this approach, a simulation is built and calibrated to metered data. The calibrated model provides the baseline and then it is used to model the water system with the ECMs. This method provides the ability to look at the impact of all ECMs together (which is great for capturing interactive effects) or at individual ECMs in isolation. A unique challenge of this option is that the system's energy use needs to be isolated from the rest of the water system by appropriate meter. This option is a good choice if the savings associated with individual ECMs is desired, and a calibrated hydraulic model of the water system is available.

Project specifics will dictate which IPMVP is chosen for each custom project. For projects scopes where the measurement or calculation boundary would encompass all or almost all the water system, Option D would be preferred. Option C would be applicable for these types of projects but is not preferred for the reasons described above; it will be reserved for single pump, single service account projects. For standalone equipment upgrades or replacements, Option A or B will be used. Existing metering equipment will be leveraged where possible. If spec sheets and information provided from the customer can sufficiently answer all questions that the engineering team needs to calculate the estimated savings from the project, Option A will be used. If more information is needed and the savings are significant enough, metering will be done under Option B.

Expected Useful Life

The project lifecycle savings will be based on a weighted average EUL method.¹⁰ The weighted EUL for the recommended ECMs will be determined in the feasibility study and will be updated as needed for the final report, after installation. EULs for the ECMs will be sourced from the Database for Energy Efficient Resources (DEER).

Key Sources

As discussed in the M&V plan, M&V for Deemed measures will be guided by workpapers and Custom measures will be guided by the IPMVP. The following sources will be key for the Custom M&V approach:

- International Performance Measurement and Verification Protocol, Efficiency Valuation Organization, 'Concepts and Options for Determining Energy and Water Savings, Vol 1, 2012
- U.S. Department of Energy, 'M&V Guidelines: Measurement and Verification for Performance-Based Contracts', version 4.0, 2015

Normalized Metered Energy Consumption (NMEC)

This section is not applicable.



ENERGY EFFICIENCY PROGRAMS

**SoCalREN Residential Sector
Whole Building Comprehensive
Energy Efficiency Multifamily
Program
Implementation Plan**

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

Version 1.0
March 2022

Contents

Program Overview.....	3
Program Budget and Savings.....	4
Implementation Plan Narrative.....	7
Program Description.....	7
Program Delivery and Customer Services.....	7
Program Design and Best Practices.....	7
Innovation.....	8
Metrics.....	11
To-Code Savings Claims.....	11
Pilots.....	12
Workforce Education and Training.....	13
Workforce Standards.....	13
Disadvantaged Worker Plan.....	13
Additional Information.....	13
Supporting Documents.....	14
Program Manual and Program Rules.....	14
Program Theory and Program Logic Model.....	15
Process Flow Chart.....	16
Incentive Tables, Workpapers, and Software Tools.....	17
Quantitative Program Targets.....	18
Diagram of Program.....	19
Evaluation, Measurement, and Verification (EM&V).....	20
Normalized Metered Energy Consumption (NMEC).....	20

Index of Tables

Table 1. Residential/Multifamily.....	Error! Bookmark not defined.
Table 2. Residential/Multifamily.....	Error! Bookmark not defined.

Program Overview

The Southern California Regional Energy Network (SoCalREN) Whole Building Comprehensive Energy Efficiency Multifamily Program (“Program”) seeks to reduce energy usage at multifamily properties, with the result of lowering energy costs for property owners and their tenants. To accomplish this goal, a combination of technical support and financial incentives are provided to property owners to help them implement cost-effective energy efficiency upgrades.

There is one participation path offered through the Program:

- Whole Building: Large-scale property upgrades with improvements to common areas and/or tenant units

Campaign Goals and Timeline

Table 1 details the planned program timeline.

Table 1. Program Timeline

<i>Phase</i>	<i>Deliverables</i>	<i>Dates</i>
<i>Launch Preparation</i>	<ul style="list-style-type: none"> • Kickoff Meeting • Program Implementation Plan • Program Management Plan • Program Marketing Plan • Set up IT Infrastructure • Develop Program Materials 	01/01/2024–03/31/2024
<i>Program Launch and Ramp-Up</i>	<ul style="list-style-type: none"> • Provide Program training • Implement marketing campaign • Begin Contractor Enrollment • Begin Customer/Project enrollment • Deliver preliminary Program services 	03/01/2024–03/07/2024
<i>Perform Program Services</i>	<ul style="list-style-type: none"> • Deliver Program services • Conduct inspections and verifications • Perform Whole Building Analysis • Reserve Incentives for Projects • Payment of Incentives/Rebates • Deliver Annual Filings and evaluate program improvements 	03/07/2024–12/31/2027
<i>Program Shutdown</i>	<ul style="list-style-type: none"> • Shutdown Plan • Inform Stakeholders • Resolve outstanding items • Final Program Report 	As determined by Shutdown Plan

Program Budget and Savings

1. Program and/or Sub-Program Name
SoCalREN Whole Building Comprehensive Energy Efficiency Multifamily Program
2. Program / Sub-Program ID number
SCR-RES-A1
3. Program/Sub-program Budget Table

<i>Budget Category*</i>	2024	2025	2026	2027
Administration	\$124,488	\$131,119	\$133,359	\$138,567
Marketing	\$156,227	\$164,549	\$167,360	\$173,895
Direct Implementation—Non-Incentive	\$1,910,423	\$2,012,184	\$2,046,554	\$2,126,476
Direct Implementation—Incentive	\$5,347,180	\$5,632,002	\$5,728,202	\$5,951,901
Total	\$7,538,318	\$7,939,854	\$8,075,475	\$8,390,839

*All sub programs included in totals shown above

4. Program/Sub-program Gross Impacts Table

Gross Impacts	2024	2025	2026	2027
kWh	3,832,952	4,571,705	4,601,322	9,198,439
kW	280	333	336	746
Therms	215,757	257,342	259,009	382,786
Total System Benefits (TSB)	\$5,705,256	\$7,238,427	\$7,721,614	\$13,548,513

5. Program/Sub-Program Cost Effectiveness (TRC)

Cost Effectiveness	2024	2025	2026	2027
TRC	0.49	0.56	0.59	0.74

6. Program/Sub-Program Cost Effectiveness (PAC)

Program Administration Cost	2024	2025	2026	2027
PAC	0.76	0.91	0.96	1.61

7. Type of Program/Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

Program Implementer	Yes
SoCalREN Only	X
SoCalREN – Statewide Lead	
Other PA – Statewide Lead	
Third Party	
Other	

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

Market Sector	Yes
Residential	X
Commercial	
Industrial	
Agricultural	
Public	
Codes & Standards	
Workforce Education & Training	
Finance	
Other	

9. Program/Sub-program Type (i.e., Non-resource, Resource)

Program Type	Yes	No
Resource	X	
Equity		
Market Support		

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

Market Channels	Yes	No
Upstream		X
Midstream		X
Downstream	X	
Direct Install	X	

Intervention Strategies	Yes	No
Direct Install	X	
Incentive	X	
Finance		X
Audit	X	
Technical Assistance	X	

Campaign Goals

In addition to the program savings goals, the following goals have been established for 2024-2027:

- Complete projects at 439 multifamily sites
- 65 percent of completed projects in DAC ZIP codes by 2027
- Impact 87,800 tenant units
- Increase contractor participation to 20 total contractors with at least 15 active contractors
- Complete pilot for 12 NMEC Projects

Implementation Plan Narrative

Program Description

The SoCalREN Whole Building Comprehensive Energy Efficiency Multifamily Program (“Program”) helps property owners upgrade facilities through energy efficiency retrofit projects that improve living conditions and reduce energy costs for residents. The program provides business opportunities for contractors who complete upgrades at participating properties. Program objectives include:

- Improving the efficiency of multifamily buildings through retrofits
- Providing a turnkey solution with financial incentives so property owners can adopt new and more efficient technologies and/or equipment, thus reducing energy waste
- Targeting hard-to-reach and disadvantaged community multifamily properties

In addition to the cost-saving benefits of energy efficiency (for both owners and tenants), residents benefit from a safer, healthier, and cleaner living environment while building owners enjoy increased property values. The successful completion of a Multifamily project that addresses the needs of stakeholders at all levels is an effort that is both meaningful financially and helps California meet long-term greenhouse gas (GHG) reduction goals.

The primary target audience for the Program is owners and managers of properties with a minimum of 50 units that are located within the SoCalREN service area. This includes a wide range of property types, from large corporate operations with multiple property sites to individual owners of single properties. Secondary audiences include contractors who serve multifamily properties in the Los Angeles County area.

In addition, the Program provides messaging and tools to help educate tenants and property staff in participating properties about the Program, as well as general information about incorporating energy-saving behavior and habits to increase efficiency and energy savings through behavioral changes, such as impact of setting higher thermostat temperatures during cooling periods or utilizing appliances during off peak periods.

Program Delivery and Customer Services

Projects will be brought to the Program by owners interested in improving their property, or through contractors selling retrofit projects directly to owners. Projects will then receive a whole building energy assessment that provides a comprehensive review of potential opportunities, or a more targeted assessment of cost-effective opportunities, outlining energy savings potential and payback of each measure. From this whole building energy assessment, the property owner agrees to a project scope that meets their criteria and moves into construction. Once a project is complete, the owner or contractor receives an incentive for the work completed.

The Whole Building Program features an attractive incentive rate per achieved savings that are also structured to provide higher benefits to Disadvantaged Communities (DACs). The eligibility of a project will be determined based on the qualified savings percentage above baseline energy usage and a minimum savings potential. The incentive will then be capped at 50 percent of the project cost for non-DAC properties, and at 60 percent of project cost for DAC properties.

Renewable Generation and Resilience Feasibility and Implementation Support: For a select subset of participating owners, whole building energy assessments will include targeted

evaluations of Distributed Energy Resources (DERs) opportunities for the buildings to further reduce their carbon footprint and GHG emissions, such as solar PV and battery storage. The assessment will address resilience preparation and look at feasibility of a Microgrid for the property. The program will also direct opportunities that move forward to available state and local funding for DER and Microgrid projects.

Normalized Meter Energy Consumption (NMEC) Platform: A pathway is provided for using NMEC to determine energy savings and incentive amount. For these projects, behavioral measures will be encouraged to increase the project savings. Tenants and owners will receive simple training as to best behaviors for energy savings, and benchmarking will be used to track progress and encourage persistent, deeper savings.

Charge Ready Coordination: Leveraging additional funding provided through a grant awarded to LA County by the California Energy Commission, the Program will facilitate customer participation in local EV charge ready programs by conducting a site assessment to determine the number and locations for potential EV charger locations. The customer will be supported in the preparation of Charge Ready program applications and provided with additional incentives to cover the portion of project costs that remain net of other non-REN incentives provided.

Program Design and Best Practices

The Program is designed to help customers save energy, reduce GHG emissions, improve tenant comfort, and reduce ongoing maintenance costs. The program encourages comprehensive upgrades by requiring multiple measures and deeper energy savings by addressing the below market barriers by executing on a variety of strategies and tactics.

Market Barriers ¹	Strategy to Overcome Barrier	Program Tactics	Best Practices ²
<ul style="list-style-type: none"> • Lack of capacity • Multiple decision makers • Market confusion and high transaction costs 	Intelligent outreach to reach appropriate decision maker	<ul style="list-style-type: none"> • Targeted marketing and outreach using a variety of communication channels such as social media, email, direct mail, and print advertising • Active engagement with industry trade associations • Single point of contact to manage property 	Consult and target building owners and managers

¹ Apartment Hunters: Programs Searching for Energy Savings in Multifamily Buildings, ACEEE, December 2013

² An Overview of Affordable Multifamily Programs: Best Practices and Context for Utilities, ACEEE, September 2021

		<p>interactions with program</p> <ul style="list-style-type: none"> • Trade ally partnerships with contractors that support multifamily segment 	
<ul style="list-style-type: none"> • Split incentives • Timing and disruption of tenants • Market confusion and high transaction costs 	<p>Comprehensive program that addresses both common area and in-unit measures</p>	<ul style="list-style-type: none"> • High-value in-unit measures provided to tenants at no cost • NMEC pathway that integrates behavioral elements to engage tenants • Marketing and education targeted to tenant audience 	<p>Integrate direct installation and rebate programs</p>
<ul style="list-style-type: none"> • Split incentives • Lack of capital • Lack of capacity • Market confusion and high transaction costs 	<p>Simple incentive approach that addresses both common area and in-unit measures based on energy savings achieved</p>	<ul style="list-style-type: none"> • Single point of contact to manage property interactions with program • Engineering, technical and project management support to oversee end-to-end installation process • High-value in-unit measures provided to tenants at no cost 	<p>Streamline rebates and incentivize in-unit measures</p>
<ul style="list-style-type: none"> • Split incentives • Lack of capital • Uncertain benefits 	<p>Align incentives with project achievements</p>	<ul style="list-style-type: none"> • Site assessments that identify cost-effective retrofit measures • Incentive structure that encourages greater energy savings 	<p>Encourage deeper retrofits by providing escalating incentives</p>

		<ul style="list-style-type: none"> • NMEC pathway to provide opportunity for greater savings/incentives 	
<ul style="list-style-type: none"> • Split Incentives • Lack of capital • Timing and disruption of tenants • Multiple decision makers 	Provide solutions that address specific property needs	<ul style="list-style-type: none"> • Whole building pathway to focus on comprehensive retrofit projects • Common area pathway to focus on single end-use equipment • NMEC pathway to expand savings potential through behavioral actions • High-value in-unit measures provided to tenants at no cost 	Offer multiple pathways for participation

Key Software Tools

The program calculates project-level energy savings through a variety of software tools, principally Energy Pro and Energy Pro Lite. These modeling tools are augmented with external savings calculations as needed to mitigate any gaps in these standard tools. Energy Pro Lite was developed specifically to work with multifamily programs currently deployed in California.

Project workflow is managed in proprietary Microsoft Dynamics environment that includes a contractor portal that enables program contractors to upload and manage required documents.

Innovation

The Multifamily Program offers the following innovative solutions:

- **Increased Incentives for Disadvantaged Communities.** To better address the financial needs of DACs, incentives cover up to 60 percent of project costs. This higher level of incentive overcomes the persistent cost barrier that prevents customers in DAC areas from participating in efficiency programs.
- **Increased awareness of energy efficiency technologies.** To better address the market uptake of new efficient technologies, the program will provide cost effective easy to install measures, such as Tier 2 Advanced Power Strips, to tenants at no additional cost upon completion of a whole building project. This will encourage deeper retrofits in apartments and achieve additional energy savings through reduced waste and increased control of audio and visual technology.

- Increased awareness of energy efficient behavioral changes. The program will provide training and informative content to tenants and site operators to encourage reduction of wasted energy by focusing on the corresponding cost benefit. The energy impact of this will then be studied through a sample of projects that qualify and agree to the NMEC approach.

Metrics

A comprehensive set of Common Metrics are used to measure program success. At a high level, these metrics include:

Financial:

- Funds reserved during the reporting period (calendar year)
- Checks issued to customers during the reporting period (calendar year)
- Funds remaining from the budget during the reporting period (calendar year)
- Cost per kWh/kW/therms of energy saved
- Project costs (before incentives)
- Incentives issued per project
- Overall project cost effectiveness

Project Data:

- Size of projects (# of units)
- Site information (age, # of buildings, common/tenant square footage, etc.)

Energy Savings:

- kWh saved per project
- kW saved per project
- Therms saved per project
- Overall program savings during the reporting period (calendar year)
- Project pipeline savings (anticipated savings of future projects in the pipeline)

Contractors

- Number of contractors actively submitting projects to the program
- Number of contractors with a commitment to workforce diversity

To-Code Savings Claims

The Multifamily Program recommends measures that meet or exceed code requirements. To code savings exist due to high levels of deferred maintenance that exists within the multifamily segment. A 2019 analysis by the Federal Reserve Bank of Philadelphia and PolicyMap estimated the median repair needs in multifamily properties to be \$1,355 per unit. This high level of deferred maintenance is the result of the long-standing approach within the multifamily

segment to “replace on burnout” and is further exacerbated by budget friendly “apartment grade” appliance options that are built to minimum efficiency standards.

The Program’s site assessments identify opportunities to address deferred maintenance by incorporating cost-effective, energy upgrades. For example, lighting recommendations typically include replacing existing incandescent or CFLs with LED fixtures which are mandated by national lighting standards.

- a. **Where to-code savings potential resides:** The multifamily segment represents a significant opportunity for to-code savings potential due to the older vintage construction for much of the existing building stock. The median age for more than 90 percent of multifamily properties in the SolCalREN region is the mid-1980s (or earlier depending on county) which predates Title 24 building efficiency standards. Many of these properties are in DAC ZIP codes where access to available capital necessary to exceed code is even more difficult to obtain.
- b. **Equipment types, building types, geographical locations, and/or customer segments promising cost-effective to-code savings:** Major equipment end-uses such as exterior lighting, central boilers, storage water heaters, pool heaters, pool pumps and HVAC systems offer the most potential for to-code savings. These systems are most impacted by deferred maintenance due to high replacement costs.
- c. **Barriers preventing code-compliant equipment replacements:** The primary barrier preventing code-compliant equipment replacements is the run-to-fail mentality common with rental properties. As there is no direct financial benefit to the property owner for upgrading equipment, they generally repair rather than replace with to-code or above-code equipment. Additionally, as capital budgets are constrained within the multifamily segment, common area systems such as central boilers are generally maintained well beyond their useful life or replaced in an emergency with like equipment.
- d. **Issues preventing natural turnover:** Natural turnover is not occurring within the multifamily segment mainly due to the cost involved with upgrading facilities and the run-to-fail mentality that leads to emergency replacement. Capital budgets are allocated on an annual basis which does not allow for long-term planning for major equipment upgrades. These issues are not conducive to participation in efficiency programs which require some foresight and planning.
- e. **Program interventions to accelerate equipment turnover:** The purpose of the Multifamily Program is to improve the efficiency of multifamily properties by recommending improvements that exceed minimum savings percentages over the existing conditions baseline. The incentive structure is designed to provide higher incentives for higher levels of efficiency achieved and encourage accelerated replacement of in-unit and common area equipment. Technical services are provided to participating customers and contractors to help identify the most cost-effective combination of measures to install.

Pilots

The multifamily program will pilot at least 3 NMEC projects per year. The pilot will target sites installing smart thermostats, tier 2 advanced power strips, and/or common area energy management systems through our normal incentive offering path. Upon installation of these

projects, the program will deploy marketing and training flyers, informative videos, and/or in-person training programs to tenants and property staff to help operate their systems more efficiently. The approach will highlight the importance of adjustment to thermostats, turning off lights, using the tier 2 advanced power strips, shutting off equipment when not used, and other approaches to reduce energy waste. Aggregated energy consumption will be collected from the utilities utilizing their web services platforms and normalized savings will then be determined per the approved NMEC approach. Actual savings and incentive adjustments will then be provided upon completion of NMEC analysis.

Workforce Education and Training

The program provides participating contractors with access to energy efficiency education through access to a proprietary e-Learning platform that has hundreds of hours of technical content. The Energy Efficiency Learning Center (EELC) offers a growing catalog of courses in a variety of categories, including HVAC, sales and marketing, and commercial energy efficiency. In addition, Building Performance Institute (BPI), Residential Energy Services Network (RESNET), and North American Technician Excellence (NATE) Continuing Education Unit-accredited courses are housed in the EELC.

Workforce Standards

Decision 18-10-008 addresses Workforce Requirements and Third-Party Contract Terms and states that the minimum workforce standards apply “to large non-residential HVAC and lighting controls projects (p. 71).” It further states that “all projects involving installation, modification, or maintenance of heating, ventilation, and air conditioning (HVAC) measures in nonresidential buildings (p. 76)” are subject to the standards. Therefore, the Workforce Requirements do not apply to this Program as it focuses exclusively on the residential sector.

However, all projects completed through the Program are performed by participating contractors who are either licensed General (B) Contractors or hold a specialty license for a particular trade (e.g., C-10 electrical contractor). The Program requires contractors to follow all state and local building codes and to pull permits as required by the authority having jurisdiction. The Program validates compliance with permitting requirements at the completion of project construction through the submittal of a Permit Verification Form.

Disadvantaged Worker Plan

The Program serves as a gateway for the SoCalREN Green Path Careers program to help place graduates with participating Multifamily Program contractors. The Green Path Careers programs provides contractors with access to a trained workforce who can assist in the energy assessment phase and mitigate the cost barrier of hiring entry level workers. The Multifamily Program account managers discuss the Green Path Careers program during the onboarding of new contractors and general communication about the program continue through monthly e-newsletters and other formal and informal communications.

Additional Information

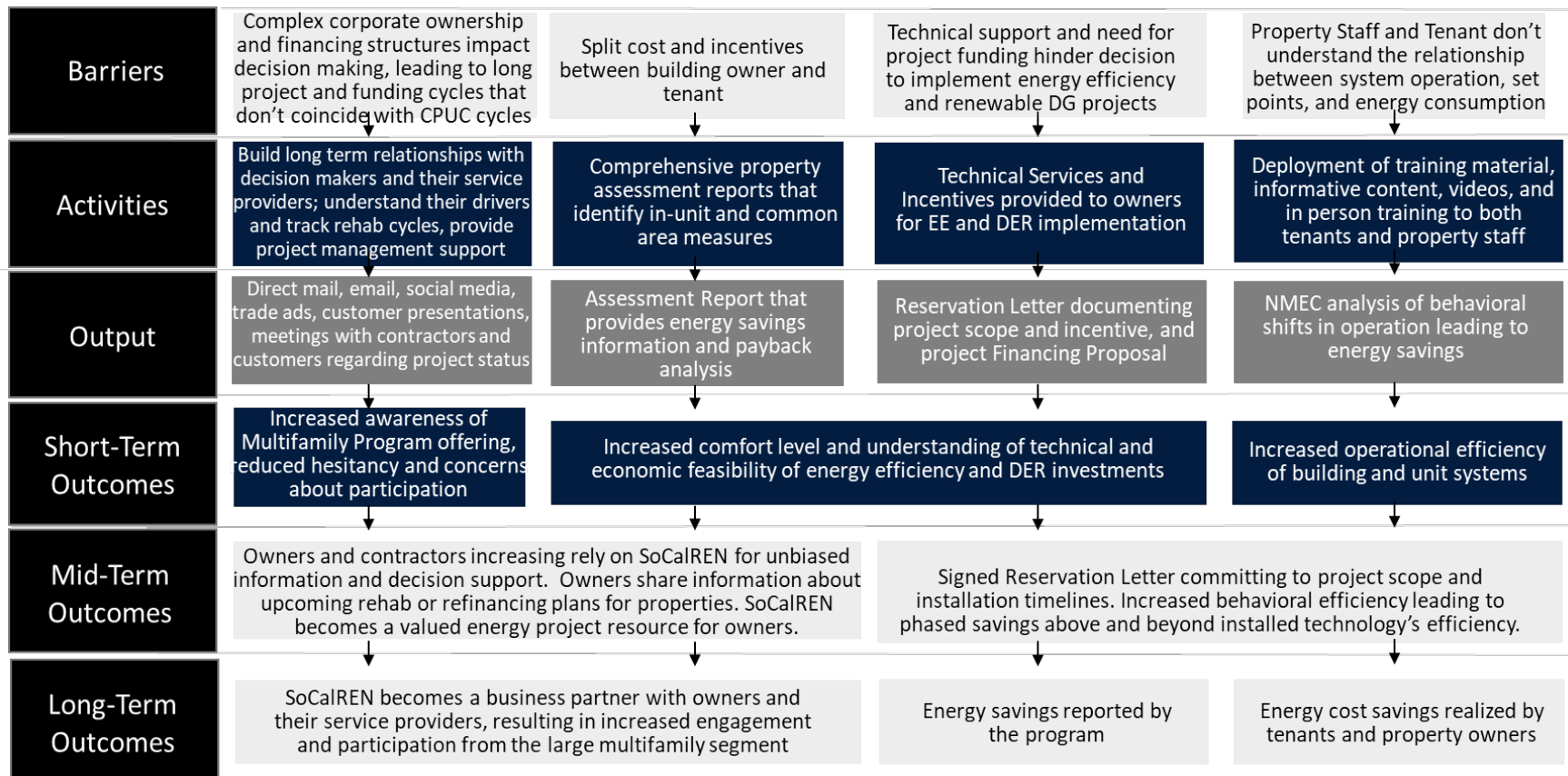
N/A

Supporting Documents

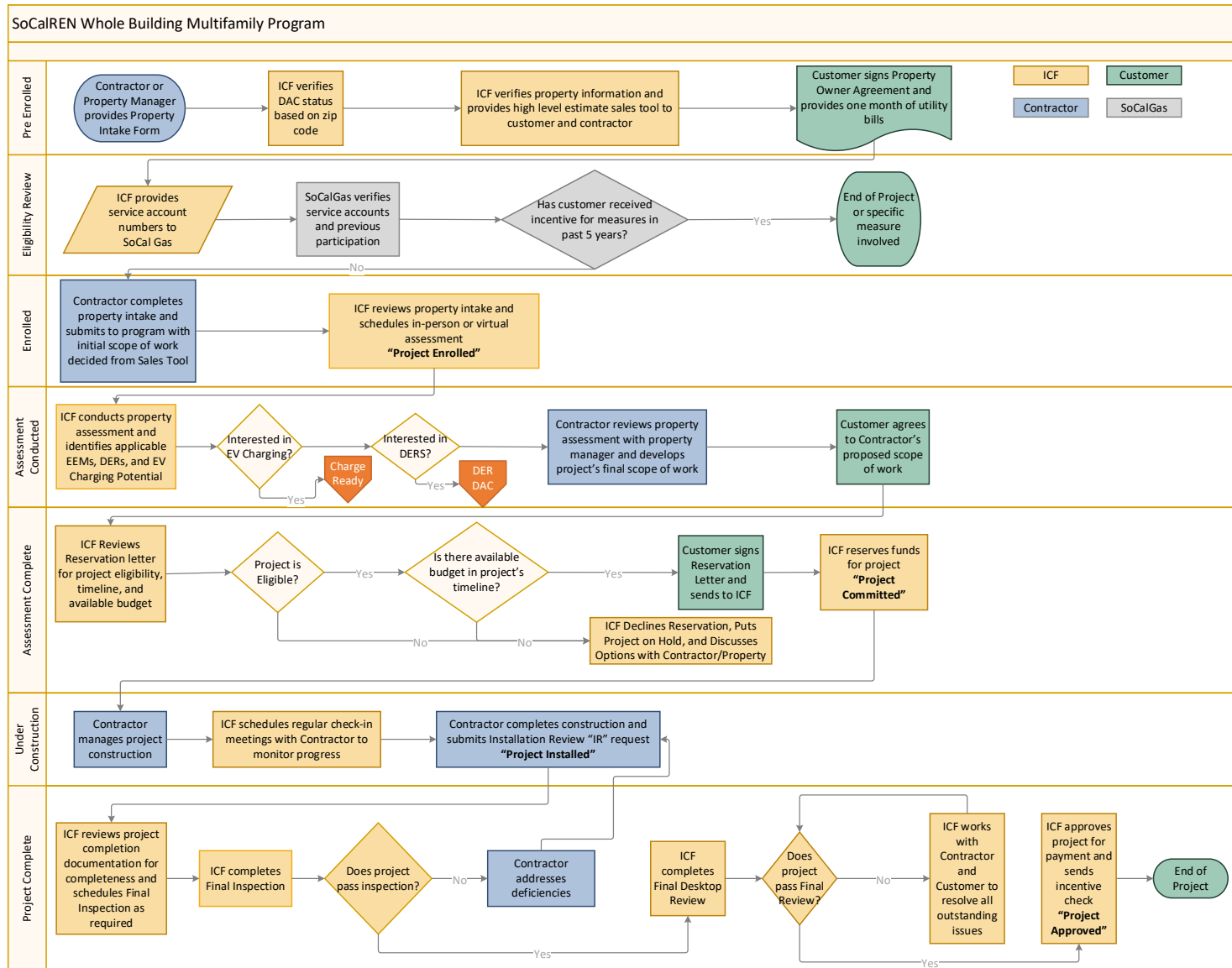
Program Manual and Program Rules

Program Manual to be developed after approval of the Business Plan.

Program Theory and Program Logic Model



Process Flow Chart



Incentive Tables, Workpapers, and Software Tools

The following table lists common measures available for the Multifamily Program Whole Building Path. However, any energy efficiency improvements above existing conditions, to-code, or above code are eligible through this program. As new technologies and improvements arise, this table may be updated.

Measures	
Attic, Wall, and Floor Insulation	Central Space Heating or DHW Boilers
Windows	Tankless Water Heaters
ENERGY STAR® Electric Heat Pump Water Heater	High-Efficiency Refrigerators
Central System Boiler for Space Heating	Residential Cool Roof
Variable Speed Circulation Pump for DHW High-Efficiency Boilers	Interior and Exterior Lighting
Solar Thermal	High Efficiency Showerheads, Bathroom Faucets, and Kitchen Faucets
Duct Sealing	On-Demand Recirculation Pump
Duct Insulation	Room AC
Package Terminal AC	Radiant/Hydronic Heating
Package Terminal Heat Pump (HP)	HVAC Duct Replacement/Retrofit
Package/Split System AC or HP	Refrigerant Charge
Variable Refrigerant Flow Ductless HP	System Air Flow Verification
Central Natural Gas Furnace	System Fan Wattage Verification
High-Efficiency Storage Water Heaters (electric or gas)	HVAC Fan Controller, Smart Thermostats
Gravity Wall Furnaces	Refrigerators, Washing Machines and Clothes Dryers
Smart/Advanced Power Strips	NMEC Verified Behavioral Operation Improvements

Incentives are based on the verified energy savings achieved over baseline conditions. As-built conditions are captured during the initial assessment and recommendations are made based on the observations made during the assessment. All Incentives are capped at 50 percent of the total project cost unless the project is in a Disadvantaged Community (determined by ZIP code). Projects located in Disadvantaged Communities are capped at 60 percent of the total project cost. See below table for the two applicable incentive rates:

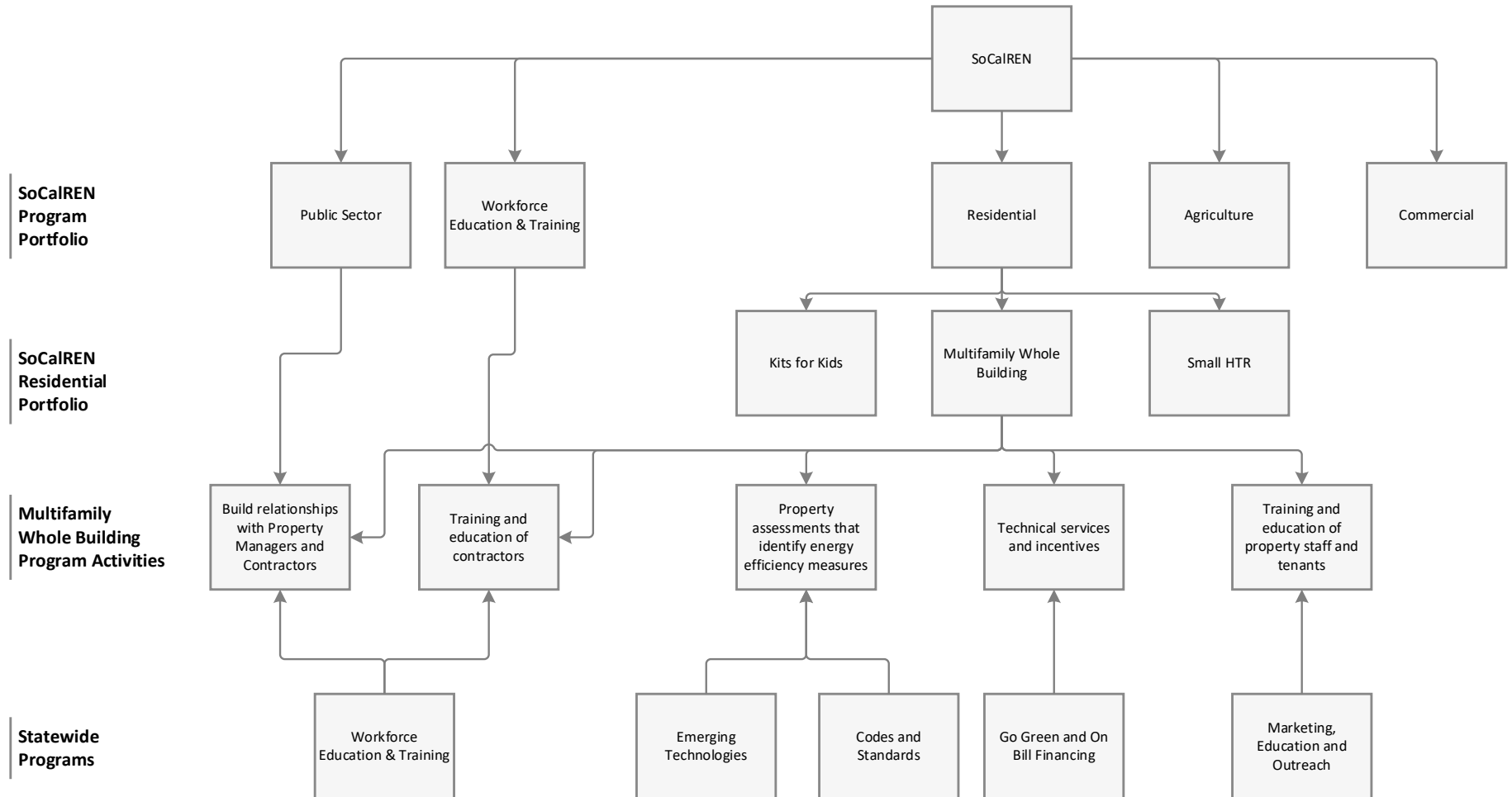
Incentive Rates	
Non-DAC	DAC
\$0.33/kWh and \$3.50/Therm	\$0.57/kWh and \$4.25/Therm

Quantitative Program Targets

In addition to the program savings goals, the following goals have been established for 2024-2027:

- Complete projects at 142 multifamily sites
- 60 percent of completed projects in DAC ZIP codes
- Impact 31,147 tenant units
- Increase contractor participation to 30 total contractors with at least 20 active contractors
- Enroll 5 total contractors in Rural Areas
- Complete pilot for 12 NMEC Projects

Diagram of Program



Evaluation, Measurement, and Verification (EM&V)

Information and data points are collected throughout the entire process of participation for a multifamily property. SoCalREN gathers information during the outreach phases, collecting data on potential customers reached and effectiveness of outreach methodologies.

The first step after initial outreach is to enroll properties into the Program. At this stage, basic eligibility information such as site contact information, building address, contractor information, and 12 months of utility billing data is obtained and reviewed. During this phase, the level of customer interest is gauged through direct conversation to determine their overall level of engagement and capacity to move forward with retrofits.

The program contractor completes an intake form that includes basic eligibility information and building-specific information that documents site parameters including type of equipment installed for major end uses such as HVAC, water heating and lighting. Information is also gathered on the tenant mix, including whether the property qualifies as DAC or HTR. Program staff then gathers additional in-depth information about the property during the assessment process. This assessment validates the existing conditions of the property and collects any additional data needed to produce the energy model.

Once the site assessment is completed, a baseline usage model is prepared to establish existing conditions. An assessment report is then prepared that provides recommendations for energy savings improvements for typical Whole Building (e.g., indoor/exterior lighting, faucet aerators/showerheads, thermostats, domestic hot water boilers, etc.) and Common Area measures (exterior lighting, pool/spa, laundry, and domestic water heating). The estimated savings are provided for each recommended measure so the property owner can make decisions on what measures to install to meet the minimum savings level (i.e., 100,000 kWh or 10,000 therms).

Contractors then complete the project and submit construction completion documents. Once the project is complete, the program's quality control (QC) processes are followed to verify final savings. QC consists of site verification as required to confirm measures and quantities installed and documentation review to validate project costs. The energy model is updated with the results of the QC process so final energy savings can be claimed and reported to the CPUC through CEDARS.

Throughout the project process, the information, data, and metrics captured are stored in the program Customer Relationship Manager (CRM) for ease of reporting. A dashboard is kept current so current statuses and pipeline can easily be reviewed by the Program Administrator. The project-level data is used to track progress towards program performance metrics.

Normalized Metered Energy Consumption (NMEC)

The Program shall use a site-level meter-based data collection approach for each project participating in the NMEC Pilot. These sites must have revenue grade meters to participate in the pilot. The goal of using the site-level approach is to verify energy savings of proposed behavioral intervention strategies. The associated data collected through the NMEC Pilot could be assessed and considered for development of a deemed workpaper measure at some future state.

- A. **Methodology:** The program will leverage the latest version of IPMVP and/or ASHRAE guideline 14 (where appropriate) to establish a normalized baseline. Once baseline and measure case data sets have been normalized using weather data and DEER weather files, a regression data analysis will be performed to ensure that there is a correlation with outside temperature with the newly proposed innovative weather dependent measure. Minimum sampling rates and confidence intervals will be established as part of the M&V plan before energy savings estimates are analyzed.
- B. **Data Collection:** Data collection activities to help establish baseline conditions include a site assessment to document existing building conditions including building and equipment operating schedules, baseline equipment and occupancy rates. Historical energy usage will be obtained through prior 12-month utility billing data. Revenue grade meters will be used to collect and site energy data. As the behavioral intervention will be weather dependent, the project team will also leverage local weather station data and compare it against CPUC approved DEER weather files to normalize both baseline and measure case energy consumption as a non-routine independent variable affecting energy consumption.
- C. **Monitoring and Documenting Energy Savings:** The collected data will be checked against utility bills or other relevant sources to ensure both precision and confidence levels are achieved. If necessary, the normalized model will be adjusted and calibrated where the normalized mean bias error (NMBE) of the predicted annual energy consumption is 10% or less based on the utility bills and the acceptable monthly coefficient of variation of the root mean square error (CVRMSE) is 15% or less (ASHRAE Guideline 14).
- D. **Adjusting for Non-Routine Events:** As part of the initial site audit a checklist of typical items and variables needed to support the site-level NMEC approach including the collection of non-routine events and/or variables will be completed. The checklist ensures that non-routine variables are considered and provides a mechanism to inquire about unidentified non-routine variables not known prior to baseline data gathering including non-routine events, root causes, impact to baseline energy consumption. Non-routine variables are then accounted for in the development of the baseline model. Non-routine variables may include but not limited to equipment outages, unplanned equipment replacement not related to program, changes in occupancy or building use, etc. Non-routine events may be identified by tracking energy use, by the end use customer or identified by other applicable means. Adjusted baseline energy use will be determined by inputting the independent variables (i.e., weather) measured during the baseline data collection period into the baseline energy model. After the project team confirms that independent routine variables have been accounted and adjusted for, if additional data anomalies are seen, the project team will investigate and interview relevant customer staff using the checklist identified previously to ensure that all non-routine events have been accounted for to isolate potential variance in energy savings estimations. If a non-routine event has been identified, the affected data will be identified and reviewed before adjustments are made. If appropriate, the identified non-routine event will be removed from the data set, and appropriate adjustments will be made and documented to ensure transparency.
- E. **Determining Program Influence:** The program documents customer interactions in a CRM system from initial customer contact through project verification. An assessment report identifies all recommended measures based the site survey and energy model

and the program team works with the customer and contractor to influence an appropriate scope of work. If necessary, the program can enhance the existing approach through a more formalized early screening process with guided questions to help increase gross realization rates and reduce free ridership making the program more cost effective.

- F. **Project-Level Savings:** There is a minimum requirement that projects participating in the pilot must reduce energy use by more than 10% of total consumption so the savings will be distinguishable from normal variations in consumption.
- G. **Incentive Structure:** Incentives are intended to reduce the overall project cost and are thus paid directly to the property owner. However, the property owner can assign incentives to another entity such as a contractor. The total incentive amount is based on the verified energy savings achieved over baseline conditions. As-built conditions are captured during the initial assessment and recommendations are made based on the observations made during the assessment. All Incentives are capped at 50 percent of the total project cost unless the project is in a Disadvantaged Community (determined by ZIP code). Projects located in Disadvantaged Communities are capped at 60 percent of the total project cost. See below table for the two applicable incentive rates:

Incentive Rates	
Non-DAC	DAC
\$0.33/kWh and \$3.50/Therm	\$0.57/kWh and \$4.25/Therm

- H. **Documentation of the Project Costs, Energy Savings and Peak Impacts:** Project costs are documented with an actual customer invoice indicating the total cost of the project. A project installation report is used as supporting itemized evidence for individual measure costs of installed equipment. Energy Savings and Peak Impacts are determined through the energy model which is updated at project completion based on site as built conditions.
- I. **Project Level EUL:** The EUL is calculated as a weighted average of individual DEER approved EULs for each measure installed at the site with the weighting based on overall contribution to project savings on a per BTU basis. However, if there is an opportunity to collect additional data that can help support a higher EUL value before, during and after post-retrofit installation, the program proposes to take proactive approach to document existing conditions to support future EUL persistence studies.
- J. **Target Population and Participant Eligibility:** The program targets multifamily properties with 50 or more residential units located in the SoCalREN territory. All projects that are eligible for the whole building path are eligible for participation in the NMEC Pilot, but participation will be limited to 12 customers with the opportunity to achieve more than 10 percent savings
- K. **Compliance with Decision 17-11-006:** See prior discussion on To Code Savings.
- L. **Bid M&V Plan:** Not applicable as this is not a third-party program.