Tim Carmichael
Agency Relations Manager

925 L Street, Suite 650
Sacramento, CA 95814
Tel: 916-492-4248
TCarmichael@semprautilities.com

November 21, 2016

Ms. Rajinder Sahota
California Air Resources Board
1001 "I" Street
Sacramento, CA 95812

Re: Written Comments by Southern California Gas Company on the 2030 Target Scoping Plan Update November 7, 2016 Workshop

Dear Ms. Sahota,

Southern California Gas Company (SoCalGas) appreciates the opportunity to submit these comments on the California Air Resources Board's (ARB) 2030 Target Scoping Plan Update ("Scoping Plan") Workshop held on November 7, 2016. We offer specific comments on the proposed scenarios, as well as overall policy comments on the Scoping Plan.

I. High-Level Policy Comments

We provide the following input on high-level policy topics related to the Scoping Plan:

A. The Low Carbon Fuel Standard should continue post 2020 – The Low Carbon Fuel Standard Program (LCFS) is an important complementary measure to help California meet its greenhouse gas (GHG) reduction goals. SoCalGas supports the continuation and increased stringency of the LCFS to achieve a 10% reduction in transportation fuel carbon intensity by 2020 and further reductions through 2030. First and foremost, the LCFS helps contribute to fuel diversification in ways that Cap-and-Trade cannot achieve on its own. The LCFS Program helps send a long-term policy signal that complements the short-term price signal of Cap-and-Trade, which helps reduce volatility in the transportation fuels market, and sends strong signals to investors.

The two scenarios presented by ARB for post-2020 reductions show 18% and 25% carbon intensity reduction targets by 2030. As ARB moves forward with the presentation of the underlying assumptions associated with these two scenarios, ARB should consider carefully the market dynamics that should be encouraged by the program. ARB has the

difficult task of balancing program feasibility with program stringency: If the program veers too far in one direction or another, then the efficacy of the program may be threatened by low credit prices (in a program that lacks sufficient stringency) or extremely high credit prices (as a result of a program that is too stringent).

SoCalGas looks forward to reviewing the underlying assumptions associated with the carbon intensity targets for the LCFS post-2020, and understanding further how the market may respond to different LCFS targets.

B. The Cap-and-Trade Program should continue post 2020 – SoCalGas supports continuation of the Cap-and-Trade Program to help meet California's environmental and economic goals while considering impacts to affordability of energy service. This market-based mechanism provides compliance flexibility for regulated industries, as well as access and incentives to identify the lowest cost GHG emission reduction opportunities across the economy. Additionally, the State has already invested heavily in the Cap-and-Trade Program, which is successfully driving long-term investment in cleaner fuels and more efficient use of energy.

C. Short-Lived Climate Pollutant Reduction Goals should focus on Organic Sources – The State should focus on reductions from the dairy, agriculture, landfill and wastewater sectors, as these contribute over 80% to California's methane emission inventory[1]. We support ARB's strategy of capturing methane from these sectors to be used as a transportation fuel, injected into natural gas pipelines, and used to generate on-site renewable electricity and heat. Increasing the use of Renewable Natural Gas (RNG), also known as biomethane, as a transportation fuel would not only reduce methane emissions from organic waste streams, but also reduce GHGs, NOx, and black carbon by displacing diesel in older, conventionally fueled heavy-duty vehicles. Furthermore, SB 1383 directs state agencies to develop policies and infrastructure investments needed to move California towards a greater use of RNG from organic waste streams.

D. AB 197 Consideration of the Social Cost of Greenhouse Gas Emissions – When including the social cost of GHGs in cost-effectiveness calculations, ARB should consider the impacts on energy affordability. Low-income and disadvantaged communities in California rely on lower-cost natural gas to heat their water, food, and homes. The health impacts and associated costs on these communities from a lack of affordable energy choices[2] must be included in the social cost calculations for each applicable measure. In addition, as AB 197 includes the costs of climate adaptation impacts, ARB should include the benefits that natural gas infrastructure brings to the state's overall grid resilience in social cost calculations.

[1] CARB Proposed Short-Lived Climate Pollutant Reduction Strategy, April 2016
[2] National Energy Assistance Survey, 2011 http://neada.org/wp-content/uploads/2013/05/NEA_Survey_Nov11.pdf

II. Detailed Comments on Policy Scenarios

A. Comments on the Draft Scoping Plan Scenario

SoCalGas supports the continuation of a Cap-and-Trade Program with reasonable declining caps to help meet California's environmental and economic goals while minimizing unfavorable ratepayer impacts. Cap-and-Trade provides compliance flexibility for regulated industries, as well as access and incentives to identify the lowest cost GHG emission reduction opportunities across the economy. Likewise, we also support the continuation and increase of the LCFS to achieve a 10% reduction in fuel carbon intensity by 2020, and further reductions through 2030. These programs help California achieve co-benefits of reducing GHG as well as criteria pollutants that directly impact public health.

1. Low Carbon Fuel Standard

Since its adoption in 2010, the LCFS has been instrumental in creating price parity between alternative fuels and gasoline and diesel. This parity has resulted in a 36% increase in the use of clean fuels, $650 million being invested in clean fuel production, the avoidance of 16.6 million tons of carbon pollution, a savings of $1.6 billion in health care costs, and the displacement of 6.6 billion gallons of petroleum fuels. In addition, the LCFS program has been the catalyst for companies and people to innovate in the energy sector. The LCFS is essential to meeting 2050 goals, and so should be central to the 2030 goals as well.

The LCFS program has been crucial in spurring the development of low-carbon fuels in California by providing clear market signals to producers that their investments in research and development will yield returns in the long-run. It has increased demand for alternative fuels, such as RNG, leading to new technologies to produce, deliver, and use the fuel. For example, in 2015, encouraged by the increasing availability and decreasing price of alternative fuels, Big Blue Bus, the transit agency of the City of Santa Monica, switched its bus fleet to 100% RNG, reducing its fleet's carbon footprint by an estimated 8,000 tons per year. Innovations like this will help California achieve its ambitious climate goals such as those set forth in SB 32.

2. Renewable Gas Standard

The Scoping Plan includes a 5% renewable gas standard (RGS) for residential, commercial, and industrial end users in the Alternative 1 scenario. SoCalGas recommends that ARB include an RGS in the Draft Scoping Plan scenario. We support a limited purchase mandate and authority for gas corporations to recover in rates infrastructure needed to interconnect biomethane facilities with the pipeline network. California will not achieve the 2030 and 2050 limits without the expanded utilization of methane sources.

In recent years, SoCalGas has been reexamining the long-term role for natural gas in a low carbon energy mix. We engaged Energy + Environmental Economics (E3) to look at *Decarbonizing Pipeline Gas to Help Meet California's 2050 Greenhouse Gas Reduction Goal.*[3] In the scenarios explored in this E3 study, deep de-carbonization of the natural gas supply would result in more than 50% of our natural gas supply coming from RNG by 2050. On this premise, E3 concluded:

- Pipeline de-carbonization works together with renewable electricity and electrification strategies towards GHG reduction objectives.
- Decarbonized pipeline gas reduces emissions in sectors that are otherwise difficult to electrify, including heavy duty vehicles; certain residential and commercial end uses, such as cooking, and existing space and water heating; and certain industrial end uses, such as process heating.
- Renewable gas in the form of power-to-gas (P2G) can play an important role in integrating variable renewable electric generation. By producing synthetic gas from excess renewable power and storing and distributing it using existing natural gas infrastructure, this flexible demand can help balance the electric grid as our state's energy profile changes. The renewable gas can be deployed to the highest and best time and use - serving residential and commercial customers or generating electricity.
- A transition to decarbonized pipeline gas would enable continued use of the State's existing gas pipeline distribution network, eliminating the need for constructing new energy delivery infrastructures to meet 2050 GHG targets, such as dedicated hydrogen pipelines or additional electric transmission and distribution capacity.
- Decarbonized gas technologies help diversify technology risk associated with heavy reliance on a limited number of decarbonized energy carriers, and would allow consumers, businesses and policymakers greater flexibility and choice in the transition to a low-carbon energy system.

In the electric generation sector, natural gas can have a long-term and significant role to play in decarbonizing electricity generation through the production of renewable gas. P2G can also aid in managing the intermittency of renewable sources like wind and solar. Production of renewable gas from electricity offers the opportunity to increase consumption in low net load periods. P2G creates a new and potentially cost-effective beneficial use for electricity that can be stored in existing natural gas infrastructure and delivered on demand.

SoCalGas is actively working to support each of these short-, mid-, and long-term clean energy solutions to reduce GHG emissions as part of our continued leadership in the natural gas research

[3] https://ethree.com/documents/E3_Decarbonizing_Pipeline_01-27-2015.pdf
SoCalGas' initial work with E3 was on the 2050 target to reduce GHG emissions by 80% below 1990 levels. We had assumed a straight-line progression to the 2050 target. So, by 2030, we would achieve a 34% reduction in GHG emissions. We would hit the 40% GHG reduction target between 2032 and 2033.

and development sector. For example, SoCalGas has signed an agreement with the National Renewable Energy Laboratory (NREL) to analyze the California Independent System Operator ("CAISO") grid constraints and determine where there will be deployable electricity in the future to site P2G facilities. CAISO's "duck curve," shows the future of when generation will occur and predicts times with excess generation capacity and low demand, presenting an opportunity to implement P2G to create a much needed scalable, long term, zero or near-zero carbon energy storage medium.

3. Sustainable Freight Strategy

The Scoping Plan includes the Sustainable Freight Strategy as part of the Draft Scoping Plan scenario and Alternative 2. SoCalGas supports the California Sustainable Freight Action Plan (CSFAP), and inclusion of sustainable freight pilot projects to show proof of concept of innovative technologies that can reduce emissions and further our freight system efficiencies. Specifically, SoCalGas supports and has been engaged in the proposed Dairy Biogas for Freight Vehicles project in the San Joaquin Valley.[4] This project would help address technical, market, regulatory, and other challenges and barriers to the development of dairy methane emissions reduction projects, as mandated by SB 1383.

At SoCalGas, we are conducting education and outreach to developers to help accelerate RNG projects in this and other sectors. SoCalGas has assisted project developers with assessing high-level costs and feasibility for projects like the Dairy Biogas project, which would help advance the development of California's sustainable freight transportation system. This cluster of dairies could generate 1.5 to 2.5 million diesel-gallon equivalents per year using dairy waste, with each dairy also capable of generating renewable electricity on site with any excess biogas. It could be the first operating dairy biogas to pipeline interconnection project in California. SoCalGas believes that this project achieves several key objectives, such as demonstrating measureable progress towards freight targets within a 2030 timeframe; has system transformation potential; presents opportunities for integrated State agency support; and has potential for scalability throughout the state, particularly in the Central Valley.

In addition, the project would directly benefit the economically disadvantaged communities adjacent to these dairies and transportation corridors traveled by trucks fueled with RNG by reducing SLCP emissions, improving air and water quality, and boosting economic growth. Extending natural gas infrastructure to these disadvantaged communities in conjunction with dairy-RNG pipeline interconnections could also present an opportunity to transition diesel and propane end-uses to cleaner burning natural gas appliances and vehicles, with the potential added benefit of NOx emission reduction.

[4] https://www.arb.ca.gov/gmp/sfti/sfpp/sfpp-037.pdf

It is essential to remember that this Dairy Biogas project relies on methane that would normally be released into our atmosphere and converts it into clean fuel for freight vehicles. It is a double environmental win - California will reduce emissions from the agriculture sector while generating a renewable energy source for other applications.

4. No New Electrification of Space Heating

SoCalGas believes natural gas plays an integral role in achieving California's 2030 goals, and supports the policy of no new electrification of space heating in the Draft Scoping Plan and Alternative 2 scenarios. Natural gas utilization in ultra-low emitting technology applications will help achieve GHG emission reductions targets and generate air quality benefits. As discussed earlier in this letter, development and utilization of RNG and its use in ultra-low emission technologies can help further GHG reductions.

SoCalGas agrees with ARB that using the Cap-and-Trade set emission performance standards allow all fuels and technologies to compete. This encourages innovation and competition, which will reduce the costs of attaining air quality goals.

B. Comments on Alternative 1 (no Cap-and-Trade Program)

The Alternative 1 scenario proposes enhanced and new measures, including sector-specific GHG reduction targets as an alternative to Cap-and-Trade. As detailed in the Scoping Plan Concept Paper, this would require establishing a baseline annual GHG emissions level for each regulated entity in permits, and frequent program evaluation and adjustments. Implementing and enforcing such a regime would have a large impact on ARB resources, beyond the cost-effectiveness of resulting GHG reductions. Given the data difficulties, it is likely to lead to significant loss of business in the State, significant loss of jobs, and significant emissions leakage. ARB's economic analysis of this option should consider the likelihood of the impact of getting the achievable reductions wrong. In addition, this would not include a statewide limit on GHG emissions, and could possibly require further measures if the 2030 target is still not achieved.

As emphasized in the staff presentation to the ARB Board on June 23, 2016, the objectives of the Scoping Plan include providing a flexible framework for implementation, and promoting resilient economic growth. However, requiring California's industries to meet facility emissions caps would not allow the same compliance flexibility to achieve GHG reduction goals at lower overall costs when compared to Cap-and-Trade. Further, this command-and-control type regulation does not provide an incentive for industry to innovate by going beyond required reductions.

C. Comments on Alternative 2: Carbon Tax

The Alternative 2 scenario proposes a carbon tax in lieu of the Cap-and-Trade Program. As SoCalGas has commented previously in response to the Concept Paper, we do not believe a carbon tax can reduce GHG emissions any more cost effectively compared to the Cap-and-Trade Program. Putting aside the tremendous burden on compliance entities to unwind their positions in allowances and offsets, and the wasted resources devoted by ARB to develop and administer the Cap-and-Trade Program since its inception, a carbon tax would make the achievement of ARB's GHG reduction goals more uncertain.

A carbon tax requires legislators to set the financial cost of carbon regulation with no idea if the tax rate is sufficient to attain the necessary reductions. A Cap-and-Trade Program adopts a cap and the economic cost of the Cap-and-Trade Program is whatever price becomes necessary to meet that cap, based on supply and demand. In addition, a carbon tax would not be able to protect energy-intensive trade-exposed industries. For those businesses, a carbon tax could be the final straw that drives businesses out of the state, creating emissions leakage.

III. Conclusion and Supporting Comments

This is an exciting time in the energy industry with many new technologies and tools being developed and adopted, including those related to the use of natural gas, low- and no-carbon gas supply and the statewide gas grid and its energy storage assets. The State should continue to acknowledge the GHG reduction potential of natural gas, the immediate availability of the natural gas system, and the benefits to all Californians as we move forward in the process. Whatever policy is adopted should be flexible enough to allow the best ideas to be deployed, and not lock in prescriptive mandates or specific technologies that ultimately are unachievable in the required timeframe and/or cost prohibitive.

As an innovation leader, California has always been at the forefront of improving our environment. While climate change policies are necessary to secure the continued health of our environment for future generations, California must move forward with not only policy leadership on GHG emissions reductions, but also policy leadership on how to accomplish reductions in a manner that continues to grow our economy.

SoCalGas looks forward to reviewing the Draft 2030 Target Scoping Plan when it is released later this year, and is eager to help implement what we hope to be a cost-effective and flexible strategy to reach the State's ambitious goals.

Sincerely,

Tim Carmichael

Tim Carmichael
Agency Relations Manager – Energy and Environmental Affairs
SoCalGas