



Kevin Barker  
Senior Manager  
Energy and Environmental Policy  
555 West 5<sup>th</sup> Street  
Los Angeles, CA 90013  
Tel: (916) 492-4252  
*KBarker@socalgas.com*

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Mark Sippola, Ph.D.  
Chief of Climate Change Program  
California Air Resources Board  
P.O. Box 2815  
Sacramento, CA 95812-2815

**Subject: Comments on the California Air Resources Board Senate Bill (SB) 596  
Community Meeting**

Dear Dr. Sippola:

Southern California Gas Company (SoCalGas) appreciates the opportunity to provide comments on the October 11, 2023, California Air Resources Board (CARB) SB 596 Community Meeting. We understand that staff is diligently working to develop a comprehensive strategy for the cement sector in California to achieve net-zero GHG emissions by 2045, as outlined in SB 596 (Becker). Collaborative public engagement will be critical to determine a path for a cost-effective, feasible, and equitable transition to clean energy. SoCalGas' mission is to build the cleanest, safest, and most innovative energy infrastructure company in America. As such, we look forward to assisting the cement sector industry in achieving the SB 596 decarbonization goals.

In support of CARB's efforts, SoCalGas's comments highlight the following: 1) A CO<sub>2</sub> pipeline infrastructure network will be critical to decarbonize cement plants; 2) Switching to clean fuels is a feasible and complementary GHG emissions reduction strategy.

**1) A CO<sub>2</sub> pipeline infrastructure network is critical to decarbonize cement plants**

Currently, cement production has two sources of carbon emissions: carbon released during the manufacturing process, and carbon emissions from the energy and heat required to operate the cement production facilities. Fifty-nine percent of the cement sector emissions in the state of California stem from process emissions.<sup>1</sup> Carbon capture, utilization, and storage (CCUS) solutions will play a critical role in reducing these emissions.<sup>2</sup> One of the primary challenges for

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<sup>1</sup> CARB SB596 Kickoff Workshop Slides, October 20<sup>th</sup>, 2022

<sup>2</sup> CARB 2022 Scoping Plan, pg. 86.

the deployment of CCUS solutions in the cement industry is a lack of suitable infrastructure or funding for CO2 transport and storage options.

It will be difficult for the CO2 emissions from facilities to be economically and safely transported and stored in geologic formations without an extensive infrastructure system. Incentives and support from the state will help expedite infrastructure planning, permitting and deployment. CCUS is a sustainable decarbonization option, and a pipeline network that can safely transport emissions, will improve air quality, provide local employment, and reduce local costs. We encourage CARB to include in the state cement sector strategy, support for state and federal incentives that enable cement CCUS projects, including the pipeline infrastructure network that is critical to decarbonize cement plants.

## **2) Switching to clean fuels is a feasible and complimentary GHG emissions reduction strategy**

Fuel combustion accounts for 36% of cement sector GHG emissions, and while fuel switching options that provide meaningful emissions reductions are somewhat limited,<sup>3</sup> clean fuels, such as biomethane produced from renewable sources like food waste in landfills, dairy digesters, and wastewater treatment plants, could be utilized to reduce emissions from the cement industry. A cement plant in Oklahoma demonstrates that clean fuels are a feasible fuel switching option. This plant uses biogas from a nearby landfill for 20% of the kiln fuel needs and for raw material drying.<sup>4</sup> Biomethane can be utilized now as a near-term fuel switching option to reduce emissions and should be included in the state strategy.

The state strategy should also evaluate hydrogen and hydrogen blended with biomethane as a mid-to-long term fuel switching option. While hydrogen technologies for use in the cement industry are still in early development stages, CARB can pursue measures to help leverage federal and state funding and incentivize pilot and demonstration projects in California to reduce project financial risk and assess feasibility. Several companies are testing partial replacement of carbon-based fuels with hydrogen.<sup>5</sup> For example, Heidelberg Cement in the United Kingdom has successfully demonstrated a mix of hydrogen, meat and bone meal, and glycerin in one of its kilns.<sup>6</sup> We encourage CARB to diligently evaluate the role hydrogen can play in decarbonizing cement production.

## **Conclusion**

SoCalGas appreciates the opportunity to provide comments and to engage with CARB and stakeholders throughout the regulatory process. The ultimate success of SB 596 depends on incorporating a range of policy strategies to achieve carbon reductions from the cement industry. SoCalGas is committed to a collective, collaborative transition to clean energy, and we look

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<sup>3</sup> CARB SB596 Kickoff Workshop Slides, October 20<sup>th</sup>, 2022

<sup>4</sup> <https://www.enr.com/articles/24559-plants-commended-for-benefitting-local-communities-environment>

<sup>5</sup> <https://www.globalcement.com/news/item/14637-update-on-hydrogen-injection-in-cement-plants>

<sup>6</sup> <https://www.heidelbergcement.com/en/pr-01-10-2021>

forward to further collaboration and future workshops. A well-designed strategy for decarbonizing the cement sector will favorably position the State to achieve a clean, resilient, and reliable future.

Respectfully,

*/s/ Kevin Barker*

Kevin Barker  
Senior Manager  
Energy and Environmental Policy