

# SoCalREN Advisory Committee Meeting

Los Olivos Community Center, City of Irvine  
101 Alfonso, Irvine, CA 92618  
Thursday, March 5 10:30-1:30

## Administration

Remote Participation:

<https://energycoalition.zoom.us/j/195311065>

Meeting ID: 195 311 065

Wifi Network: City of Irvine FreeWiFi



# Agenda

SoCalREN Welcome	Lujuana Medina	5 min
Host Welcome	Sona Coffee	5 min
Opportunities for Collaboration	Lujuana Medina	20 min
SoCalREN Programs Update	Program Teams	30 min
Regulatory Updates	Marc Costa	10 min
Hosted Lunch	All	30 min
Funding Resiliency & Local Government Sustainability	Tim Unruh	70 min
Schedule of Activities & Closing Remarks	Laurel Rothschild	10 mins



# SoCalREN Welcome

Lujuana Medina, Los Angeles County



# Host Welcome

Sona Coffee, City of Irvine

# Opportunities for Collaboration

Lujuana Medina, Facilitator

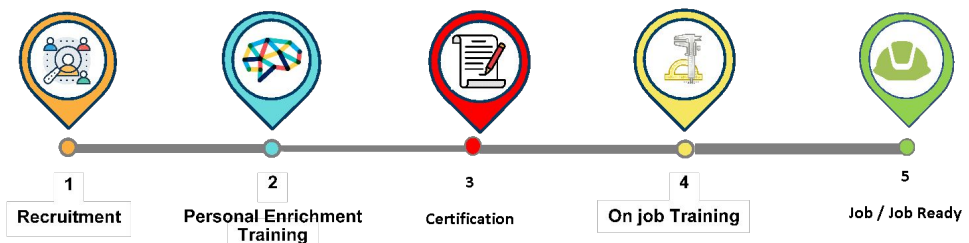
# Collaborate & Innovate



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# Disadvantaged Workforce Update

Development of a WE&T program that seeks to address the homeless workforce



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# Grant Working Group Updates

- Subgroup of the Advisory Committee
- Purpose is to identify, pursue and secure funding opportunities for energy, resiliency and sustainability projects
  - Facilitate discussions with regional and state agencies that administer grant opportunities (e.g. AQMD, ARB, SGC, etc.) to provide the perspective on Local Government needs and influence more meaningful programs on future funding opportunities
- Opportunities are tracked and shared with the Advisory Committee

## Services

- Eligibility/requirements review
- Strategic support
- Application coordination
- Technical assistance including copy-editing and other support as needed

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# Grant Working Group Updates

## Recent Work

Transformative Climate Communities Program, Round 3 Planning Grant (\$200,000)



- Provided recent support on Planning Grant application, submitted 2/28



## Assistance Provided

- Facilitated Q&A with SGC TCC contact
- Application timeline and logistics coordination
- Application copy-editing
- GIS map of planning area
- LA County Letter of Support

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# Gaps and Opportunities



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## What would you like to see enhanced in your community or region?

- Enhanced programs/service
  - Programs that aren't limited and can help overcome all barriers to meeting the challenge of climate change
  - Not losing the structure, expertise and resources of the Energy leader partnerships (local government partnerships) so cities (especially DACs) can continue work in energy efficiency
  - Financial, technical, and political assistance for investment in energy efficiency, residential programs, and commercial/business programs.
- Communications/awareness
  - Awareness of available programs so communities don't have to pursue energy efficiency and sustainability efforts on their own
  - Emphasis on energy efficiency as an affordable source of savings for communities with lower economic resources
  - Broader public outreach on EE/sustainability efforts
- Expanding electrified transportation infrastructure and microgrid support
- Increased focus on building electrification/reach codes

## What energy efficiency and/or other sustainability-related service gaps currently exist in your community or region?

- Energy technology gaps
  - Focus on sustainability and resiliency to promote renewables & battery storage
  - Incentives to encourage adoption of building and fleet electrification
  - Electric vehicle charging
  - Distributed energy networks
- Service gaps
  - Turn-key service model that offers audit, engineering, construction and operations of building systems (energy as a service)
  - Coordination/benchmarking
  - Data
  - Implementation
  - Public education campaigns and incentives to implement energy saving strategies, including water and related issues.

## What current barriers, if any, are there for these types of enhancements?

- Funding/financial barriers, affordability, and the payback equation
- Lack of political will, energy projects not prioritized
- Limited staff time and commitment (e.g., to adopting reach codes)
- Technical assistance and capacity limitations, such as for cap-and-trade funded programs that don't understand constraints of DACs, or for funding sources that can be difficult to access without dedicated grant-writing or sustainability expertise
- Other barriers: lack of information, conflicting state goals, not enough incentive to encourage programs, building codes





# SoCalREN Programs Update

Rebecca Hausheer, The Energy Coalition

Paul Kylo, ICF

Laurel Rothschild, The Energy Coalition

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The Southern California Regional Energy Network (SoCalREN) was created to harness the collective power of residents, businesses and the public sector to achieve an unprecedented level of energy savings across Southern California.



Public Agencies



Residential



Financing



Workforce



The SoCalREN Public Agency Programs are administered by the County of Los Angeles and funded by California utility ratepayers under the auspices of the California Public Utilities Commission. Learn more at [socalren.org](http://socalren.org).

[Link to Business Plan](#)

# 2020 SoCalREN Public Agency Programs



Project Delivery Program



Metered Savings Program

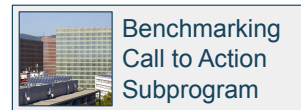


Revolving Loan Fund



Pathway to Zero

The SoCalREN Public Agency Programs see a future in which public agencies play an active leadership role in shaping zero net energy (ZNE) communities that are safe, secure, resilient, affordable, and sustainable.



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## A Tailored Project Delivery Approach for Public Agencies

As an objective third party, a dedicated SoCalREN Project Manager supports a project at **every stage**



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# Network Toolkit Accessed through SoCalREN Registration

- Enrolled agencies
- Potential agencies
- All agencies!

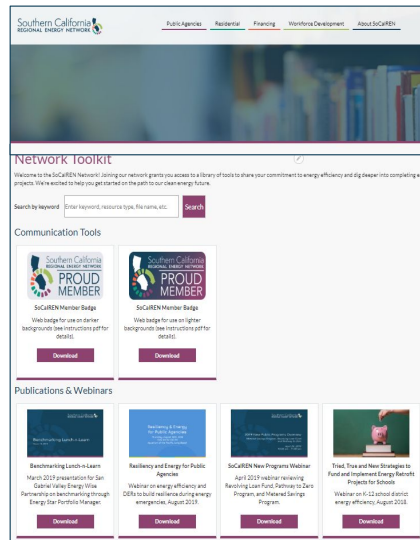


Register online to join the Network!

SoCalREN Public Agency Programs offer a suite of objective, third party energy efficiency resources at no cost to public agencies.

- ✓ Conserve energy
- ✓ Save money
- ✓ Protect the environment

[socalren.org/join](http://socalren.org/join)



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Public Agencies Residential Financing Workforce Development About SoCalREN

## NETWORK TOOLKIT


Welcome to the SoCalREN Network! Joining our network grants you access to a library of tools to show your commitment to energy efficiency and dig deeper into competing new projects. We're excited to help you get started on the path to our clean energy future.

Search by keyword:

### Communication Tools




SoCalREN Member Badge  
Visit [http://socalren.org/learn](#) for more information (see instructions for further details)




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Visit [http://socalren.org/learn](#) for more information (see instructions for further details)


### Publications & Webinars




Best Practices Latch-to-Learn  
August 2019 presentation for San Gabriel Valley Energy Title Borrowing and benchmarking through Energy Star Portfolio Manager



Resiliency and Energy for Public Agencies  
Webinar on energy efficiency and O&M to build resilience during energy emergencies, August 2019



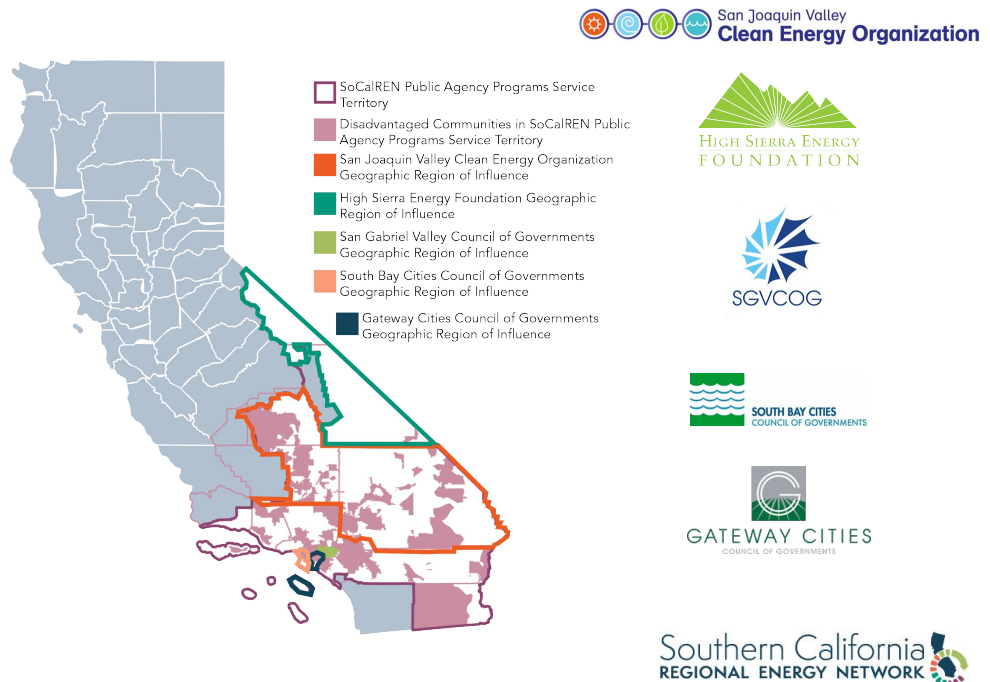
SoCalREN New Programs Webinar  
April 2019 webinar reviewing Resiliency Loan Fund, Payroll-to-Zero Program and Shared Savings Program



Good, True and New Strategies to Fund and Implement Energy Efficient Projects for Schools  
Webinar on a 10-year district energy efficiency, August 2018

Do you have any ideas on what you would like included in the toolkit?

# Regional Partners in 2020



San Joaquin Valley Clean Energy Organization

HIGH SIERRA ENERGY FOUNDATION

SGVCOG

SOUTH BAY CITIES COUNCIL OF GOVERNMENTS

GATEWAY CITIES COUNCIL OF GOVERNMENTS

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Legend:

- SoCalREN Public Agency Programs Service Territory
- Disadvantaged Communities in SoCalREN Public Agency Programs Service Territory
- San Joaquin Valley Clean Energy Organization Geographic Region of Influence
- High Sierra Energy Foundation Geographic Region of Influence
- San Gabriel Valley Council of Governments Geographic Region of Influence
- South Bay Cities Council of Governments Geographic Region of Influence
- Gateway Cities Council of Governments Geographic Region of Influence

# 2020 Multifamily Program

The SoCalREN Multifamily Program helps property owners improve the efficiency of their multifamily buildings by offering financial incentives to offset the cost of custom comprehensive retrofits.

## • Benefits

- Reduced operating costs through improvements in building common areas and tenant units
- Financial incentives and exclusive financing options for property owners
- Ongoing guidance and support from program Account Managers
- Enhanced tenant comfort and safety (e.g. better indoor air quality, improved outdoor lighting, etc.)
- Business opportunities for area contractors who work with multifamily properties or who are looking to expand their business model

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# 2020 Multifamily Program

## Whole Building Path

Energy Assessment and Modeling

Combination of measures that work together as a system for maximum energy savings

Open to properties of any size; five units or greater

## Express Path Pilot

Selection from a package of measures

No Energy Modeling

Open to properties from five to 50 units

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# 2020 Multifamily Program

## • Requirements

- Property must be served by SCE OR SoCalGas®
- Building must contain a minimum of five units
- The project must include at least three qualifying measures and achieve a minimum of 10% energy improvement

## • Participation Steps



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# Residential Community Coordinator

- The Residential Community Coordinator (RCC) team performs direct outreach to disadvantaged and hard-to-reach communities to provide information about SoCalREN programs and services.
- Activities include:
  - One-on-one support for multifamily property owners and managers who wish to participate in the Multifamily Program
  - Community outreach events
  - Advertising in multicultural print and radio outlets
  - Translation services and support for SoCalREN programs
- Languages spoken by the RCC team include Spanish, Chinese, Korean, Vietnamese, and more.

Interested in having a multilingual workshop for residents in your community?  
Let us know as we are happy to assist!

# Workforce, Education & Training

- Procurement Training and Support - *E-Contractor Academy*
  - Tailored strategy that offers training and step-by-step bid solicitation assistance from the beginning of an RFP to the award.
- Public Agency Bid Solicitation Training for Contractors
  - Workshop training to assist contractors (WMDVBE) in participating in specific Public Agency bid solicitation

Interested in promoting your local workforce/small business contractors? Let us know as we can assist with hosting trainings!

- SoCalREN programs Contractor Training
  - Workshop training that assist small business contractors and WMDVBE contractors in participating in SoCalREN EE residential programs
- Youth Workforce Development - *ACES Youth Program*
  - Provides stackable certificates that includes a new energy/building technologies curricula to effectively build a pipeline of disadvantaged youth trained to enter into quality career jobs in the energy sector and provide paid internships.

Interested in leading a small business contractor workshop? Let us know as we are happy to assist and co-host!

## 2021 Outlook

### *Collaborative Discussion on Current Gaps*



# Regulatory Updates

Marc Costa, The Energy Coalition

## Regulatory Updates

Proceeding Number	Title of Proceeding	Recent Development	Impact to LG/ Constituents Served	Next Step/ Deliverable
R.13-11-005	Rolling Portfolio	IOU ABAL Workshops; CAEECC activity on 4 vs 6 year program cycles; EM&V Stakeholder meetings scheduled for March 9-11; Itron report on downstream programs	Public Agencies as 3rd party implementers is an opportunity under the IOU ABALs EM&V webinars - learn what measures to prioritize Itron report - learn how various programs including LGPs were evaluated	Comments on PD; continue to participate on CAEECC
R.19-01-011	Building Decarb	PD on BUILD and TECH Programs	Proposed Decision - \$80M for BUILD (\$60M for low-income; \$120M for TECH Initiative) 750 GWP refrigerant threshold	Comments on PD
A.19-08-013	SCE Increase in 2021 Revenues	Joint Case Mgmt Report Filed; SCE applied for a 20.1% / \$1.295B	Details of how SCE recovers rate increase in the report; bills will increase;	Party comments on JCM report

# Regulatory Updates

Proceeding Number	Title of Proceeding	Recent Development	Impact to LG/ Constituents Served	Next Step/ Deliverable
R.18-12-005	Electric De-energization	Draft Guidelines issued	PSPS plans, Community Resource Centers (CRC), and communication Protocols significantly intersect with public sector responsibilities	Await updated protocols
R.19-01-011	Rulemaking Regarding Building Decarbonization	March 3 Comments submitted on TECH and BUILD Pilots	Pilot programs are being developed to decarbonize residential new construction as well as 'clean heat' technologies	Await Final Decision on TECH and BUILD pilot programs
R.19-09-009	Rulemaking Regarding Microgrids	Comments filed on Track 1 Microgrid and Resiliency Strategies.	IOUs are proposing strategies that include fossil fuel based generation to increase resilience in targeted grid locations. LGSEC recommends that LGs receive funds for resilience planning	Monitor reply comments and future proposed decision

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# Break for Lunch



# Funding Resiliency & Local Government Sustainability

Tim Unruh, Executive Director, NAESCO

## National Association of Energy Service Companies

Timothy D. Unruh, PhD, PE, CEM, LEED-AP

# Who am I



- Currently Executive Director of NAESCO - DC
- Eight Years with US Department of Energy - DC
  - Federal Energy Management Program (FEMP)
    - Helped accelerate \$108 in Energy Savings contracts ..... in federal government
  - Deputy Asst. Secretary of Renewable Power
- Twelve Years in Energy Performance Contracting
  - Work across country in various states - Kansas
- Four Years in Industrial Energy Efficiency
  - Consumers Energy, General Motors – Michigan
- Electrical Engineer by training
  - Thesis in Solar Power and Electric Power Quality



35

# NAESCO – Who are we?

- A non-profit trade association advocating for the energy service company market
- In existence since 1983
- Membership of 98 companies
- Home of the only Energy Service Company (ESCO) Accreditation
- 30 Accredited ESCOs
- ESCO industry is about \$7-8 Billion Annual Spend



36

# Accreditation

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- A rigorous process of evaluation performed by an independent committee of reviewers
  - Financial Review
  - Project Review
  - Savings Achievement Assessment
  - Interviews with Site Personnel
  - Legal History Review
- Provides an additional assurance of ESCO Performance

# What is this all about?

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- Energy Performance Contract (EPC)
- Energy Service Company (ESCO)
- Measurement and Verification (M&V)
- A contract that repurposes money wasted on energy and operational expenses
- A Company that develops a scope of work to install building improvements that will save money and energy
- A process of evaluating the performance of equipment installed that is intended to save money

# EPC versus ESA

- An EPC will install equipment that is owned by the building owner at project completion.
- An ESA will install equipment that is NOT owned by the building owner at project completion.
- Usually an EPC is treated like a construction contract, where an ESA is treated like a service agreement with some service or energy provided over a period of time.

# Why are EPCs used?



You want to eliminate waste



People are cold



Things just need to be turned off

You want renewable energy on-site



It just seemed like a good idea



Equipment is Broken



This is the only way to get money

# EPC versus Capital Budgets

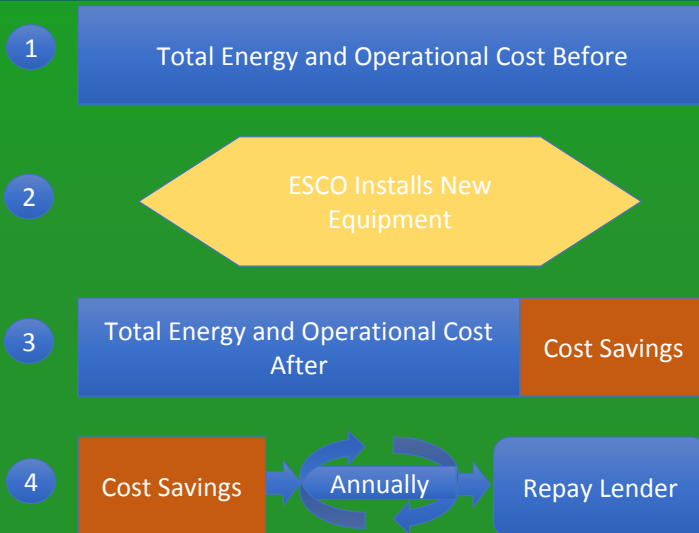
- Waiting for funds to implement a project misses out on savings that can be achieved quickly through an EPC.



Sites can start an EPC project today without any upfront funding  
Recent Federal EPC projects are saving an average of \$2M/year per project  
Capital budgets don't always come through

- Use of capital budget for a one-time buydown of longer payback measures within an EPC leverages maximum savings and minimizes overall lifecycle cost versus using capital budget to address only lower payback measures.\*

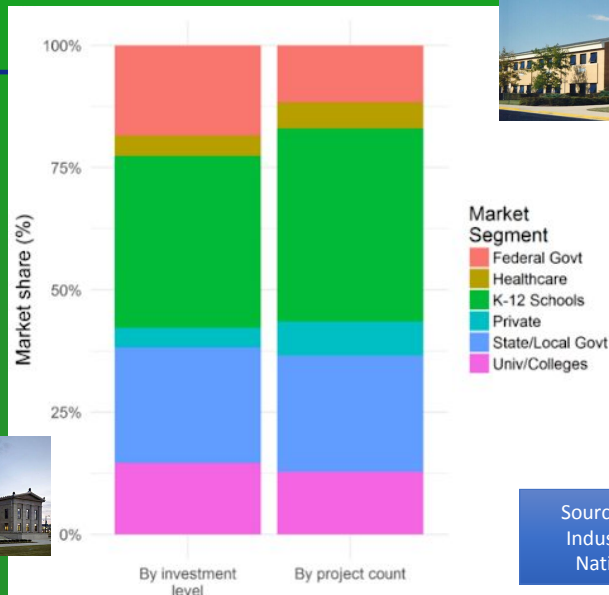
# How does this work



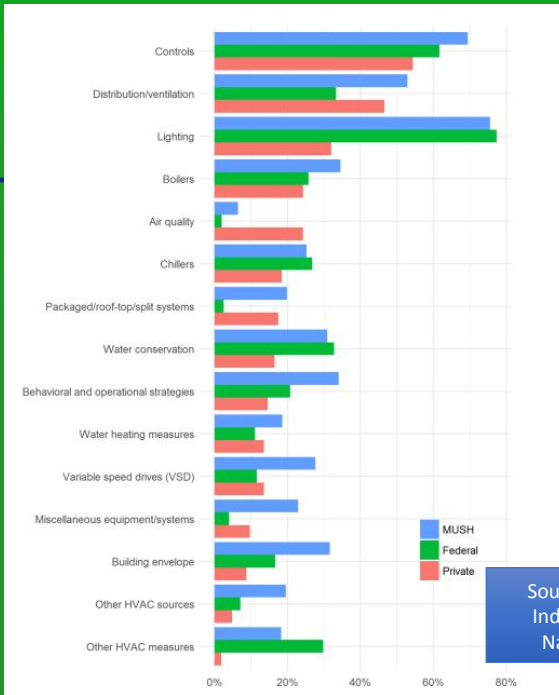
# Who uses EPCs?

- A term called the “MUSH” market is the predominant user of Energy Performance Contracts
  - M – Municipal Governments
  - U – Universities and Higher Education
  - S – School Systems
  - H – Hospitals
- The MUSH market often has challenges to acquire the money to do building improvements
- These contracts are used by these entities because they have “enabling legislation” that allows them to redirect existing budget dollars into a new use

# Who uses EPCs?



Source: State of the US ESCO Industry, Lawrence Berkeley National Laboratory, 2019

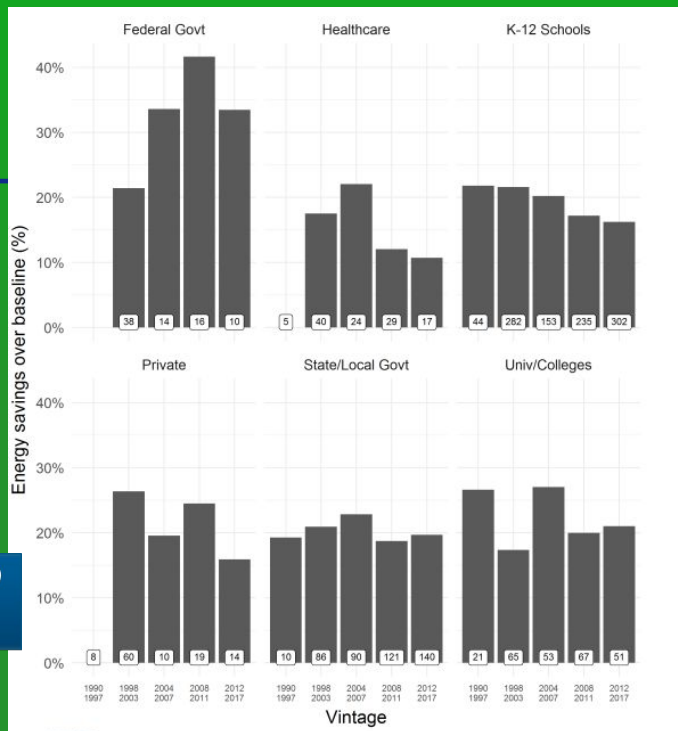


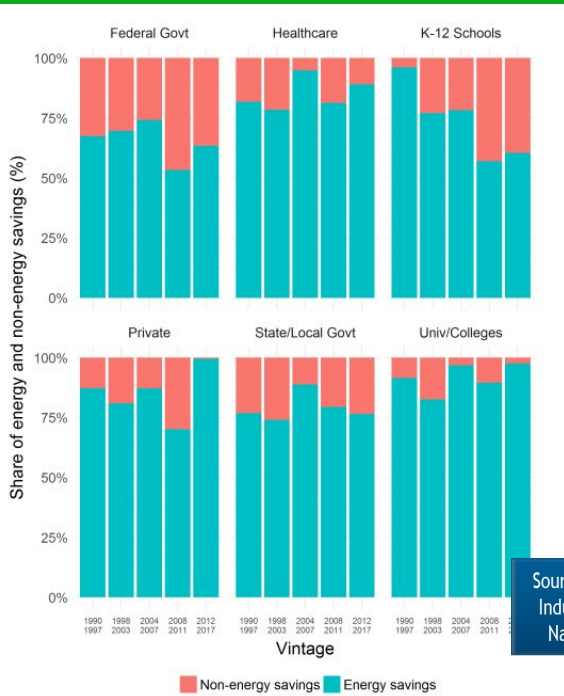
# What is being installed with EPCs?

Source: State of the US ESCO Industry, Lawrence Berkeley National Laboratory, 2019

# How much Energy is Saved?

Source: State of the US ESCO Industry, Lawrence Berkeley National Laboratory, 2019





Source: State of the US ESCO Industry, Lawrence Berkeley National Laboratory, 2019

# Operational Savings

## Cash Flow Proforma Example

### Pro Forma Cash Flow for 20 Year Project - Configuration #1

Project Price				Projected Savings (Annual)				
Installation Price		\$	7,646,964	Utilities		\$	699,372	
Comprehensive Energy Audit Fee		\$	150,000	O&M		\$	11,022	
Net Project Price		\$	7,796,964	<b>Total Projected Savings</b>		\$	699,394	
Less Capital Contribution		\$	-					
<b>Net Financed Costs</b>		\$	7,796,964	<b>Finance Factors</b>				
				Term (years)			20	
<b>Annual Payments</b>				Interest Rate (Estimated)			4.80%	
Technical Services Fee (Year 1)		\$	-	Ongoing Fee Escalation Rate			3.0%	
Annual Budget Contribution (Year 1)		\$	0	Energy Escalation Rate			3.0%	
<b>Net Annual Payments</b>		\$	-	O&M Escalation Rate			0.0%	
YEAR	PROJECTED UTILITY COST SAVINGS	GUARANTEED UTILITY SAVINGS	OPERATIONAL & MAINTENANCE COST SAVINGS	BUDGET CONTRIBUTION	FUNDS AVAILABLE	DEBT SERVICE	EXCESS SAVINGS	TECHNICAL SERVICE PAYMENTS
Construction	\$291,237	\$263,789	\$4,653	\$0	\$295,900	\$169,755	\$127,145	\$0
1	\$689,372	\$623,495	\$11,022	\$0	\$699,394	\$614,812	\$94,582	\$0
2	\$709,023	\$642,199	\$11,022	\$0	\$720,045	\$614,812	\$105,233	\$0
3	\$730,294	\$661,465	\$11,022	\$0	\$741,316	\$614,812	\$126,504	\$0
4	\$752,203	\$681,309	\$11,022	\$0	\$763,225	\$614,812	\$148,413	\$0
5	\$774,769	\$701,749	\$11,022	\$0	\$785,791	\$614,812	\$170,979	\$0
6	\$799,012	\$722,801	\$11,022	\$0	\$809,034	\$614,812	\$194,222	\$0
7	\$821,952	\$744,485	\$11,022	\$0	\$832,974	\$614,812	\$218,162	\$0
8	\$846,611	\$766,820	\$11,022	\$0	\$857,633	\$614,812	\$242,821	\$0
9	\$872,009	\$789,824	\$11,022	\$0	\$883,031	\$614,812	\$268,219	\$0
10	\$898,170	\$813,519	\$11,022	\$0	\$909,191	\$614,812	\$294,379	\$0
11	\$925,115	\$837,925	\$11,022	\$0	\$936,136	\$614,812	\$321,324	\$0
12	\$952,863	\$863,062	\$11,022	\$0	\$963,890	\$614,812	\$349,078	\$0
13	\$981,454	\$888,954	\$11,022	\$0	\$992,476	\$614,812	\$377,664	\$0
14	\$1,010,898	\$915,623	\$11,022	\$0	\$1,021,919	\$614,812	\$407,108	\$0
15	\$1,041,225	\$943,092	\$11,022	\$0	\$1,052,246	\$614,812	\$437,434	\$0
16	\$1,072,462	\$971,394	\$11,022	\$0	\$1,083,483	\$614,812	\$468,671	\$0
17	\$1,104,635	\$1,000,526	\$11,022	\$0	\$1,115,657	\$614,812	\$500,845	\$0
18	\$1,137,774	\$1,030,542	\$11,022	\$0	\$1,148,796	\$614,812	\$533,964	\$0
19	\$1,171,908	\$1,061,459	\$11,022	\$0	\$1,182,929	\$614,812	\$568,117	\$0
20	\$1,207,065	\$1,093,302	\$11,022	\$0	\$1,218,096	\$614,812	\$603,275	\$0
<b>TOTAL</b>	<b>\$16,496,820</b>	<b>\$16,753,534</b>	<b>\$220,432</b>	<b>\$0</b>	<b>\$18,717,252</b>	<b>\$12,296,238</b>	<b>\$6,421,014</b>	<b>\$48</b>



# ESCO Selection

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- Often a balanced process between procurement legal requirements and EPC process limitations
  - Most clients have some process requirements
  - ESCO selection does not lend itself to bidding
- Process should include
  - Preliminary assessment of opportunity
  - Evaluation of ESCO references
  - Oral interview
- Selection of the right ESCO is based upon the relationship formed during this process



# ESCO Quality is Critical

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- ESCOs have a vested interest in the success of their EPC projects
  - They are guaranteeing the savings, therefore equipment needs to perform
  - They may have ownership for operation and maintenance of installed equipment for the contract term (often 10+ years)
  - ESCOs must provide full details and cut-sheets for all equipment proposed; sites have the power to accept or reject any equipment proposed by the ESCO
  - ESCOs apply to be on multiple award contracts in federal and state markets; thus, continued performance and project quality is key to remaining on contracts when they are re-competed

# What is the process?

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- Step 0: Selection According to Procurement Rules
- Step 1: ESCO and Client Discuss Needs
- Step 2: Preliminary Analysis to Determine Potential
- Step 3: ESCO and Client Refine Needs
- Step 4: Investment Grade Audit
- Step 5: Negotiate Final Scope of Work to Contracts
- Step 6: Construct the Project
- Step 7: Annually Assess Performance

# Some key things to know

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- Audits
- Payback
- Cash Flow Proforma
- Energy Savings
- Energy Rates
- Energy Rate Escalation
- Operational and Maintenance Savings
- Risk and Responsibility
- Construction Savings
- Schedule
- Project Closeout
- Performance Period
- Measurement & Verification
- Warranty

# Audits

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## Preliminary

- Done at no cost to client
- Short few hours at site
- Estimated Savings
- No Contractor Bids, Estimated Costs
- Used to determine if further action is warranted
- Product is a project profile

## Investment Grade

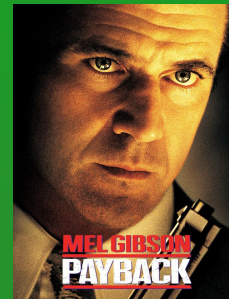
- Done at cost to client
- Duration of 2-6 months
- Guaranteed Savings
- Contractor Bids, Guaranteed Costs
- Used to establish the scope of the work agreement
- Intended Product is an EPC

# Payback

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- Project Information:
  - Interest Rate = 5%
  - Desired Project Duration = 15 Years
- So, Financed Project Payback = 15 Years
- Simple Project Payback:
  - Simple Project Payback = 10.37 years

$$\frac{[(1 + \text{int})^n - 1]}{[(1 + \text{int})^n \times \text{int}]}$$



- Simple: A ratio of the cost divided by the savings
  - Cost of \$1,000, Savings of \$100/year
  - Payback = 10 years

# Cash Flow Proforma

- A numeric description of the project over the duration of the project.

YEAR	PROJECTED UTILITY COST SAVINGS	GUARANTEED UTILITY SAVINGS	OPERATIONAL & MAINTENANCE COST SAVINGS	BUDGET CONTRIBUTION	FUNDS AVAILABLE	DEBT SERVICE	EXCESS SAVINGS	TECHNICAL SERVICE PAYMENTS
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17	\$1,104,635	\$1,000,526	\$11,022	\$0	\$1,115,657	\$614,812	\$500,845	\$0
18	\$1,137,774	\$1,030,542	\$11,022	\$0	\$1,148,796	\$614,812	\$533,984	\$0
19	\$1,171,908	\$1,061,458	\$11,022	\$0	\$1,182,929	\$614,812	\$568,177	\$0
20	\$1,207,065	\$1,093,302	\$11,022	\$0	\$1,218,086	\$614,812	\$603,275	\$0
TOTALS	\$18,496,620	\$16,793,534	\$20,412	\$0	\$18,717,252	\$12,996,238	\$6,421,014	\$0

- The cash flow proforma outlines the costs incurred each year of the agreement, as well as the offsetting savings to justify the costs.



# Financing

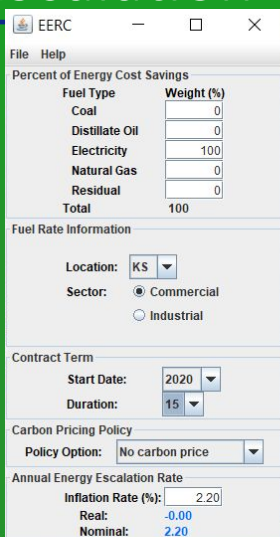
- The money to build a project usually comes from a third-party financier
- The client will usually directly engage with financiers to arrange direct financing
- The ESCO will assist with data, and the ESCO and its project structure may affect the interest rate
- Tax incentives will usually be managed by the ESCO and special arrangements may be included in the agreement to allow monetization of tax incentives



# Energy Savings and Rates

- Energy savings is the amount of energy (kWh, kW, Btu, therms, MCF, gallons, ton-hours, etc.) that will be reduced by the project
- Notice that energy is used loosely – kW, gallons
- Rates convert the energy units saved into dollar savings
- Electric rates often have a time-of-use factor included, that can be time-of-day OR seasonal, or BOTH.
- Electric Demand rates are always time-sensitive
- Some electric savings may be in Power Factor improvement

# Energy Rate Escalation



**EERC**

File Help

Percent of Energy Cost Savings

Fuel Type	Weight (%)
Coal	0
Distillate Oil	0
Electricity	100
Natural Gas	0
Residual	0
<b>Total</b>	<b>100</b>

Fuel Rate Information

Location: **KS**

Sector:  Commercial  Industrial

Contract Term

Start Date: **2020**

Duration: **15**

Carbon Pricing Policy

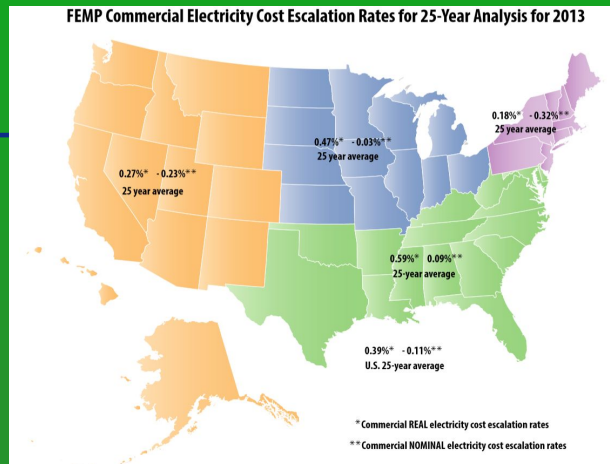
Policy Option: **No carbon price**

Annual Energy Escalation Rate

Inflation Rate (%): **2.20**

Real: **-0.00**

Nominal: **2.20**



- While rates DO go up, the escalation factor you choose can have a large impact on the project
- Escalation rates should be carefully considered.

# Operational and Maintenance Savings

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- Operational and Maintenance Savings (O&M) can be included in savings for a project
- Savings must have clear documentation and substantiation
- Be careful about personnel savings in a project to ensure that it is real
- Measuring and verifying O&M savings relies upon the documentation you establish during the project audit

# Risk and Responsibility

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- Sometimes called the Risk-Responsibility Matrix
- Identifies who is responsible for things that happen during the contract
- Can cover construction issues as well as performance period issues
- Example: If the operational hours increase from those established in the original agreement, who is responsible for the additional energy consumed due to these increased hours?
- Example: Who is responsible for equipment failures after the manufacturer warranty has expired, but still within the performance period?

# Construction Savings

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- During construction, some savings will begin to accrue due to some scope of work being completed, while other scope of work is yet to be started.
- Lighting and water savings installed at the beginning of a project will produce significant savings.



# Schedule and Project Closeout

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- Schedule – 2 different ones during entire project
  - Audit Schedule – how long will it take, may be key to complete on-time to ensure construction fits seasonal needs
  - Construction Schedule – crucial, as financing repayments may be tied to on-time completion
- Project Closeout
  - Substantial Completion – client gets beneficial use of equipment, punch list of remaining items is created
  - Warranty – typically starts at beneficial use/Substantial Completion, may be different start date for each ECM
  - Final Completion – punch list is done, savings guarantee begins

# Performance Period

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- Begins at Final Completion
- Warranty Fulfillment
- Measurement and Verification
- Ongoing Services Provided by ESCO
- Maintenance done by client begins
- Operation according to agreement

# Measurement and Verification

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- Various types that can occur
  - Option A – Partially Measured
  - Option B – Fully Measured
  - Option C – Utility Bill
  - Option D – Models
- Process of gathering data varies
  - Spot measurements
  - Ongoing measurements (ie from Building Control System)
- Annual report of savings and project status
  - Guarantee reconciliation



# Warranty

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- Typical construction projects include 1-year of warranty on installed equipment
- Larger single point equipment often can have extended warranty included (ask for it if you want it)
- Performance Guarantee does not equal equipment guarantee

# Considerations for an EPC

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- Rate Escalation – think through rate escalation clauses in the cash flow proforma
- Consider long-term aspects of facility, although for office space, even reconfigured space likely to benefit from retrofit
- Be involved in subcontractor and supplier selections, ask for prices and considerations
- Be careful about reaping the low hanging fruit
- Ask for explanation of the energy savings in layman's terms that you understand

# Why you SHOULD do an EPC

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- EPCs are successful in the federal, state, and local space
  - Long implementation history and successful track record
  - Extensive industry knowledge base and support for project development and execution
  - Robust program requirements and oversight
  - Documented savings through annual M&V and reporting
- Extensive pool of qualified ESCOs
- Turn-key projects with savings guarantees
- Effective tool to address energy related requirements with reduced or no capital budget
- Industry accreditation through NAESCO can help qualify ESCOs



67

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# Industry Myth

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- An ESCO will select and install the lowest price equipment to drive a higher overall margin
- The perception is, that since savings produces the funding for the project, the cheapest equipment to produce the savings is best
- The client is very involved in equipment selection and may require certain brands/types or configurations to be installed

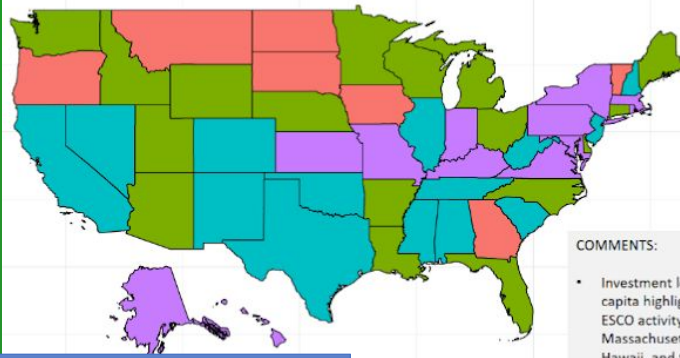
# Industry Myth

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- Wasn't there a bad project done in my \_\_\_\_\_ (city, state, region, county, district, etc.) that really was bad
- The industry installs approximately \$7 Billion of equipment per year with a savings performance of 105% to 110% of savings guaranteed.
- NAESCO has maintained ESCO accreditation requirements for over 20 years to provide buyers assurance of quality contractors.

# Where are they done?

Total investment level per capita of reported projects by U.S. state



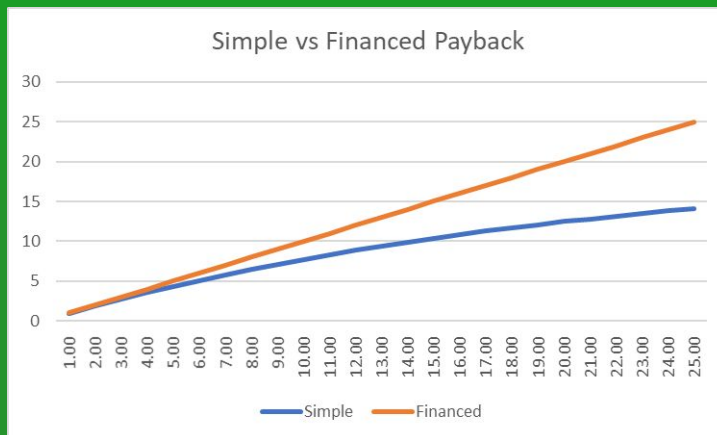
COMMENTS:

- Investment levels per capita highlight increased ESCO activity in Kansas, Massachusetts, Alaska, Hawaii, and the Southeastern region.

Source: State of the US ESCO Industry, Lawrence Berkeley National Laboratory, 2019

Investment levels per capita (\$2016/person) 1-20 20-40 40-60 > 60

# Project Length Considerations



As project duration increases, more of the savings must pay for interest on the loan amount

# EPC is a Hedge Against Higher Energy Prices

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- When energy prices go up, savings appear to evaporate, because total utility costs go up
- What is the actual effect of per-unit energy price increases on ECMs' savings (cost avoidance)?
  - Yes, the bills may go up relative to prior levels, but ...
  - Key issue is what they would be *without* the EPC
- EPC can be seen as a hedge against higher energy prices



## Schedule of Activities & Closing Remarks

Laurel Rothschild, The Energy Coalition

# SoCalREN Presence at Events



# SoCalREN Presence at Events

## Public Agency Programs



# 2020 Meeting Schedule & Locations

Quarter	Date	Location
Q1	March 5th	City of Irvine
Q2	Tuesday, May 19th?	City of Palmdale
Q3	Tuesday, August 4th?	TBD
Q4	Thursday, November 5th?	TBD

Want to show off  
your agency's  
projects?

Have an agency  
facility the  
Committee could  
use for future  
meetings?

Southern California  
REGIONAL ENERGY NETWORK 

## Working Groups

- Grant Working Group ongoing
  - Contact Genaro Bugarin at [gbugarin@energycoalition.org](mailto:gbugarin@energycoalition.org) to join
- Proposed Working Group on Resilience / Microgrids
  - Who is interested?
- Others?

Southern California  
REGIONAL ENERGY NETWORK 

# Thank you SoCalREN Advisory Committee!



Guide and Advise



Collaborate & Innovate



Be Informed



Be an Advocate

Please fill out  
the survey  
before you leave  
today!

Southern California  
REGIONAL ENERGY NETWORK 