DOCKETED	
Docket Number:	21-BSTD-02
Project Title:	2022 Energy Code Update CEQA Documentation
TN #:	237493
Document Title:	Southern California Gas Company Comments - SoCalGas Comments on EIR Scope for Proposed 2022 Update Energy Code
Description:	N/A
Filer:	System
Organization:	Southern California Gas Company
Submitter Role:	Public
Submission Date:	4/19/2021 1:07:23 PM
Docketed Date:	4/19/2021

Comment Received From: Southern California Gas Company
Submitted On: 4/19/2021
Docket Number: 21-BSTD-02

SoCalGas Comments on EIR Scope for Proposed 2022 Update Energy Code

Additional submitted attachment is included below.

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April 19, 2021

California Energy Commission
Docket Unit, MS-4
Docket No. 21-BSTD-02
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: Comments on the Scope of the Environmental Impact Report for the Proposed 2022 Update to the Energy Code

Dear Mr. Michael J. Sokol,

Southern California Gas Company (SoCalGas) appreciates the opportunity to provide public comments on the scope of the environmental impact report (EIR) that the California Energy Commission (CEC) Staff is preparing under the California Environmental Quality Act (CEQA) for the Proposed 2022 Update to the Building Energy Efficiency Standards (Energy Code) (Title 24, Part 6). We thank the CEC and Staff for incorporating our concerns over the global warming potential of heat pump water heaters (HPWHs) into the EIR.[1]

Reducing the environmental risks of climate change is at the core of SoCalGas' ASPIRE 2045 – a bold climate commitment to achieve net zero greenhouse gas (GHG) emissions in our operations and delivery of energy by 2045.[2] While impossible to predict what the energy ecosystem will look like more than two decades from now, SoCalGas knows it must be clean, safe, reliable, and resilient. Californians will need an increasingly integrated and decarbonized portfolio of energy sources and tools that are affordable, scalable, and can meet critical peak periods of energy demand. With this in mind, we offer the following comments for consideration:

[1] *See* SoCalGas Comments on Proposed Changes for Low-Rise Residential Heat Pump Baselines for the 2022 Energy Code, TN # 236746, 2021 February 11. Available at https://efiling.energy.ca.gov/GetDocument.aspx?tn=236746&DocumentContentId=69772.
[2] SoCalGas Company, ASPIRE 2045: Sustainability and Climate Commitment to Net Zero, 2021 March. Available at https://www.socalgas.com/sites/default/files/2021-03/SoCalGas_Climate_Commitment.pdf.

Emission impacts of both current and future energy use should be comprehensively analyzed
The Notice of Preparation of the EIR[3] acknowledges that the Proposed 2022 Update Energy Code will have significant cumulative impacts on both the electric grid and gas distribution system. This includes the need to accommodate changes in load shape due to electrification of electric loads, with associated changes in infrastructure investment requirements and system reliability and resiliency. We applaud the CEC for recognizing the potential importance of these cumulative impacts on the electric grid and we look forward to participating in the process to analyze these impacts.

However, the Notice of Preparation of the EIR[4] states "this project will have either no or less-than-significant impacts in the following environmental topic areas: [energy, and utilities and other service systems]."[5] We respectfully assert that the facts suggest otherwise such that this project will have significant impacts on utilities and energy systems. Replacement of gas-based technologies with electric-based technologies not only displaces gas, a reliable fuel source, but increases costs and electricity consumption. Current and future supply, and related GHG emissions, may increase in the interim, depending on how much of the new electric loads occur during peak electricity times, with higher carbon intensity per kilowatt-hour.

When renewables are offline or unavailable, power plants operating at lower efficiencies are increasingly being used to meet marginal loads. As a result, marginal emissions are increasing despite the overall decline in emissions on an average per kilowatt-hour basis. Therefore, we recommend the CEC include potential near-term GHG emission increases as power plants ramp up to provide power when renewables are offline or unavailable.

Additionally, time of use should be considered when analyzing emission impacts. According to the California Independent System Operator (CAISO) Emissions Outlook, emissions are lowest midday when demand is low and renewable energy (i.e., solar/wind) is abundant.[6] However, this trend does not reflect energy use for most California households. Most households use their appliances in the early morning hours when preparing for work or in the evening when returning home, when electricity costs and carbon intensity is high.

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[3] "Lastly, staff has also identified a possibility of a cumulative impact occurring as this project encourages transition to electric equipment serving new space and water heating needs at the same time that other projects encourage transition to electric equipment serving transportation needs. Staff intends to investigate whether this context creates any potentially significant impacts." *See* California Energy Commission, Notice of Preparation of an Environmental Impact Report for the 2022 Amendments to the Energy Code, 2021 March 18, at page 5.
[4] The CEQA checklist of an impact to energy is, would the project: a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? *See* CEQA Guidelines, Appendix G: Environmental Checklist Form, at page 335. Available at https://www.califaep.org/docs/CEQA_Handbook_2021.pdf.
[5] California Energy Commission, Notice of Preparation of an Environmental Impact Report for the 2022 Amendments to the Energy Code, 2021 March 18, at page 5-6.
[6] *See* California Independent System Operator, Today's Outlook: Emissions, 2021 April 11. Available at http://www.caiso.com/todaysoutlook/pages/emissions.html.

Public health and air quality impacts of wildfires and public safety power shutoff (PSPS) events should be included in the EIR

The Notice of the Preparation of the EIR also states that Staff is "not aware of any substantial evidence that fuel substitution would have a direct or a cumulatively considerable environmental impact on criteria pollutant emissions…"[7]

Increasing reliance on an electrical grid powered by renewables necessitates building additional transmission and distribution lines. Transmission and distribution lines, for the most part, are built above ground and are, thus, susceptible to high winds. High winds can blow nearby trees and their branches into distribution lines and in some cases can snap wooden distribution lines, causing live wires to fall onto nearby dry grass, setting it on fire. According to the California Public Utilities Commission (CPUC), "fires attributed to power lines comprise roughly half of the most destructive fires in California history."[8] To reduce the risk of wildfires caused by electric infrastructure, utilities may implement a PSPS event. "From 2013 to the end of 2019, California experienced over 57,000 wildfires (averaging 8,000 per year) and the three large energy companies conducted 33 PSPS de-energizations."[9]

The Proposed 2022 Update Energy Code will increase electricity demand, which cumulatively means increase in transmission and distribution lines. Therefore, the Proposed 2022 Update Energy Code will have a significant impact on wildfire risk, and subsequently, negatively impact public health and air quality.

Further, because of increased PSPS events, Californians are increasingly relying on backup power sources, which reliance will increase as a greater proportion of energy needs will depend on the availability and of the historically less dependable electricity grid for all energy needs. Recent wildfires and the need for PSPS events are significantly increasing the use of diesel back-up generators (BUGs), much to the detriment of public health and air quality. For example, nearly one million people were affected by a PSPS event in October 2019 and utilized 125,000 diesel BUGs for electrical power.[10] The California Air Resources Board (CARB) estimated that diesel BUGs used during this time emitted 9 tons of diesel soot, which is the equivalent of about 29,000 heavy-duty diesel trucks driving on California's roadways for one month. Diesel soot (or diesel particulate matter) is a toxic air contaminant (TAC) emitted when using diesel BUGs. In

[7] California Energy Commission, Notice of Preparation of an Environmental Impact Report for the 2022 Amendments to the Energy Code, at page 5.
[8] *See* California Public Utilities Commission, Public Safety Power Shutoff (PSPS)/De-Energization: What is PSPS? History and background, 2021. Available at https://www.cpuc.ca.gov/psps/.
[9] Ibid.
[10] California Air Resources Board, Emission Impact: Additional Generator Usage Associated with Power Outage, 2020 January 30. Available at https://ww2.arb.ca.gov/sites/default/files/2020-01/Emissions_Inventory_Generator_Demand%20Usage_During_Power_Outage_01_30_20.pdf.

California, diesel soot emissions account for about 70 percent of known cancer risk from TAC emissions.[11]

Diesel soot is not the only air pollutant of concern from diesel BUG usage during PSPS events. Nitrogen Oxide (NOx) emissions, when mixed with sunshine and other air pollutants, form ozone. Ozone leads to respiratory illnesses like asthma, damages lungs, and increases the risk of premature death.[12] According to the South Coast Air Quality Management District (SCAQMD), diesel BUGs create NOx emissions "200 to 600 times greater, per unit of electricity, than new or controlled existing central power plants fired on natural gas."[13] SCAQMD estimated that during a 2019 PSPS event in Los Angeles and San Bernardino Counties, less than 2,000 diesel BUGs emitted 6 tons of NOx per day. This is higher than average daily emissions from the largest refinery within SCAQMD's jurisdiction.[14]

Therefore, greater reliance on electricity will lead to significant air pollution and GHG emission increases due to increased BUGs and these emissions increases should be included within the scope of the EIR.

Economic and energy equity should be part of the policy evaluation criteria and the effects on California's housing should be analyzed

We believe that the Proposed 2022 Update Energy Code will significantly impact "population and housing." Currently, low- to middle-income households tend to pay a higher percentage of their discretionary income for energy bills than wealthier households.[15] Under the existing electricity and gas rate structures, replacing a gas-based technology with an electric-based technology will increase a household's expenditure on energy. This is because a household gas appliance time-of-use typically coincides with periods of peak-electricity demand when "the price premium for electrical energy can grow to a factor of 12 times during peak hours (4PM-9PM)."[16] For energy price sensitive households, bills are expected to outpace inflation over the coming decade,

[11] *See* California Air Resources Board, Summary: Diesel Particulate Matter Health Impacts, 2021. Available at https://ww2.arb.ca.gov/resources/summary-diesel-particulate-matter-health-impacts#:~:text=Diesel%20engine%20emissions%20are%20believed,is%20a%20known%20health%20hazard.

[12] South Coast Air Quality Management District, South Coast AQMD Issues Ozone Advisory Due to Heat Wave, 2020 May 25. Available at http://www.aqmd.gov/docs/default-source/news-archive/2020/ozone-advisory-may-25-2020.pdf?sfvrsn=8.

[13] South Coast Air Quality Management District, Fact Sheet on Emergency Backup Generators, 2021. Available at http://www.aqmd.gov/home/permits/emergency-generators#Fact2.

[14] *See* South Coast Air Quality Management District, Philip Crabbe Legislative Update Presentation to the Environmental Justice Community Partnership Advisory Council, 2020 September 2. Available at http://www.aqmd.gov/home/news-events/webcast/live-webcast?ms=0U9KfvvcV3w.

[15] *See* American Council for an Energy-Efficient Economy, How High Are Household Energy Burdens? An Assessment of National and Metropolitan Energy Burdens across the U.S., 2020 September 10. Available at https://www.aceee.org/research-report/u2006.

[16] 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, at page 6. Available at https://iopscience.iop.org/article/10.1088/1748-9326/aba1c0/pdf.

according to California Public Utilities Commission electric rates projections.[17] The implication is that, if household incomes are expected to generally increase at the rate of inflation, bills will become less affordable and more burdensome over time.

Lastly, we ask the CEC to consider whether all-electric mandates on newly constructed homes might exacerbate California's housing crisis. According to a 2021 analysis by Home Innovation Research Labs, "the upfront additional cost of an electric house with high efficiency electric heat pump and heat pump water heaters ranges between $4,613 and $11,803 compared to a baseline gas house."[18] Residents in colder climates will also be faced with higher operating costs of electric appliances throughout the life of the equipment because of the high energy use costs for home heating.[19]

By comparison, the construction cost for a dual-fuel home averages $1,400, which may be paid for by the utility or developer.[20] Further, adding electric vehicle charging[21] may require upgrading the electrical service from the street to the house. This cost can be substantial. As such, an electric-ready mandate may make new homes more expensive because of the upfront costs for additional circuits and/or electrical panel(s) required for electric appliances and equipment. Such high costs can discourage first-time home buyers and low-income households from purchasing a new home. Incremental costs to the purchase price of a home may have significant impacts on the ability to build affordable housing, especially in highly populated regions of the State. This can make it more difficult for those who can least afford purchasing a new home. Additional analysis and consideration of construction costs and operating costs must be given to avoid further burdening Californians.

[17] California Public Utilities Commission, Utility Costs and Affordability of the Grid of the Future: An Evaluation of Electric Costs, Rates, and Equity Issues Pursuant to P.U. Code Section 913.1, 2021 February, at page 8. Available at https://www.cpuc.ca.gov/uploadedFiles/CPUC_Website/Content/Utilities_and_Industries/Energy/Reports_and_White_Papers/Feb%202021%20Utility%20Costs%20and%20Affordability%20of%20the%20Grid%20of%20the%20Future.pdf.

[18] Home Innovations Research Labs, Costs and Other Implications of Electrification Policies on Residential Construction: Prepared for National Association of Home Builders, 2021 February, at page 13. Available at https://www.nahb.org/-/media/NAHB/nahb-community/docs/committees/construction-codes-and-standards-committee/home-innovation-electrification-report-2021.pdf?_ga=2.96515935.1755416522.1618415461-565369581.1618415461.

[19] Ibid.

[20] Ibid., at page 23.

[21] California Governor Gavin Newsom issued an executive order requiring sales of all new passenger vehicles to be zero-emission by 2035 on September 23, 2020. Available at https://www.gov.ca.gov/2020/09/23/governor-newsom-announces-california-will-phase-out-gasoline-powered-cars-drastically-reduce-demand-for-fossil-fuel-in-californias-fight-against-climate-change/.

Again, we thank you for the opportunity to comment on the Scope of the EIR for the Proposed 2022 Update Energy Code.

Respectfully,

/s/ Tim Carmichael

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cc: Peter Strait Supervisor, Building Standards Office, Efficiency Division