

DOCKETED

Docket Number:	19-MISC-03
Project Title:	The Natural Gas Infrastructure and Decarbonization Targets
TN #:	228820
Document Title:	PGE Comments Docket 19-MISC-03
Description:	N/A
Filer:	System
Organization:	Mark Krausse
Submitter Role:	Public
Submission Date:	6/21/2019 12:39:28 PM
Docketed Date:	6/21/2019

*Comment Received From: Mark Krausse
Submitted On: 6/21/2019
Docket Number: 19-MISC-03*

PGE Comments Docket 19-MISC-03

Additional submitted attachment is included below.



Mark Krausse
Director
State Agency Relations

1415 L Street, Suite 280
Sacramento, CA 95814
(916) 386-5709
Fax: (916) 386-5720
MCKD@pge.com

June 21, 2019

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

Re: Docket 19-MISC-03 Pacific Gas and Electric Comments: The Natural Gas Infrastructure and Decarbonization Targets

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide comments on the draft results from Energy + Environmental Economics' (E3) presentation on the Future of Natural Gas Distribution in California. PG&E values the California Energy Commission's (CEC) foresight in identifying the need to further explore the opportunities and challenges facing California's drive toward a carbon-free future. Furthermore, PG&E commends the work of E3 and the University of California Irvine (UCI) in undertaking the modeling and coordination needed to bring together this report and its findings.

PG&E embraces California's climate goals and understands that reducing greenhouse gas (GHG) emissions from the state's buildings will be a necessary part of reaching the California's 2050 target of 80% below 1990 levels. E3's work indicates that the natural gas delivery system will play a key role in supporting California's long-term GHG reduction goals by enabling critical responsive electric generation to accommodate intermittent renewable electricity resources and supplying Renewable Natural Gas (RNG) and hydrogen to end uses that cannot be electrified. It also indicates that the natural gas delivery system has a role to play in managing emissions from California's waste streams by converting them to net-emissions-negative fuels.

As E3's work highlights, if throughput on the natural gas delivery system declines significantly, the fixed costs associated with ensuring the continued safe and reliable operation of California's natural gas systems would be spread over fewer therms and fewer customers. Without intervention, natural gas rates could become unaffordable for customers who choose not to or cannot fully electrify their homes and businesses. A strategic approach to building

decarbonization, currently being tackled by the CEC and the California Public Utilities Commission (CPUC) in Rulemaking (R.) 19-01-011, coupled with a well-informed gas transition plan will be critical to ensuring California can successfully meet its long-term GHG reduction goals while also serving as a model for other jurisdictions to follow.

As E3 and UCI endeavor to refine their analysis, PG&E recommends:

- a) Appropriate accounting of GHG emissions produced by homes and buildings that frames the scope and scale of decarbonization activities needed
- b) Inclusion of an electric rate forecast that considers the known or likely future costs due to climate-driven factors such as system hardening and other wildfire prevention measures, adaptation/resilience costs, etc.
- c) Exploration of leveraging the natural gas delivery system to support emission reductions in hard-to-electrify sectors
- d) Recognition of the challenge of achieving bill parity between dual fuel or all-electric buildings, given uncertain future rates trajectories for electricity and gas. Consideration of the use of cap-and-trade revenues, or other sources of funds, to offset gas rate increases resulting from declining throughput
- e) Acknowledgment of both market and operational challenges not modeled in the project
- f) Reliance upon updated data sources regarding RNG supply, RNG costs and the use of hydrogen to decarbonize the natural gas system
- g) Additional clarity regarding the impact of building electrification on air quality
- h) Indication of whether or not replacing natural gas appliances can produce cost savings from decommissioning of portions of the natural gas delivery system
- i) Continued cooperation between CEC, E3, and Technical Advisory Committee (TAC) to ensure that suggestions can be incorporated prior to the publication of the final report

A. Accounting for GHG Emissions from the Building Sector

PG&E recommends that E3's final report estimate the total GHG emissions from the residential and commercial building sector, broken down by source (electricity, natural gas, propane, refrigerants, etc.) and by usage (space heating/cooling, water heating, cooking, lighting, others) for today and future years. This will provide an important foundation for the report by indicating the portion of the state's GHG emission reduction target that building decarbonization can deliver. This additional information would also inform the cost-effectiveness of various building decarbonization strategies. Emission reductions that occur further upstream through the capture or avoidance of methane and black carbon emissions through RNG production should be included in this accounting and should be calculated on the basis of the global warming potential if the methane were not captured.

B. Electric Rate Forecasts

PG&E recommends that E3 run a sensitivity analysis in which a higher electric rate escalation factor is used. This would offer insights into how potential electric system hardening investments

might impact the cost-effectiveness of electrification. This analysis should include customer bill comparisons between dual fuel and all-electric buildings, to facilitate understanding of the customer bill implications depending on different rate trajectories for gas vs. electricity. E3 conducted a similar sensitivity in another recent electrification report that could be leveraged here.¹

C. Use of Gas Delivery System to Support GHG Reductions in Other Sectors

PG&E recommends that E3 further explore the role the natural gas delivery system can play in supporting emissions reductions in other sectors that are difficult to electrify. The impacts on utility revenue requirement of this incremental throughput should be included in E3's modeling. PG&E recognizes that the current cost allocation methodology, which assigns the majority of costs to residential customers, may limit the ability to offset declining residential throughput with throughput from other sources; however, PG&E believes it is worthwhile to better understand the scale of the impact of this incremental throughput.

D. Entertain solution scenarios that involve achieving bill parity between all-electric and dual-fuel homes

The findings of E3's report highlight multiple solution scenarios to address declining natural gas throughput and rising energy costs to consumers. While these ideas are helpful, PG&E encourages consideration of solutions required to achieve comparable customer bills between all-electric and dual-fuel households, while at the same time ensuring that those who cannot electrify are not impacted by significant increases in the cost of gas delivery system for these customers. One approach could be the use of cap-and-trade revenue given the nexus with GHG reductions, but all solutions should be considered.

E. Input Assumptions

E3 should provide some insight into how sensitive the modeling results are to input assumptions. A tornado graph might be useful in this regard. E3 should also provide insight into potential statewide data gaps regarding the cost savings associated with avoided natural gas infrastructure in greenfield new construction scenarios and the costs of extending or updating gas infrastructure in infill scenarios across residential, commercial and industrial applications. A lack of statewide, vetted, and publicly available information on the associated costs may lead to the use of information from varied sources, which may increase disputes over accuracy. A recommendation on how to obtain and publish this type of information could assist in increased objectivity and accuracy for future work in this area.

F. Acknowledgement of market and operational challenges not modeled in the project

PG&E recommends that the final report mention certain market and operational challenges that are not captured in the modeling of the project. Specifically, E3 should acknowledge that this

¹ Mahone, Amber, Zachary Subin, Jenya Kahn-Lang, Douglas Allen, Vivian Li, Gerrit De Moor, Nancy Ryan, Snuller Price. 2018. *Deep Decarbonization in a High Renewables Future: Updated Results from the California PATHWAYS Model*. California Energy Commission. Publication Number: CEC-500-2018-012.

study did not explore existing customer preferences regarding appliances and what might change those preferences over time. The report also does not highlight the availability of electric technologies suitable for retrofit, the market readiness, nor the manufacturing capability for such appliances. It does not capture the cost of incenting customers to retire functional equipment and replace it with new electric appliances. E3 should also mention that the report does not explore the operational challenges, including cost implications, associated with decommissioning portions of the gas system. Additionally, E3 should acknowledge that the report does not consider the potential costs and impacts on the electric system of increasing load due to electrification.

G. Updated RNG Sources

PG&E recommends that E3 revisit assumptions regarding the quantity of available waste streams to produce RNG. In particular, assumptions regarding the available quantity of dairy, landfill, wastewater treatment, food and biomass (agriculture, urban and forest) sources should be updated to reflect California's support for utilizing these waste streams. In addition, the study should consider the potential for significant volumes of hydrogen to replace fossil natural gas and decarbonize the pipeline system. Updated supply and cost projections for all of these technologies would be valuable in assessing the cost-benefit differences across electrification scenarios.

H. Air Quality Results

PG&E asks that UCI further clarify the results of their modeling effort, as it remains unclear how building electrification impacts local air quality in isolation from transportation electrification.

I. Decommissioning of Gas Infrastructure

The final report should indicate whether and to what extent building electrification might result in cost savings from decommissioning of portions of the natural gas delivery system. The report should discuss whether electrification could be effected in a manner that would allow for avoidance of future capital investments or operating costs in the gas system. Specifically, could abandonment or removal of gas transmission or distribution assets reduce future system expenditures? If so, what might it cost to incent specified groups of customers to completely cease using natural gas? Or, is electrification of appliances likely to result in the same fixed gas system costs being spread across fewer therms, resulting in very high gas rates for remaining use and customers?

J. Provision of appropriate and timely opportunities for incorporation and discussion of feedback between Technical Advisory Committee, E3, and CEC.

PG&E would like to emphasize the importance of continued dialogue with the TAC as the report moves towards publication. The impacts of this report are immense, with preliminary results indicating that California's decarbonization policies could have great social and economic consequences. Informed decision-making can only happen with appropriate discussion and consideration of the feedback from key stakeholders. Therefore, PG&E strongly urges that E3,

the CEC, and TAC meet early enough that recommendations can be incorporated into the final report.

Thank you for the opportunity to comment on the Natural Gas and Infrastructure Targets. PG&E looks forward to working with the CEC and other stakeholders, and we are happy to meet to further discuss these comments.

Sincerely,

Mark Krause