

**DOCKETED**

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**SCE Comments on Joint Agency Workshop on Building Decarbonization**

*Additional submitted attachment is included below.*



**Catherine Hackney**  
Director, Regulatory Affairs

April 22, 2019

California Energy Commission  
Docket Office, MS-4  
Re: Docket No. 19-IEPR-06  
1516 Ninth Street  
Sacramento, CA 95814-5512  
docket@energy.ca.gov

Re: Southern California Edison Company's Comments on the California Energy Commission  
Docket No. 19-IEPR-06: Joint Agency Workshop on Building Decarbonization

Dear Commissioners:

On April 8, 2019, the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC) held a joint agency workshop (Workshop) on Building Decarbonization as part of the CEC's 2019 Integrated Energy Policy Report (IEPR) Proceeding and the CPUC's Building Decarbonization Rulemaking (OIR). The Workshop participants discussed building decarbonization policy goals and program implementation ideas, specifically related to the implementation of the SB 1477 requirements. On April 10, 2019 parties were invited to provide comments on the workshop discussions by April 22, 2019. Southern California Edison (SCE) participated in a Workshop panel discussion on proposed approaches to implementing SB 1477 and is pleased to offer the following comments on the Workshop for the Joint Agencies' consideration.

On April 15, 2019, Energy and Environmental Economics (E3) published the "Residential Building Electrification in California: Consumer Economics, Greenhouse Gases and Grid Impacts" study ("Study")<sup>1</sup> that evaluates the consumer economics, greenhouse gas savings and grid impacts of electrification in residential low-rise buildings across six representative homes type in six climate zones in California. The evaluation of consumer economics included: 1) upfront installed capital costs, 2) energy bills, and 3) lifecycle savings between gas-fired and electric technologies. The high-level Study results were presented by SCE and mentioned by other panelists during the April 8 workshop.

**I. Results of the E3 Study on Residential Building Electrification**

The Study finds that electrification will reduce total greenhouse gas emissions in single family homes by roughly 30 to 60 percent in 2020, relative to a natural gas-fueled home, and roughly 80 to 90 percent in 2050, which would include the impacts of upstream methane leakage and refrigerant gas leakage from air conditioners and heat pumps. The Study also finds that

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<sup>1</sup> Energy and Environmental Economics, Residential Building Electrification in California, [https://www.ethree.com/wp-content/uploads/2019/04/E3\\_Residential\\_Building\\_Electrification\\_in\\_California\\_April\\_2019.pdf](https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf)

California's electric grid is summer-peaking and, in general, that building electrification will contribute to a better utilization (i.e., higher load factor) of the bulk power grid.

All-electric new construction is expected to cost less than gas-fueled new construction homes in homes that have air conditioning, resulting in lifecycle savings of \$180 - \$600/year. The Study finds customer bill savings in 100 percent of single family and low-rise multifamily buildings from an electrification retrofit including installation of heat pumps for heating, ventilation, and air conditioning (HVAC) and heat pump water heaters (HPWH). Similarly, all-electric new construction is found to result in bill savings in 55 to 66 percent of homes.

## II. Implications of the E3 Study for Building Decarbonization Policy

Based on these quantitative findings, the Study makes several policy recommendations that can be summarized in five areas:

1. Incentivize all-electric new construction and update the building code.
2. Incentivize high-efficiency heat pump HVAC, particularly in areas with high air conditioning loads.
3. Ensure efficient price signals are conveyed in electric and natural gas rates.
4. Develop a building electrification market transformation initiative.
5. Align energy efficiency goals and savings with GHG savings opportunities.

The Study provides more specific detail about each of these recommendations. These findings from the full Study may be useful in the CEC's 2019 IEPR and the CPUC's Building Decarbonization OIR proceedings.

## III. Conclusion

SCE thanks the CPUC and the CEC for consideration of the above comment and looks forward to its continued partnership with stakeholders in the implementation of the SB 1477 and the development of the 2019 IEPR. Please do not hesitate to contact me at (916) 441-3979 with any questions or concerns you may have. I am available to discuss these matters further at your convenience.

Very truly yours,

/s/

Catherine Hackney