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SoCalGas Comments on the 2022 Energy Code Workshop

Additional submitted attachment is included below.



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California Energy Commission
Docket Unit, MS-4
Docket No. 19-BSTD-03
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: Comments on the 2022 Energy Code Pre-Rulemaking – Solar PV, Storage, and Heat Pump Baseline Workshop

Southern California Gas Company (SoCalGas) appreciates the opportunity to comment on the California Energy Commission's (CEC's) workshop led by Staff on the proposed changes for solar photovoltaic (PV) and heat pump baselines for the 2022 update of the Building Energy Efficiency Standards (2022 Energy Code) held on December 8, 2020.

During the workshop, Staff noted that the State directed the regulatory agencies to collaborate when evaluating **all** strategies to allow for decarbonization. Staff continued to say that "a major opportunity for decarbonization that has been clearly identified [are] heat pumps" as it is State policy to "drive buildings away from natural gas to [electric] heat pumps." Adopting guidance on incorporating electrification measures into the 2022 Energy Code is premature given the fact that the California Public Utilities Commission's (CPUC's) Building Decarbonization pilot program has yet to be completed. SoCalGas is concerned that setting a baseline to all-electric for heat pumps may be an extremely costly approach to reduce greenhouse gases.

Careful, integrated planning and sequencing of future decarbonization policies and programs will be necessary to avoid unintended consequences. In fact, a recent study published by the University of California Los Angeles (UCLA study) evaluated the hourly variations in the intensity of residential household natural gas use within a low-income portion of SoCalGas' service territory.¹ Researchers found that the "aggressive electrification of residential end-use appliances has the potential to exacerbate daily peak electricity demand, increase total household expenditures on energy, and, in the absence of a fully decarbonized electrical grid, likely result in only limited greenhouse gas emissions abatement benefits."² Please find the UCLA study submitted under TN236155 for further consideration.

¹ Eric Daniel Fournier, et al. "Implications of the timing of residential natural gas use for appliance electrification efforts." *Environmental Research Letters* 15, no. 12 (2020): 124008.

² Ibid, 1.

For most households, there is very little flexibility in the time of use of their energy consumption. Most households use their appliances in the early morning hours when preparing to depart from home and in the evening hours when returning home. Under the existing electricity rate structures, switching from a low energy cost appliance (gas appliance) to a high energy cost appliance (electric heat pump) will increase a household's expenditure on energy. This is because a household's time-of-use coincides with periods of peak-electricity demand when electricity rates are up to four times or more than gas rates on an energy equivalent basis.³ In fact, the UCLA study found that "the price premium for electrical energy can grow to a factor of 12x during peak hours (4PM-9PM)."⁴

Increasing the number of electrical appliances today also presents grid reliability and resiliency concerns. Patterns of usage indicate that there may be negative impacts on the operating conditions of the grid when the California Independent System Operator (CAISO) "will be at the greatest operational risk of a system capacity shortage later in the summer if hot weather occurs that extends beyond the CAISO footprint and diminishes the availability of surplus energy...during peak hours when solar production is near or at zero."⁵ During the Summer of 2020, California's electricity demand far exceeded the in-state supply and import capacity; conditions like this could be exacerbated if unmitigated electrification occurs without necessary demand side management controls and market mechanisms.

We respectfully ask the CEC to consider the UCLA study (TN236155) and the results from the CPUC's Building Decarbonization pilot program prior to implementing an all-electric baseline for heat pumps in the 2022 Energy Code.

SoCalGas supports policies that seek to evaluate all strategies to reach the State's decarbonization goals. We look forward to continuing to work with the Commission in support of those goals.

Sincerely,

/s/ Tim Carmichael

Tim Carmichael

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Southern California Gas Company

³ See U.S. Energy Information Administration's California State Profile and Energy Estimates data at <https://www.eia.gov/state/data.php?sid=CA#Prices>. (Converted to energy equivalent basis or in units of \$/MMBTU, natural gas prices for residents from EIA report is \$14.57/MCF which equals \$14.10/MMBTU (conversion factor 1030 BTUs/cubic foot). For electricity residents pay 19.79 cents/kwh which translates to \$58/MMBTU (conversion factor 3412 BTU/kwh). $\$58/\$14.10 = 4 \times$ more costly than natural gas.

⁴ Ibid, 1.

⁵ See California ISO's 2020 Summer Loads and Resources Assessment Report at p. 49.