



**FILED**

04/11/19  
04:59 PM

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE  
STATE OF CALIFORNIA**

Order Instituting Rulemaking Concerning Energy  
Efficiency Rolling Portfolios, Policies, Programs,  
Evaluation, and Related Issues.

R.13-11-005

**SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E)**  
**NOTICE OF EX PARTE COMMUNICATION**

ANNA VALDBERG  
R. OLIVIA SAMAD

Attorneys for  
SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue  
Post Office Box 800  
Rosemead, California 91770  
Telephone: (626) 302-3477  
Facsimile: (626) 302-6693  
E-mail: Olivia.Samad@sce.com

Dated: **April 11, 2019**

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE  
STATE OF CALIFORNIA**

Order Instituting Rulemaking Concerning Energy  
Efficiency Rolling Portfolios, Policies, Programs,  
Evaluation, and Related Issues.

R.13-11-005

**SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E)**  
**NOTICE OF EX PARTE COMMUNICATION**

Southern California Edison Company (SCE) hereby gives notice pursuant to Rule 8.4(a) of the Rules of Practice and Procedure of the California Public Utilities Commission (Commission or CPUC) of the following communication.

**DATE and TIME OF COMMUNICATION:** April 8, 2019, from 9:30 a.m. to 3 p.m.

**LOCATION:** Los Angeles Clean Tech Incubator – La Kretz Innovation Campus Amphitheatre, 505 South Hewitt Street, Los Angeles, CA 90013.

**WHO INITIATED COMMUNICATION:** The CPUC’s Rory Cox requested that Southern California Edison Company (SCE) present on a panel for the joint CPUC and Energy Commission workshop on building decarbonization.

**NAME AND TITLE OF SCE SPEAKER:** Ms. Kevin G Wood, Principal Manager, Engineering Services.

**NAMES AND TITLES OF CPUC DECISION MAKERS PRESENT:** Michael Picker, President; Genevieve Shiroma, Commissioner; and possibly others.

**BRIEF DESCRIPTION OF COMMUNICATION:** Kevin Wood, spoke on a panel titled “Proposed Approaches to Implementing SB 1477” at this workshop on Building

Decarbonization. She described research on greenhouse gas emission reductions, customer bill impacts of building electrification, and consumer awareness of electric equipment. She also described possible elements of a building decarbonization program, referencing pilots and possible measures and approaches.

**WRITTEN MATERIALS PROVIDED:** Yes. SCE's presentation is attached.

In addition, the following website also includes information about the workshop and links to all presentations. <http://www.cpuc.ca.gov/General.aspx?id=6442460851>.

Respectfully submitted,

ANNA VALDBERG  
R. OLIVIA SAMAD

*/s/ R. Olivia Samad*

---

By: R. Olivia Samad

Attorneys for  
SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue  
Post Office Box 800  
Rosemead, California 91770  
Telephone: (626) 302-3477  
Facsimile: (626) 302-6693  
E-mail: Olivia.Samad@sce.com

**April 11, 2019**

**Attachment A**

**Building Decarbonization Workshop**

**Proposed Approaches to Implementing SB 1477**

# Building Decarbonization Workshop

Proposed Approaches to Implementing  
SB 1477

Southern California Edison

April 8, 2019

# Building electrification is a cost-effective approach to building decarbonization; SCE has a recommended path forward

- SCE's Clean Power Pathway (November 2017) identifies electrification of space and water heating as a cost-effective component of the economy-wide approach to meet California's goals.
- E3's "Deep Decarbonization in a High Renewables Future" (May 2018) identifies heat pumps in the loading order of cost effective GHG abatement measures.
- BUILD and TECH pilots are a start but likely not enough.

Home electrification measures will provide cost savings for most homeowners and developers, while reducing greenhouse gas emissions

	Single Family	Low-rise Multifamily
All-electric New Construction	Large majority see lifecycle savings	Large majority see lifecycle savings
Retrofit package – Heat Pump HVAC + Heat Pump Water Heater	Vast majority see lifecycle savings	Approximately half see lifecycle savings or modest increases

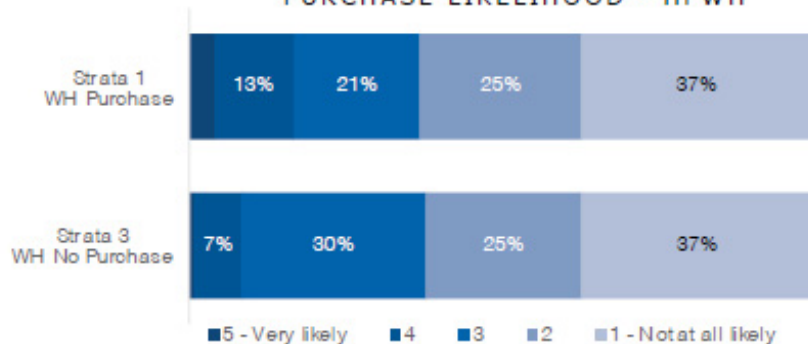
Electrification reduces greenhouse gas emissions in homes by up to 60% in 2020 and by up to 90% in 2050 as the grid decarbonizes.

# Market & customer education is key for market transformation

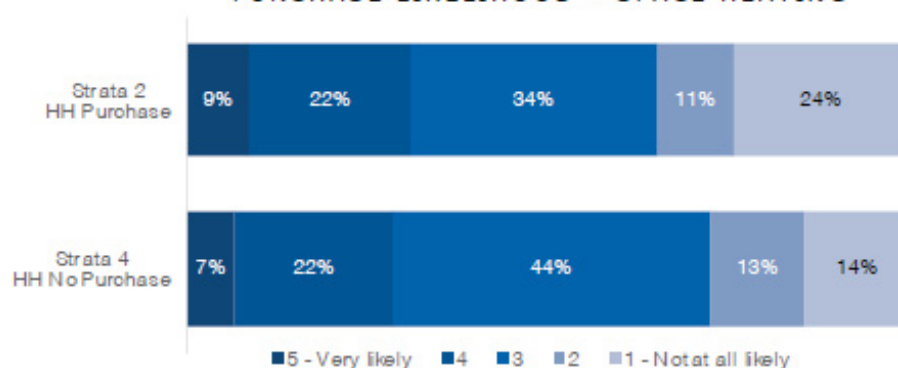
“With education, customers appear to be willing to adopt building electrification technologies. However shifting the discussion toward ‘how to live in a zero-carbon home’ appears to be imperative. “

*Consumer Awareness Study  
EMI Consulting*

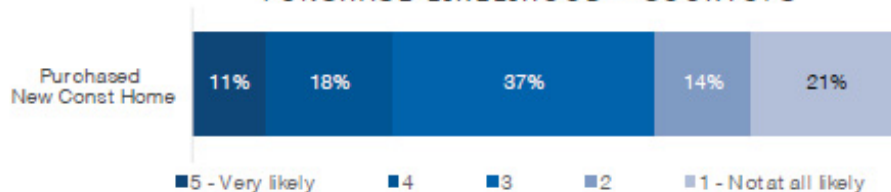
PURCHASE LIKELIHOOD - HPWH



PURCHASE LIKELIHOOD - SPACE HEATING

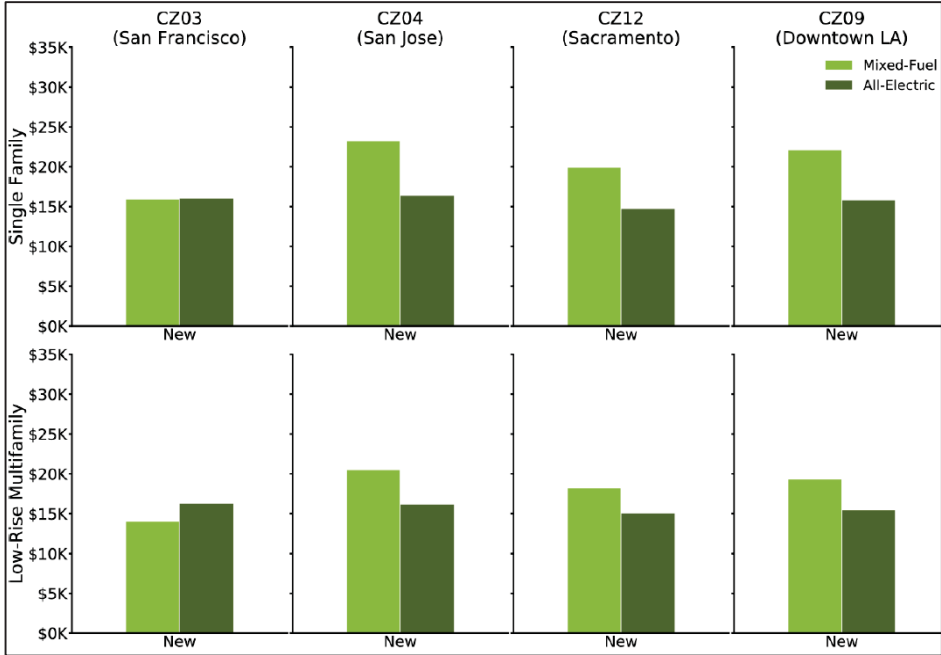


PURCHASE LIKELIHOOD - COOKTOPS





# Builders can pass upfront cost savings on to customers through use of high efficiency appliances

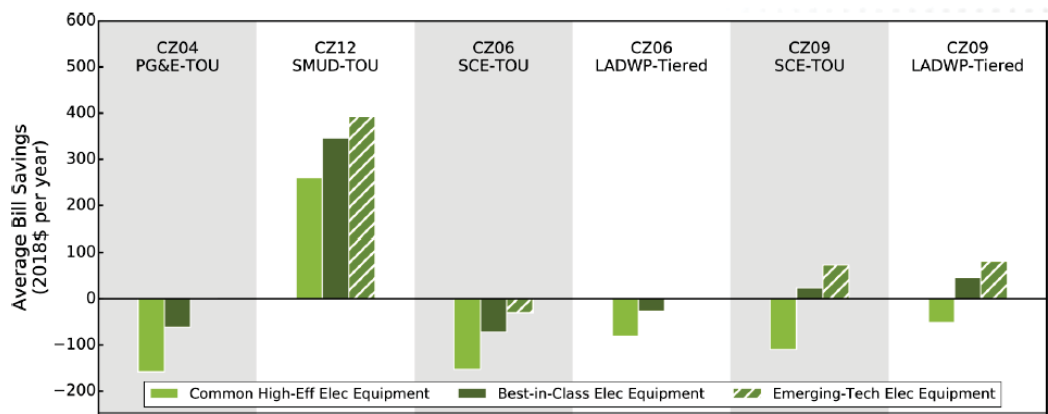


## Installation Costs

For all climate zones with air conditioning needs, all electric construction is less expensive than mixed fuel (electric AC + gas water heating, clothes drying and cooking)

## Bill Savings

Best-in-class HVAC and water heating electric appliances generate bill savings or reduce bill impacts for SF households



# All-electric adoption by builders is lower than economic potential: incentives are needed

## Now

### Understand barriers and learn from successful all-electric developments/missed opportunities

- Market assessment; customer survey
- Technical support for builders considering all-electric
- Support development of Title 24 carbon metric
- Manufacturer engagement
- Induction cooktops in lending library
- Local reach code support
- Review distribution design standards (“right-size” transformers)

## Early Stage Market

### Implement incentive program(s) to reduce upfront costs & pair with market education

- Robust marketing/outreach (BDC marketing campaign)
- Train/support workforce
- Incentive structure (high efficiency appliances)
- Significant manufacturer engagement (negotiate warranties, etc.)
- Technical support for builders considering all-electric
- Continued local reach code support
- Rate design for bill impacts

## Later Stage Market

### Support market growth and modify programs as needed to achieve goals

- Continued marketing and outreach
- Grid interactive opportunities for additional grid and customer value
- Batteries included in new construction to smooth load curve and help customer take advantage of TOU rates

## For retrofits of existing buildings, households can save on energy bills

- All or nearly all single family and low-rise multifamily homes will see bill savings.
- Heat pumps are typically less expensive than a gas furnace + A/C combination.
- Heat pump water heaters are typically more expensive than gas tank water heaters but less expensive than gas tankless.

# Existing buildings strategy will focus on space and water heating to optimize costs and benefits

## Now

**Understand existing state of market & technology and conduct pilots; educate market**

- Market assessment; customer survey; customer journey mapping, customer segmentation
- San Joaquin Valley Pilot; Clean Energy Optimization Pilot
- Manufacturer engagement
- Leverage existing **energy efficiency** programs to support heat pump market (e.g. SCAQMD's MF Affordable Housing Electrification Program; CSD's Low Income Weatherization Program)

## Early Stage Market

**Implement incentive program(s) to reduce upfront costs & pair with market education**

- Robust marketing and outreach (leverage local govts and NGOs)
- Train/support workforce
- Stepped technology incentive structure for upstream/midstream
- Direct install model for low income and multifamily
- Significant manufacturer engagement (specs for water heater replacements)
- Prioritize low hanging fruit (e.g. PV over-generators, non-emergency replacements)
- Rate design for bill impacts

## Later Stage Market

**Support market growth and modify programs as needed to achieve goals**

- Continued marketing and outreach
- Evaluate financing options to potentially phase out incentives
- Grid interactive opportunities for additional grid and customer value

# Thank You!

Kevin G. Wood

Principal Manager, Southern California Edison

[kevin.wood@sce.com](mailto:kevin.wood@sce.com)