



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

FILED
08/20/19
04:59 PM

Order Instituting Rulemaking Regarding
Building Decarbonization.

Rulemaking 19-01-011
(Filed on January 31, 2019)

**SOUTHERN CALIFORNIA GAS COMPANY'S (U 904 G) REPLY COMMENTS ON
ADMINISTRATIVE LAW JUDGE'S RULING SEEKING COMMENT ON STAFF
PROPOSAL FOR BUILDING DECARBONIZATION PILOTS**

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Pursuant to Administrative Law Judge's Ruling Seeking Comment on Staff Proposal for Building Decarbonization Pilots, Southern California Gas Company (SoCalGas) submits the following reply comments.

I. Introduction.

SoCalGas appreciates the opportunity to provide reply comments on the Building Initiative for Low Emissions Development (BUILD) and Technology and Equipment for Clean Heating (TECH) pilots Staff Proposal. SoCalGas agrees with a number of the parties' comments, including those made by the Environmental Defense Fund (EDF), Small Business Utility Advocates (SBUA), National Fuel Cell Research Center (NFCRC), Bioenergy Association of California and American Biogas Council, California Hydrogen Business Council, and Southwest Gas, that technologies beyond simply those that electrify will be needed for California to meet its greenhouse gas (GHG) emissions reduction goals. There are viable and cost-effective strategies to decarbonize a building that do not include electrification, and SoCalGas encourages the Commission to consider non-electrification strategies. Although the BUILD and TECH programs are relatively small pilots, the results will be used to shape large-scale policy in the future and, therefore, it is of utmost importance that a wider set of technologies are considered.

II. All Emissions Reduction Technologies Must Be Considered.

The stated goal of the BUILD and TECH pilots is to reduce carbon emissions from buildings, not simply to do so through a singular means, i.e., to electrify buildings. It is critical not to lose sight of the overarching goal. We concur with EDF's statement that "a building does not need to be all-electric to be decarbonized, nor can an all-electric building be considered to be decarbonized."¹ A glance at the current state of the building sector demonstrates this point. The all-electric buildings in the State right now are not decarbonized because California's electric grid is not currently carbon-neutral. Simply electrifying buildings is not going to result in deep decarbonization. For this reason, we also agree with the National Fuel Cell Research Center² and implore the State to pursue a technology-neutral approach that favors strategies that achieve the greatest emissions reductions, independent of preferential treatment for the favored means to achieve those reductions. EDF is further correct in stating, "certain buildings cannot electrify its end uses; these buildings, mostly heavy energy users in the industrial sector, require gas."³ Electrification alone will not reduce or eliminate carbon emissions from these buildings, so a solution that involves converting them from fossil gas to a sustainable carbon neutral fuel substitute, such as biomethane or hydrogen, is necessary to meet the goal of decarbonization.

In addition to seeking the solutions with the greatest emissions reductions, we agree with the California Hydrogen Business Council that resiliency must be included as a metric.⁴ As we continue to experience more frequent instances of catastrophic weather events, our energy resources must account for outages that occur when infrastructure is damaged or turned off for safety reasons. Full electrification for all building types is an imprudent solution. Homes with gas appliances can still provide their inhabitants with heat and the ability to cook, even when the electric grid is down. The march to our clean energy future should not leave people behind when they need reliable energy resources the most.

¹ Opening Comments of Environmental Defense Fund on Staff Proposal for Building Decarbonization Pilots, August 13, 2019 at 3.

² CHBC Comments on Administrative Law Judge Ruling Seeking Comment on Staff Proposal for Building Decarbonization Pilots, August 13, 2019 at 6.

³ Opening Comments of Environmental Defense Fund on Staff Proposal for Building Decarbonization Pilots, August 13, 2019 at 3.

⁴ CHBC Comments on Administrative Law Judge Ruling Seeking Comment on Staff Proposal for Building Decarbonization Pilots, August 13, 2019 at 2.

We disagree with the Community Choice Aggregators' concern about the supply of renewable natural gas (RNG)⁵ because resource sufficiency is not an issue. According to a U.C. Davis research report, almost 100 billion cubic feet per year (Bcf/y) of anaerobically digested RNG is available in California today.⁶ If the State wants to consider gasification of dead trees and agricultural by-products, that in-state RNG availability assessment could increase by another 100 Bcf/y to 200 Bcf/y.⁷ If we consider out-of-state supplies, there could be another 1 trillion cubic feet per year (Tcf/y) available.⁸ With both in-state and out-of-state supplies, gas corporations could achieve the projected statewide core procurement load of 540 Bcf by 2030;⁹ and this does not even count hydrogen produced from electrolysis, steam-methane reformation of biomethane, or traditional natural gas using carbon capture and utilization¹⁰ — all of which can help the State achieve carbon neutrality by 2045. There is no doubt that renewable gaseous fuels are in ample supply.

III. Energy Efficiency Must Be at the Forefront.

We support Wild Tree Foundation's position regarding energy efficiency.¹¹ Energy efficiency must remain a paramount consideration in these proceedings if we are to achieve true reductions in emissions. The Wild Tree Foundation accurately states that electrification alone is not enough: "If building decarbonization is pursued with a myopic eye towards electrification and without sufficiently increasing efficiency and building PV, the result will be an increase in load. In the near term, as electricity generation is still dominated by fossil fuel power plants, this will result in an increase in GHG emissions."¹² A recent study by the Energy Futures Institute

⁵ Opening Comments of the Joint Community Choice Aggregators on Staff Proposal for Building Decarbonization Pilots, August 13, 2019 at 8.

⁶ See *The Feasibility of Renewable Natural Gas as a Large-Scale, Low Carbon Substitute*, UC Davis Institute of Transportation Studies (June 2016) at ix, available at: <https://steps.ucdavis.edu/wp-content/uploads/2017/05/2016-UCD-ITS-RR-16-20.pdf>

⁷ See Philip Sheehy and Jeff Rosenfeld, Design Principles for a Renewable Gas Standard, ICF (2017) at 8, available at: https://www.icf.com/-/media/files/icf/whitepaper/2017/icf_whitepaper_design_principles.pdf

⁸ *Id.* at 10.

⁹ See *2018 California Gas Report*, California Gas and Electric Utilities at 18, available at: https://www.socalgas.com/regulatory/documents/cgr/2018_California_Gas_Report.pdf (297 Bcf/y for SoCalGas and 243 Bcf/y for PG&E in 2030).

¹⁰ See Next Generation Black Carbon Production, Monolith, available at: <https://monolithmaterials.com/innovative-technology/>

¹¹ Wild Tree Foundation Comments on Staff Proposal, August 13, 2019 at 1.

¹² Wild Tree Foundation Comments on Staff Proposal, August 13, 2019 at 4.

concludes that energy efficiency is likely to be the most cost-effective approach to achieving decarbonization in California.¹³ Sidelineing the consideration of energy efficiency in favor of full electrification is not the best approach to achieve decarbonization and may in fact hinder our efforts.

IV. Natural Gas Can Be a Low-Cost Means to Reduce GHG and Particulate Emissions in Disadvantaged Communities (DACs).

In rural communities where residents still use wood or propane for space and water heating, converting to natural gas can be less expensive than full-electrification of the household while providing residents with a more affordable, reliable, and safe alternative to wood and propane. The average cost per household for SoCalGas pilot proposals in the San Joaquin Valley (SJV) proceeding (R.15-03-010), where the household only required service laterals to supply natural gas, were less expensive than full-electrification pilots submitted for the same communities by Southern California Edison (SCE) or Pacific Gas and Electric Company (PG&E). For example in California City, SCE's per-household cost was \$30,810, while SoCalGas' cost was \$22,396 per household.¹⁴

It is worth noting that full-electrification pilot estimates include costs estimates for the additional upgrades required for each household, and to upgrade the grid, in order to electrify households in the communities. For example, SCE estimated average household cost for electrical upgrade work needed to support full-electrification was \$4,589.47 (without contingency),¹⁵ while the average cost for in-front-of-meter (IFM) work estimated by PG&E for full electrification of households was \$1,242 per household (without contingency).¹⁶ For four of the eight PG&E pilot proposals, they also included cost estimates for required grid upgrades

¹³ *Optionality, Flexibility, & Innovation. Pathways for Deep Decarbonization in California.* Summary for Policy Makers. Available at:

<https://static1.squarespace.com/static/58ec123cb3db2bd94e057628/t/5cadebd04cd61c00017a563b/1554901977873/EFI+California+Summary+DE+PM.pdf>

¹⁴ D.18-12-015 at 67 (Table 26).

¹⁵ SCE's Updated Pilot Proposal in Compliance with Attachment 2 of the August 3, 2018 Ruling, September 10, 2018, at 48.

¹⁶ Pacific Gas And Electric Company Attachment A PG&E Electric Pilot Proposals For The Communities Of Allensworth, Alpaugh, Cantua Creek, Fairmead, La Vina, Lanare, Le Grand, and Seville. Table 2, at 8.

totaling \$460,000, with an average household cost of \$920 for the 500 households in those communities.¹⁷

Using natural gas for space and water heating produces less GHG emissions than propane and wood, and does not produce fine particulate matter (PM2.5) from wood combustion; the use of natural gas thus would improve local air quality while reducing the energy burden on households in DACs. The California Solar Initiative – Thermal (Solar Thermal) program could also be utilized to further reduce the energy burden and GHG emissions of participating households.

V. RNG Can Provide Innovative Options for Reducing GHG Emissions, Increase Resiliency, and Reduce Energy Burden in Rural Communities.

While building electrification is an option, decarbonizing the gas system is also a pathway to reduce GHG emissions and is in line with State policy and academic research on pathways to achieve GHG emissions reductions. Methane released from dairies, wastewater treatment plants, and landfills can be captured and cleaned for use as RNG. RNG is interchangeable with fossil natural gas and can be used in any end use, including residential space and water heating, to provide a lower carbon energy alternative.

In 2018 PG&E submitted a proposal¹⁸ to develop a local gas distribution network to serve the Monterey Park Tract (MPT) community that would ultimately be fed using RNG from local sources, namely dairies. D.18-12-015 required PG&E to further explore the opportunity of providing MPT with locally-sourced RNG and report back to the Commission. The report describing PG&E’s findings was filed with the Commission on June 14, 2019.¹⁹ PG&E found that a dairy digester producing RNG is a viable economic option for serving MPT. PG&E reported that the simple payback period for the dairy digester could be less than three years by leveraging the SJV DAC proceeding, existing incentive programs, and including credits such as the Low Carbon Fuel Standard (LCFS) and Federal Renewable Fuel Standard (RFS). PG&E

¹⁷ Ibid, Table 20 at 60.

¹⁸ PG&E Gas Microgrid Pilot Proposal for Monterey Park Tract, September 10, 2018.

¹⁹ PG&E Advice Letter 4106-G, June 14, 2019.

concluded the project was worth pursuing as it “reduced [GHG] emissions and improved the air quality in the surrounding community.”²⁰

SoCalGas supports the concept of local RNG microgrids such as the one proposed for MPT. Eighty percent of methane emissions come from daily activity, our food sources, and waste. Repurposing this waste by allowing communities to use it to generate energy through the increased development and use of RNG tackles multiple problems with one stone. Even more, this solution does not require residents to change out their appliances or spend money to replace existing infrastructure, and is two-to-three times less expensive than electrifying California’s building sector.

Communities utilizing RNG microgrids also could be more resilient to electricity outages, use carbon-negative fuel, and offset diesel truck and farm equipment emissions. Further, those communities in the wildfire urban interface are the most vulnerable and need a hedge other than electricity for obvious reasons: electricity is the one energy supply that will be turned off. We need to factor in resiliency in developing support for these vulnerable communities so they have options when the power goes out.

There are also indirect costs to electricity when it is unreliable. In recent years, electric utilities have been intentionally turning off electricity in high fire threat areas to protect communities and reduce wildfire risk. The economic losses of these power outages to businesses and residents can be significant, can affect certain vulnerable populations dependent on electrically powered durable medical equipment,²¹ and can also lead to public safety concerns in these communities (e.g., the inability to receive telephone calls to evacuate because of power outages or operate electric water pumping stations,²² overheating dangers, etc.). Recently in Southern California, John Wayne Airport lost electricity. Although the back-up generators

²⁰ PG&E SJV DAC Monterey Park Tract Feasibility Study at 1 in R.15-03-010.

²¹ “Power shutoffs could prevent wildfires, but at what cost to the elderly and disabled?” *Los Angeles Times*, <https://www.latimes.com/california/story/2019-08-17/california-utilities-power-outages-wildfires>.

²² 89.3 KPCC. December 8, 2017. SoCal fires strain power and water systems. Available at: <https://www.scpr.org/news/2017/12/08/78694/socal-fires-strain-power-and-water-systems/>

