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**Subject: Comments on the Clean Transportation Advisory Committee Meeting, Docket #18-ALT-01**

Southern California Gas Company (SoCalGas) appreciates the opportunity to comment on the California Energy Commission's (Commission) Clean Transportation Advisory Committee Meeting held on August 5, 2019 and the 2019-2020 Investment Plan for the Clean Transportation Program (Investment Plan Update), formerly the Advanced and Renewable Fuel Vehicle and Technology Program (ARFVTP). SoCalGas previously submitted general comments on the Clean Transportation Program in response to the staff workshop Clean Transportation Program Benefits Report and Successes held on July 18, 2019, conducted as part of the 2019 Integrated Energy Policy Report proceeding, #TN-229283<sup>1</sup>.

The Clean Transportation Program has been a key strategy in advancing technologies to meet the state's climate goals. To date, the Clean Transportation Program has funded \$125.1 million in natural gas technologies which have been extremely valuable for the natural gas vehicle industry. Natural gas heavy-duty trucks, the only trucks to meet the California Air Resources Board (CARB) Optional Low Oxides of Nitrogen (NOx) standard of 0.02 grams of NOx per brake horsepower hour (Low NOx trucks), are commercially available technologies that can significantly help the state meet its aggressive climate goals. Low NOx Trucks reduce NOx emissions by 90% compared to existing diesel counterparts and when fueled by renewable natural gas (RNG) can reduce greenhouse gas emissions more than any other fuel, including electricity. Additionally, when RNG is produced from waste sources—including organic sources of methane from dairy manure and

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<sup>1</sup> Comment letter available at:  
<https://efiling.energy.ca.gov/GetDocument.aspx?tn=229283&DocumentContentId=60689>

food and green waste—it can have a net-carbon intensity<sup>2</sup>. Low NOx trucks are a valuable solution to meeting the state’s climate goals.

The Investment Plan Update proposes no funding allocation to Low NOx Trucks powered by RNG. SoCalGas strongly urges the Commission to reconsider funding Low NOx trucks for the following reasons:

**1. Low NOx Trucks Provide Immediate benefits to Disadvantaged Communities**

Disadvantaged communities (DACs) are disproportionately exposed to air pollution caused by the transportation sector, particularly from heavy-duty trucks. Emission reductions from this sector in DACs are needed immediately. Unfortunately, zero emission trucks are still under development and are not available today. Focusing resources solely on developmental technologies would not yield the emission reduction nor the health benefits that available technologies that can be deployed at scale today can achieve. It is unreasonable to ask DACs to continue to wait for technologies to develop before obtaining any benefits. Low NOx engines running on renewable natural gas is a technology that can yield immediate benefits. Until applicable zero emission options are available, funding should be continued for Low NOx trucks to get immediate emission reduction benefits in DACs.

**2. Low NOx Trucks Achieve Significant Emission Benefits**

One of the primary purposes of the Clean Transportation Program is to fund projects that “transform California’s fuel and vehicle types to help to help attain the state’s climate change policies.”<sup>3</sup> Low NOx trucks are a key strategy to reducing emission effectively because of the significant greenhouse gas emission reductions achieved and the relatively low cost when compared to zero emission technologies. Table 5 of the Investment Plan Update shows the anticipated emission reductions for the existing investments. It shows that in 2020, investments in Low NOx trucks would still be reducing greenhouse gas emissions by 14.7 tones per year. Meanwhile, investments into zero emission technologies would reduce emissions by 7.1 tons per year in 2020. While investing into early technology development is necessary, it does not yield meaningful emission benefits. Investments into existing emission reduction technologies is still needed to continue progress in reducing emissions.

**3. Low NOx Trucks Provide An End Use for Biofuels, Supporting Short-Lived Climate Pollutant Goals**

In California, about half of methane emissions come from dairy and livestock manure or organic waste streams that are landfilled. These resources could be put to valuable use as sources of renewable energy or fuel, soil amendments, and other products.<sup>4</sup> Methane capture is a key component to reaching the Short-Lived Climate Pollutant (SLCP) Strategy goal of reducing methane emission by 40% by 2030. Significant public and private investments have been made into the production of biomethane in support of the SLCP Strategy. California Department of Food and Agriculture (CDFA) has administered \$260 million in dairy digester incentives to

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<sup>2</sup> CARB Website. LCFS Pathway Certified Carbon Intensities. Available at: <https://www.arb.ca.gov/fuels/lcfs/fuelpathways/pathwaytable.htm>

<sup>3</sup> Investment Plan Update, page 12.

<sup>4</sup> Short-Lived Climate Pollutant Reduction Strategy, [https://ww2.arb.ca.gov/sites/default/files/2018-12/final\\_slcp\\_report%20Final%202017.pdf](https://ww2.arb.ca.gov/sites/default/files/2018-12/final_slcp_report%20Final%202017.pdf)

capture methane emissions and produce renewable natural gas. National and state program such as the Renewable Fuel Standard and Low Carbon Fuel Standard make transportation uses the most economically attractive end use for RNG because of the financial benefits (credits) provided by these programs. Many of the investments made into biofuel production was predicated on the assumption that the vehicle market for natural gas vehicles would also be supported by the state. Removing support for natural gas vehicles by eliminating funding would send a signal that the end use is no longer being supported by the state and could stymie future investments.

#### **4. Low NOx Trucks Are Needed to Meet Criteria Pollutant Requirements**

Low NOx trucks are key to the state and air districts to meeting attainment with National Ambient Air Quality Standards (NAAQS). The CARB Mobile Source Strategy, the South Coast Air Quality Management Plan (AQMP), and the San Joaquin Valley Supplement to the State Implementation Plan (SIP) all rely heavily on incentives to turn over tens of thousands of Class 8 heavy-duty trucks to meet air quality goals in the South Coast Air Basin and San Joaquin Valley by 2023 and 2024, respectively.

Low NOx trucks are the only heavy-duty truck strategy that will get these areas to attainment. Electric or hydrogen Class 8 trucks are not yet commercially available and the models that are closer to commercial availability have significant limitations to have the turnover required to impact emissions. These limitations include low range, long charging times, substantial infrastructure cost, and significant incremental costs for each vehicle. Low NOx trucks are available today and are the only viable strategy to reduce truck emissions.

Defunding Low NOx trucks would make meeting attainment almost impossible as heavy-duty trucks make up such a large part of each nonattainment region's emission inventory. If regions do not meet attainment, there would be dire consequences. For example, the federal government would be allowed to unilaterally develop a Federal Implementation Plan (FIP) to meet attainment, which could be ominous given the state's relationship with the current administration. Additionally, the state could lose access to federal transportation funds. To give perspective, this could potentially mean the loss of \$130 billion in transportation funds that would directly impact over 2,000 transportation projects throughout the state.

#### **5. A Balanced Portfolio is the Most Effective Way to Achieve State Goals**

The Clean Transportation Program is funded through Assembly Bill 118, which calls for the Commission to “develop and deploy technology and alternative and renewable fuels in the marketplace, without adopting any one preferred fuel or technology.”<sup>5</sup> In order for the CEC to help the state meet its climate goals, it must support a balanced portfolio of technology options. Relying primarily on plug-in battery electric vehicles, which are still being developed for the medium- and heavy-duty sectors, to meet the goals is a high-risk strategy, with no guarantee of success. To meet the goals of the state, a combination of available and experimental technologies is required. RNG, hydrogen, and plug-in vehicles should all be supported by the Clean Transportation Program.

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<sup>5</sup> Investment Plan Update, page 13.

A balanced portfolio would achieve immediate emission reductions while still planning and preparing for the future turnover to zero-emission technologies. It would also give a suite of options to turnover the fleet. Lighter payload, short range vocations could potentially be accomplished with plug-in technologies within the next few years. This would be a major accomplishment and something state could tout as a success. However, those moves are a small, niche market within the heavy-duty trucking sector. Heavy weight, long range vocations, which make up most heavy-duty trucking duty cycles and associated emissions, would remain being done by fossil fuel trucks for the foreseeable future. Funding Low NOx truck powered by renewable natural gas would give operators a clean option for these long-range moves and would achieve immediate emission reduction benefits.

#### **6. The Reasoning to Defund Low NOx Trucks Is Flawed Because it is not Based on Up to Date Information**

The reasoning to not fund Low NOx trucks in the Clean Transportation Program is because there is funding in other programs and therefore funding would be redundant. The Investment Plan Update specifically references funding from CARB Low Carbon Transportation Investments. However, CARB is currently considering defunding Low NOx trucks under this program under the same reasoning that there is other funding available, therefore the funding would not be redundant. Low NOx Truck funding could be potentially be gone from both Low Carbon Transportation and Clean Transportation Programs.

The Investment Plan Update reasons that CARB is developing a Low NOx Standard that would “if adopted, may result in an increase in demand and a self-sustaining market for low NOx natural gas trucks.” The CARB white paper, “Current Assessment of the Technical Feasibility of Lower NOx Standards and Associated Test Procedures for 2022 and Subsequent Model Year Medium-Duty and Heavy-Duty Diesel Engines” proposes an emission rate of 0.05 to 0.08 grams of NOx per brake horse power hour (g/bhp-hr), which is potentially four times the Low NOx natural gas emission rate of 0.02 g/bhp-hr. A proposed manufacturing standard that high would not make the Low NOx natural gas engine competitive with diesel. Incentives would still be required to switch fuels.

The reasoning behind defunding Low NOx trucks is not taking into account recent information. Other funding sources are considered for removal and the proposed Low NOx standard does not drive competitiveness. Therefore, there is not enough justification to defund Low NOx trucks and the Clean Transportation Program should continue to fund Low NOx trucks.

In addition to recommending funding for Low NOx trucks, SoCalGas would also like to provide the following comments:

#### **Investment into Medium- and Heavy-Duty Charging Infrastructure is Premature**

The Investment Plan Update allocates \$30 million for medium- and heavy-duty zero emission vehicle demonstrations and infrastructure. Funding infrastructure for plug-in heavy-duty trucks may be premature as there is no standardized charging option. Several developers of heavy-duty trucks are using different specifications for charging. For example, Tesla is developing its “megacharger” which would have an output of over 1 megawatt. Meanwhile, BYD chargers have

outputs of up to only 150 kilowatts. Building infrastructure suitable for one type of product and not another would give a significant competitive advantage to a single company.

Additionally, there are not many heavy-duty trucks operating today. Investments into public charging could result in an extremely underutilized asset, particularly if users choose to go with a product that uses a different type of charger.

Lastly, the California Public Utilities Commission has approved over \$567 million of rate pay funds for charging infrastructure service upgrades and electricity rates to support electric vehicle charging including medium- and heavy-duty trucks. Focusing Clean Transportation Funding in this area, particularly with the lack of electric trucks in the market, would be redundant with rate payer funds used for the same purpose.

SoCalGas recommends zero emission infrastructure funding for medium- and heavy-duty trucks be used to expand hydrogen infrastructure. Infrastructure could be utilized by light-, medium, or heavy-duty vehicles regardless of manufacturer.

### **The Continual Decline In Low Carbon Fuel Production Should Stop**

Funding for Low Carbon Fuel Production and Supply has been decreased each of the last three years. Fiscal Year 2017-18 allocated \$22.9 million, Fiscal Year 2018-19 was decreased to \$12.5 million and the proposed Fiscal Year 2019-20 allocation is only for \$10 million. This is a disturbing trend as low carbon fuels make up a clear majority of the future anticipated greenhouse gas emission reductions. Table 5 of the Investment Plan Update shows that hydrogen and RNG are expected to account for 194.8 thousand tonnes of carbon dioxide equivalent units (CO<sub>2</sub>e) by 2020, while electric vehicle charging only accounts for 20.9 tonnes of CO<sub>2</sub>e. Clearly, investments in renewable, low carbon fuels are more effective in reducing greenhouse gas emissions than electric vehicle charging. To maximize greenhouse gas emission reductions, investment in low carbon fuel production and infrastructure should continue without any decrease in allocations.

SoCalGas recommends that the Investment Plan Update be revised to include additional funding for Low Carbon Fuel Production.

### **Conclusion**

We strongly believe that a diverse energy portfolio that includes multiple fuels and technologies is necessary to meet California's energy needs and environmental policies in a cost-effective and feasible manner. Please feel free to contact me if you have any questions.

Sincerely,



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