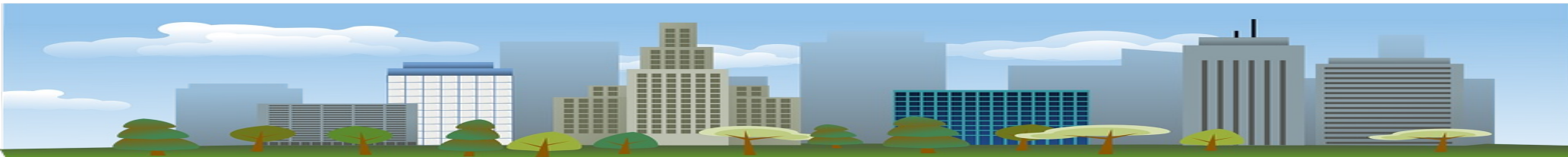


DECIPHERING THE NEW
TITLE 24 GREEN BUILDING CODES
THE GOOD
THE BAD
THE REALITY



Title 24 Energy & Green Building Codes

What you need to know

May 18, 2023



Title 24 Energy & Green Building Codes

- Part 6: Energy Code
- Part 11: Green Building Standards Code (CALGreen)



Title 24 Part 6: Energy Code



- Purpose: achieve energy efficiency and preserve indoor and outdoor environmental quality
- New construction, additions, alterations
- Residential and non-residential



High-Level Changes in the 2022 Energy Code

Non-Residential

HVAC –Heating System – heat pump baseline and increased efficiency

Envelope and Fenestration increased stringency

Fans and Outside Air Ventilation -- New Requirements

Photovoltaic (PV) and Battery Systems are new requirements

Residential

Baseline space conditioning and water heating updates include heat pumps

Attic system insulation

Kitchen range hood air flow rates and ventilation duct sizing

Electric and battery ready





Title 24 Part 11: CALGreen

- Purpose: energy and water efficiency, material conservation, resource efficiency, environmental quality, and more
- New construction, additions, alterations
- Commercial, residential, and public school buildings





INLAND REGIONAL ENERGY NETWORK



I-REN Energy Codes & Standards Initiatives

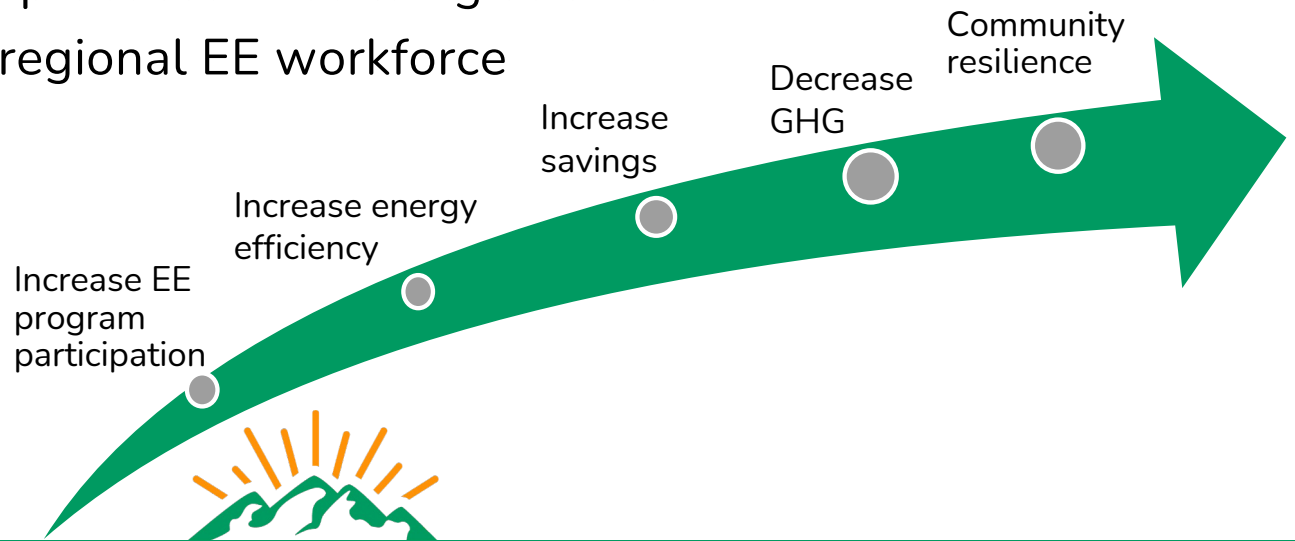
- **What:** Training and resources to help explain energy code requirements and streamline permitting processes
- **Who:** local building department staff, contractors, builders, architects, and other trades
- **Where:** San Bernardino and Riverside counties
- **When:** launching in 2023!



How I-REN Can Help

Support private and public sector building professionals in:

- Becoming better educated in energy efficiency
- Complying with and enforcing energy codes and standards
- Getting the required permits
- Installing energy efficient equipment
- Employing advanced practices in building science
- Developing capable regional EE workforce



I-REN & the Public Sector

How I-REN can help with IE Energy Priorities

May 18, 2023



Why I-REN?

The Goal:

Help public agencies identify, scope and fund energy efficiency projects

The Barriers:

Internal	External
<ul style="list-style-type: none">• Competing priorities for limited funding resources• Limited staff capacity to address energy projects• Limited staff experience in energy projects	<ul style="list-style-type: none">• Recession and inflation• Aging buildings and infrastructure• Escalating utility costs• Extreme weather



Introduction to Services



Energy Data
Collection &
Analysis

Energy
Resilience
Roadmap

Energy
Audit

Project
Financial
Analysis

Funding
and
Financing
Secured



Customized Project Support

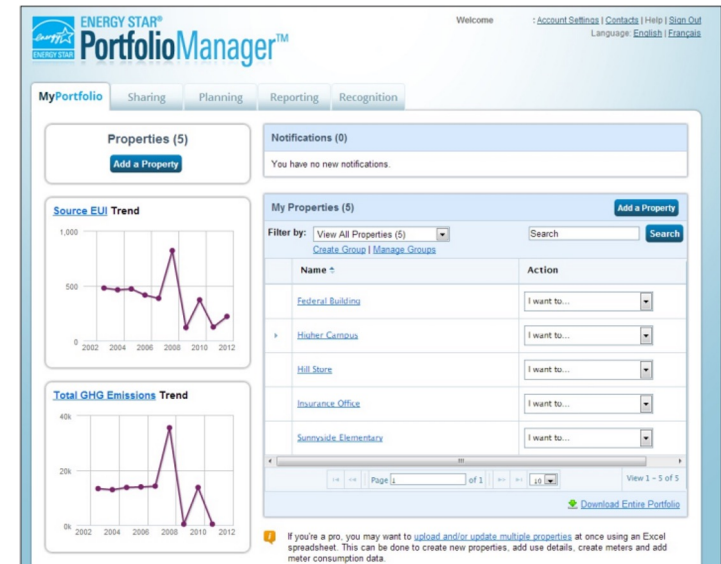
I-REN Services Examples

Energy Data Collection & Analysis

Result: Energy analysis and site prioritization for each agency

Process:

- Agency energy and data collection
- Data processing and analysis (ESPM support)
- Portfolio energy analysis presentation and site prioritization
- Training in energy efficiency codes and standards



Support with ENERGY STAR Portfolio Manager



I-REN Services Examples (cont'd)

Energy Resilience Roadmap

Result: Customized action plan to optimize agency resilience over time (i.e. energy efficiency strategy)

Process:

- Review previous energy, climate, etc. assessments
- Deep dive with agency on energy & resiliency goals
- Develop/present Energy Resilience Roadmap

Facility Name	Existing Community Services (Yes/No)	Annual Electricity Use (kWh)	Annual Natural Gas Use (Therms)	Annual Circuit Outage Duration (Minutes)	Annual Extreme Heat Days (Days Above 90°F by 2035)	Pollution Burden (%)
Community Center	✓	300,800	4,704	260	92	98
Main Library	✓	200,800	3,700	138	90	93
Central Recreation Center	✓	195,700	1,00	95	90	83
Senior Center	✓	95,200	950	95	93	83

Energy Resilience Roadmap



I-REN Services Examples (cont'd)

Project Identification, Scoping and Audit for prioritized site

Result:

Identification of specific EE projects, energy cost savings, costs, and timelines

Process:

- Site visit
- Energy audit report presented
- Agency buy-in on proposed measures



I-REN Services Examples (cont'd)

Project Identification, Scoping and Audit for prioritized site

Identified Measures

#	Measure Name	Annual kWh Savings	Annual Therm Savings	Annual Electric Cost Savings	Annual Gas Cost Savings	Incentive Amount
1	New AC/split units	19,000	150	\$4,200	\$169	\$5,000
2	Type B LED T8 Lighting Upgrades	10,000	0	\$3,200	\$0	\$2,000
3	New rooftop units (RTUs)	27,340	1,120	\$6,200	\$1,500	\$3,600
Totals		56,340	1,270	\$13,600	\$1,669	\$10,600



I-REN Services Examples (cont'd)

Financial Analysis and Project Summary

Result:

Alignment on project and funding strategy

Process:

- Financial analysis including cash flow and various project benefits
- Present customized Project Summary
- Buy-in from agency on funding strategy
 - Buy-in path (staff/council) will follow agency's approval process



I-REN Services Examples (cont'd)

Financial Analysis and Project Summary

Project Summary

Project Cost	\$53,437
NMEC Incentive Amount	\$11,268
On-Bill Financing Amount	\$42,169
Lifetime Utility Bill Savings	\$106,659
Simple Payback Period	3.9

Cash Flow

Year	Incentives & Financing	Est. Utility Savings	Est. Maintenance Savings	Total Cash Inflows	Est. OBF Payment	Total Cash Outflows	Net Cash Flows
0	\$53,437	\$0		\$53,437	\$0	(\$53,000)	\$437
1	\$0	\$8,786	\$1,993	\$10,779	(\$5,244)	(\$5,244)	\$5,535
2	\$0	\$8,772	\$1,793	\$10,565	(\$5,035)	(\$5,035)	\$5,530
3	\$0	\$8,758	\$1,593	\$10,351	(\$4,835)	(\$4,835)	\$5,516
4	\$0	\$8,743	\$1,343	\$10,086	(\$4,643)	(\$4,643)	\$5,443
5	\$0	\$8,729	\$1,123	\$9,852	(\$4,458)	(\$4,458)	\$5,394
6	\$0	\$8,714	\$1,987	\$9,701	(\$4,281)	(\$4,281)	\$5,420
7	\$0	\$8,700	\$787	\$9,487	(\$4,111)	(\$4,111)	\$5,376
8	\$0	\$8,685	\$587	\$9,272	(\$3,947)	(\$3,947)	\$5,325
9	\$0	\$8,671	\$447	\$9,1178	(\$3,790)	(\$3,790)	\$5,328
10	\$0	\$8,657	\$327	\$8,984	(\$3,640)	(\$3,640)	\$5,344
11	\$0	\$8,642	\$177	\$8,819	\$0	\$0	\$8,819
12	\$0	\$5,962	\$135	\$6,097	\$0	\$0	\$6,097
13	\$0	\$1,617	\$0	\$1,617	\$0	\$0	\$1,617
14	\$0	\$1,613	\$0	\$1,613	\$0	\$0	\$1,613
15	\$0	\$1,610	\$0	\$1,610	\$0	\$0	\$1,610
16	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$53,437	\$106,659	\$11,292	\$171,388	(\$43,984)	(\$98,984)	\$73,967



I-REN Services Examples (cont'd)

Funding and Financing Secured

Result: Project funding and financing applications submitted and approved

Process:

- Develop & submit incentive and financing applications
- Secure funding & financing

Example Opportunities



Grants

- Energy Efficiency Conservation Block Grant (EECBG)

Incentives

- I-REN NMEC Incentives
- Comfortably California
- WISE

Financing

- SCE/SCG On-Bill Financing
- CEC ECAA Loans
- ESCOs



Continuous Engagement Activities



In-person orientations throughout the I-REN territory



Check presentations



Workshops



About the Project

With SoCalREN's no-cost support*, the City of Santa Paula recently completed a large energy efficiency and solar feasibility assessment. SoCalREN analyzed 100+ of the city's electricity meters to identify solar photovoltaic (PV), battery energy storage system, and electric vehicle (EV) charging opportunities. The study findings empowered the City to act quickly to secure funding and bring these clean energy technologies and benefits to their community. SoCalREN is proud to continue supporting the City of Santa Paula as they continue to pursue their sustainability goals.

"Our partnership with SoCalREN has enabled us to lead our community toward a safe, secure, resilient, affordable, and sustainable clean energy future. The support received from SoCalREN's project manager was instrumental and its involvement in the entire Energy Efficiency Plan process and solar panel installation site assessment could not be achieved without their partnership and service delivery model."

Joseph Alvarado,
Management Analyst

552,145 kWh potential citywide energy savings

\$117,900 potential cost savings from battery energy storage system

Case studies

LEAP Central Coast

Watts in the Water?

Kicking off wastewater energy cost savings across the Central Coast

January 12th, 2022 | 1PM - 2PM

G. Paul Schmitt
Lead Analyst

Chris Lehman
Supervisor, WRRF

Capacity building webinars

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The Reality: Achieving Energy Savings with Chino Hills

NEAR TERM LOCAL ACTIVITIES

❖ I-REN FELLOWS PROGRAM

❖ I-REN ORIENTATIONS



QUESTIONS AND ANSWERS

