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PG&E Comments RE Climate Innovation Program

Additional submitted attachment is included below.



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California Energy Commission
Docket Number 22-ERDD-02
715 P Street
Sacramento, CA 95814

RE: CEC Workshop on the Climate Innovation Program Update

Pacific Gas and Electric Company (PG&E) commends the California Energy Commission (CEC) for hosting a workshop on November 2, 2023, to discuss the development of its revised \$477 million Climate Innovation Program (CIP). PG&E appreciates the opportunity to provide responses to the following questions posed by the CEC during the workshop:

1. Which of the presented objectives or technology families should the CEC prioritize?

PG&E recommends that the CEC prioritize the following technology families for each of the following objectives:

- *Grid reliability*—energy storage for making full use of renewable energy resources and microgrid support, including seasonal energy storage of 100+ hours
- *Industrial decarbonization*— all technology families, including carbon capture, fuel switching, and methane detection and utilization

PG&E acknowledges the benefits of industrial decarbonization; those efforts should be incentivized and they should prioritize targeting customers who may be hard-to-electrify industrial and large commercial end users.

Unfortunately, fuel switching is not being incentivized. High-GHG energy commodities utilized at hard-to-electrify industrial and large commercial facilities such as coal, pet coke, jet fuel, propane, diesel, and bunker fuel switching to lower-GHG fuels such as natural gas, RNG, hydrogen or some combination thereof could be prioritized and incentivized.

PG&E suggests that the CEC consider developing incentives that prioritize this type of fuel switching at hard-to-electrify industrial and large commercial facilities resulting in lower GHG emissions. This type of fuel switching could be incremental or a full facility transition. This would also help support the current Cap-and-Trade Program.

- *Healthy forests*—on-site biomass processing to generate sustainable fuels and clean hydrogen
- *Resilient Agriculture*—Biomass and Waste Reduction & Utilization

Senate Bill 1440 authorized the CPUC to adopt biomethane procurement targets for CPUC-regulated gas utilities. PG&E believes that the Climate Innovation Program should fund programs that support production of RNG. This should be prioritized based on the targets identified. D.19-12-009 implemented an Incentive Reservation System for the biomethane monetary incentive program established as part of D.15-06-029. The biomethane monetary incentive program provides up to \$3 million for non-dairy clusters and \$5 million for dairy clusters that successfully interconnect with the natural gas pipeline system and operate by December 31, 2026. All of this funding is currently subscribed and there is an extensive waiting list.

Renewable gas procurement reduces otherwise uncontrolled methane and black carbon emissions in California’s waste, landfill, agricultural, and forest management sectors. These sectors are responsible for more than 75 percent of the state’s methane emissions according to the California Air Resources Board (2019 data). As such, PG&E suggests the CEC consider establishing a similar incentive program for all feedstocks, (e.g., dairy, landfill, woody biomass, wastewater treatment, agricultural waste, and food waste), to further promote projects reducing GHG emissions in California.

2. What are appropriate grant sizes and technology stages the CEC should consider for solicitations?

PG&E has no specific feedback on this question at this time.

3. Please indicate any objectives or technology families not presented that the CEC should consider.

PG&E welcomes support from the CEC to address any of the nearly 70 “problem statements” listed in PG&E’s R&D Strategy Report¹ that represent the biggest technology gaps in seeking to deliver on our energy system objectives while enhancing safety, affordability, and reliability. These challenges span the entire energy system and align to key areas:

- Integrated Grid Planning
- Supply and Load Management
- Electric Vehicles
- Fuel Switching to Gas Incentive Decarbonization Program
- Renewable Natural Gas (RNG) Incentive Program
- Gas System improvements
- Wildfire
- Undergrounding

¹ See PG&E’s Research and Development (R&D) Strategy starting on page 70. Available at www.pge.com/innovation.

In particular, PG&E suggests the CEC consider an innovation objective for greenhouse gas (GHG) emission reductions and decarbonization of the state's natural gas system. Enabling innovative solutions that reduce the state's gas system methane emissions and promote clean molecules will create a meaningful pathway to meeting California's climate neutrality goals while minimizing the impact on customer bills. Some of the technology families in this suggested objective could be similar to those within the industrial decarbonization objective (e.g., carbon capture, fuel switching to RNG and/or RNG and hydrogen, and methane detection and utilization). Problem statements around these objectives aim to reduce GHG emissions while minimizing impact on customer rates and are published in PG&E's R&D Strategy Report².

Finally, one specific technology example for the gas system that holds potential is an optimization-driven hydraulic analysis to inform the retirement, rather than replacement, of pipelines. PG&E suggests the CEC consider pathways to funding this analysis. The development of optimization-mixed integer algorithms applied to gas system hydraulic analysis can automate and maximize the cost savings from pipeline retirements. PG&E believes this technology is very important to address the extremely large scenario combinations needing analysis. To illustrate, an average PG&E hydraulically independent system (HIS) has 11 planned pipeline replacement projects which equates to 2,047 scenarios. However, there are seven systems with 50-193 replacement projects; as an example, 50 projects equate to 1.1×10^{15} unique combinations. Optimizing gas pipe retirements would help minimize gas rate increases, a key CPUC focus³. In addition, the optimization algorithm could help maximize GHG emission reductions.

4. Are there existing or upcoming federal funding opportunities that the CEC should consider leveraging?

PG&E currently has no specific information other than what is already publicly available regarding this topic.

5. How can the CEC ensure that equity is centered within this program?

PG&E sees equity as seeking to provide fair treatment, access, opportunity, and advancement for all people, while at the same time identifying and eliminating barriers that have prevented the full participation of some groups. PG&E believes that the awarded projects within the CIP should have a component that draws a link to how the project promotes equity through access to opportunity to improve the quality of life in disadvantaged communities.

² See "Gas" section of PG&E's Research and Development (R&D) Strategy starting on page 111. Available at www.pge.com/innovation.

³ [Order Instituting Rulemaking R.20-01-007](#) to establish policies, processes, and rules to ensure safe and reliable gas systems in California and perform long-term gas system planning. [Order Instituting Rulemaking 18-07-006](#) to examine the impact of essential energy, water, and communications service charges for residential households, given their socioeconomic statuses.

PG&E is also guided by our Environmental and Social Justice and Human Rights Policies that ensures equity in our operations.⁴ PG&E encourages the CEC to consider similar guidelines or policies within the CIP.

We note that a consistent approach to equity across state agencies and programs enhances scalability and stakeholder comprehension. We encourage the CEC to align with existing methodologies and be cautious of any requirements that could compromise the core objectives of the program.

PG&E appreciates the opportunity to comment on the CIP and looks forward to continuing to collaborate with the CEC. Please reach out to me if you have any questions.

Sincerely,

Josh Harmon
State Agency Relations

⁴ PG&E 2023 Corporate Sustainability Report p. 60-66
https://www.pgecorp.com/assets/pgecorp/localized/en/sustainability/corporate-responsibility-sustainability/reports/2023/downloads/PGE_CSR_2023.pdf.