

**May 20, 2016**

Mr. Richard Corey  
Executive Officer  
California Air Resources Board  
1001 "I" Street  
Sacramento, CA 95814

**Re: Pacific Gas and Electric Company's Comments on the Air Resources Board  
Proposed Short-Lived Climate Pollutant Reduction Strategy**

Dear Mr. Ingram:

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide comments on the Air Resources Board's Proposed Short-Lived Climate Pollutant (SLCP) Reduction Strategy (Proposed Strategy), which was discussed at workshops on April 26 and May 3, 2016.<sup>1</sup>

## **I. INTRODUCTION**

These comments supplement input PG&E provided on the SLCP Concept Paper,<sup>2</sup> as well as the on the Draft Short Lived Climate Pollutant Strategy.<sup>3</sup> As stated previously, PG&E strongly supports California's clean energy goals and has made significant contributions to the state's progress in reducing GHG emissions. With the development of the SLCP Strategy, as required by the passage of Senate Bill (SB) 605 (Lara), Chapter 523, Statutes of 2014, ARB is placing a much-needed emphasis on reducing these potent climate pollutants.

Overall, PG&E believes that the best path to achieving the state's long-range environmental goals—including SLCP-focused reductions—is through an integrated and flexible policy framework that optimizes sustainable and cost-effective GHG reductions across all programs and sectors. California's utilities represent two of the many sectors whose actions are needed to help the state meet its long-term GHG reduction goals.

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<sup>1</sup> Air Resources Board. April 2016. Proposed Short-Lived Climate Pollutant Reduction Strategy. Website: <http://www.arb.ca.gov/cc/shortlived/meetings/04112016/proposedstrategy.pdf>

<sup>2</sup> Matthew Plummer. June 2015. Pacific Gas and Electric Company's Comments on the Air Resources Board Short-Lived Climate Pollutant Reduction Strategy (Pacific Gas and Electric Company). Website: <http://www.arb.ca.gov/lists/com-attach/57-slcpsstrategy-ws-VCQFZARgAw9SNwRr.pdf>

<sup>3</sup> Matthew Plummer. October 2015. Pacific Gas and Electric Company Comments on the Draft Air Resources Board Short-lived Climate Pollutant Reduction Strategy (Pacific Gas and Electric Company). Website: <http://www.arb.ca.gov/lists/com-attach/130-slcpdraftstrategy-ws-B3dcPQNnWVVQNVU6.pdf>

PG&E provides the following comments in response to the Proposed Strategy and looks forward to working with ARB to enhance the Proposed Strategy prior to its adoption by the Air Resources Board (ARB).

## II. POLLUTANT SPECIFIC TARGETS

The Proposed Strategy sets broad targets for black carbon, methane, and fluorinated gases (HFCs). As PG&E has maintained, greenhouse gas (GHG) targets are essential as they provide the end goal towards which a portfolio of GHG reduction actions is oriented. By focusing on SLCPs, ARB is rightly introducing a temporal dimension into its evaluation of GHG emissions and placing a greater emphasis on these pollutants in California. However, this approach also creates new challenges that ARB must address. The targets in the Proposed Strategy must be feasible, transparent, based on sound analytics, and backed by measures that are also technically feasible and cost-effective to adopt. PG&E expands on this point below.

- **Individual pollutant reductions should be based on technical potential and cost-effectiveness:** ARB has indicated that the proposed black carbon, methane and HFC emission reduction targets are in-line with what scientific studies suggest are necessary to keep global warming to less than 2 degrees Celsius. PG&E agrees with that approach. However, the sector-specific pollutant targets should be based on the potential for reductions and cost-effectiveness of reduction measures within those sectors. Overall, ARB should prioritize lower cost actions; for higher cost measures, ARB should identify ways to reduce the cost of those measures so that they become more cost-effective within the Proposed Strategy's timeframe. Currently, the Proposed Strategy does not provide sufficient information on total cost and associated emission reductions for each measure, nor does it provide any details on technical potential. PG&E recommends that the SLCP strategy include information about measures' cost-effectiveness and technical potential before sector-specific pollutant targets are set.
- **ARB should work with stakeholders from the gas industry to develop an achievable methane target for gas systems:** ARB's proposed methane emissions reduction target for the oil and gas sector is based on United States Environmental Protection Agency (U.S. EPA) Oil and Natural Gas Sector proposed emissions standards, which may not be appropriate for California given the actions the state has already taken to reduce emissions from this sector.<sup>4</sup> Furthermore, reductions are expected to be delivered by programs still under development in California. Specifically, ARB expects methane reductions in the oil and gas sector to be driven by the implementation of rules and procedures currently in development at CPUC, as part of the Leak Abatement OIR, as well as by ARB's forthcoming oil and gas sector regulations. However, ARB does not provide a breakdown of emission reductions expected from these programs. Moreover, methane emission reductions expected to be achieved by the implementation of the Leak Abatement OIR are not quantified. Therefore, ARB should work with stakeholders from the natural gas industry to develop an achievable methane target for the natural gas sector.

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<sup>4</sup> *Ibid.* p 2-3

- **Identifying alternative programs and measures that could support methane reductions is essential to reach targets:** As mentioned above, the proposed SLCP strategy does not quantify emissions reductions expected from each of the measures identified. Moreover, it relies on programs that are currently under development, resulting in uncertainties as to the emissions reductions these programs can deliver. Identifying alternative measures to achieve methane reductions both within and external to the oil and gas sector will ensure that the overall methane reduction goal can be met should the measures identified by the programs under development for the oil and gas sector not deliver expected reductions.
- **The ARB should work with stakeholders to update methane inventory data and Business As Usual (BAU) scenarios before finalizing emission reduction targets:** ARB's 2013 emissions inventory uses a 2007 Oil and Gas survey to estimate additional methane emissions from gas distribution pipelines, system mileage and number of customers. This approach does not necessarily capture recent infrastructure improvements and initiatives undertaken to reduce methane emissions. These initiatives include replacing all known cast iron pipe, removal of high-bleed devices at compressor stations, utilizing cross compression, strengthening public outreach and damage prevention efforts, and reducing leak repairs times by utilizing a 'SuperCrew' to repair leaks identified by the Picarro Surveyor, a leak sensing technology that is 1000 times more sensitive than other tools. This technology, combined with an integrated team approach to repair leaks, has resulted in more efficient and less costly leak survey and abatement. PG&E has also been replacing infrastructure rather than repairing leaks.

Additionally, efforts are underway to improve methane emissions estimates, including the CPUC Leak OIR pursuant SB 1371 and the Washington State University (WSU)/Environmental Defense Fund (EDF) study on fugitive methane emissions.<sup>5</sup> Specifically, that study estimates methane emissions from natural gas distribution system to be 36 to 70 percent lower than the 2011 EPA inventory, based on a national sampling program to measure methane emissions. In contrast, ARB's BAU forecast projects a 32 percent increase in pipeline emissions by 2030.

For these reasons, ARB should work with stakeholders from the gas industry to incorporate the result of efforts to refine methane emissions estimates and improve its inventory and methane BAU forecast with the best data available.

### III. BIOENERGY AND BLACK CARBON

PG&E remains committed to working with bioenergy developers and views renewable natural gas (RNG) as a potential pathway for California to achieve its climate goals. PG&E previously provided extensive comments with regard to bioenergy as presented in the previous iterations of the Proposed Strategy, and provides reference rather than repeating them here.<sup>2 3</sup>

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<sup>5</sup> Lamb et al (2015). *Direct Measurements Show Decreasing Methane Emissions from Natural Gas Local Distribution Systems in the United States* study, <http://pubs.acs.org/doi/abs/10.1021/es505116p>

With regard to utilizing biomass power plants as part of the solution to reduce wildfire and associated black carbon emissions, PG&E urges the state to foster a long-term, sustainable structure for funding biomass investments that:

- Shares investment by all load-serving entities.
- Provides societal funding for societal benefits.
- Ensures solutions are targeted to address specific problems.
- Promotes and develops biomass alternatives beyond electricity generation.

#### **IV. METHANE REDUCTION AND OPPORTUNITIES FOR CLEANER TRANSPORTATION FUELS**

Section V of the Proposed Strategy lays out a vision for reducing methane emissions from California's agriculture, waste handling and treatment, and oil and gas sectors, and for utilizing methane generated in the state as a renewable energy source. PG&E supports the effort to capture and utilize methane from organic waste streams, particularly as a source of renewable fuel for alternative vehicles. Significant technical barriers may prevent electrification of medium- and heavy-duty vehicles for some time; renewable natural gas presents an excellent opportunity to reduce the carbon emissions of these vehicles relative to traditional fuels. PG&E agrees with the ARB that the Low Carbon Fuel Standard (LCFS) is an important tool in incentivizing the development of clean fuel options, including capturing or avoiding methane emissions and using associated renewable natural gas as a transportation fuel.

With regard to limiting fugitive emissions from the Oil and Natural Gas Sector, PG&E is dedicated to providing safe and reliable natural gas service in a responsible and environmentally sensitive manner, and, as noted above, is supportive of ARB's goal of reducing GHG emissions from all infrastructure and equipment, including PG&E's natural gas system. It remains critical that the ARB carefully examine the technical feasibility and cost-effectiveness of the measures put forth in the Proposed Strategy to meet the sector's emission reduction target, and the target itself should be feasible, transparent, and based on the most recent data. PG&E looks forward to continued participation in all of the proceedings cited by the Proposed Strategy as measures for meeting the Oil and Gas Sector fugitive emission reduction target.

#### **V. CONCLUSION**

Thank you for the opportunity to submit these comments on the ARB's Proposed SLCP Reduction Strategy. Please feel free to contact me if you have any questions or concerns.

Sincerely,

/s/

Nathan Bengtsson