

Date of Hearing: July 12, 2023

ASSEMBLY COMMITTEE ON UTILITIES AND ENERGY

Eduardo Garcia, Chair

SB 781 (Stern) – As Amended June 28, 2023

SENATE VOTE: 29-5

SUBJECT: Methane emissions: natural gas producing low methane emissions

SUMMARY: Requires the California Air Resources Board (CARB) to establish a certification for low-methane emissions and to encourage natural gas procurement on behalf of the state to shift to certified natural gas producing low methane emissions. Requires CARB to collect specified information about limiting emissions from the natural gas supply chain and incorporate that data into existing analyses of greenhouse gas (GHG) emissions from the natural gas supply system. Specifically, **this bill:**

- 1) Requires state agencies to prioritize strategies to reduce methane emissions, including emissions from imported natural gas, where feasible and cost effective.
- 2) Requires CARB, the California Public Utilities Commission (CPUC), and other relevant agencies to timely consider programs, or changes to existing programs, to reduce methane emissions, including emissions from imported natural gas procured by utilities and other large gas users.
- 3) Requires CARB, no later than December 31, 2024, to establish a certification standard for natural gas producing low methane emissions. In developing the certification standard, requires CARB to consider existing third-party natural gas certification standards that may be considered as natural gas with low methane.
- 4) Requires CARB to encourage natural gas procurement on behalf of the state to shift to certified natural gas producing low methane emissions, where feasible, cost effective, and in the best interests of ratepayers as determined by CPUC, as specified. Specifies that the procurement encouragement shall not be construed to require new or additional natural gas utility procurement or to promote the expanded use of natural gas from fossil resources and is not intended to interfere with state efforts to reduce the use of natural gas or increase the production and use of renewable gas.
- 5) Requires CARB, as part of their annual GHG inventory, to request and incorporate information from utilities and other large gas users regarding their procurement and use of natural gas certified to have a methane emissions intensity of less than 0.2% across the supply chain.
- 6) Requires CARB, commencing January 1, 2025, to annually quantify and publish an estimate of potential GHG emissions reductions associated with the use of natural gas certified to have

to have a methane emissions intensity of less than 0.2% across the supply chain or the use of other best practices applied to natural gas supplies in California.

- 7) States legislative findings and declarations related to the role of methane as a short-lived climate pollutant (SLCP), methane in the context of the state's climate goals, and the importance of reducing methane emissions from natural gas supplies.

EXISTING LAW:

- 1) Requires CARB, pursuant to California Global Warming Solutions Act of 2006 (Act) [AB 32 (Núñez, Chapter 488, Statutes of 2006)], to adopt a statewide GHG emissions limit equivalent to 1990 levels by 2020 and adopt regulations to achieve maximum technologically feasible and cost-effective GHG emission reductions. AB 32 authorizes CARB to permit the use of market-based compliance mechanisms to comply with GHG reduction regulations once specified conditions are met. Requires CARB to approve a statewide GHG emissions limit equivalent to 85% below the 1990 level by 2045. (Health and Safety Code §§ 38500-38599.11)
- 2) Requires CARB to develop a comprehensive strategy to reduce the emissions of SLCPs to achieve a 40% reduction in methane emissions, 40% reduction in hydrofluorocarbon gases, and 50% reduction in anthropogenic black carbon below 2013 levels by 2030. (Health and Safety Code §§ 39730-39730.5)
- 3) Requires CARB to adopt regulations, known as the Mandatory Reporting Rule (MRR), that require the reporting and verification of statewide GHG emissions, as specified. (Health and Safety Code § 38530)
- 4) Requires CARB to use the best available science to quantify and annually report on its website the amount of GHG emissions resulting from the loss or release of natural gas during all processes associated with the production, processing, and transport of natural gas imported into the state from out-of-state sources. (Health and Safety Code § 39607)
- 5) Requires CARB to, among other things, consult with specified entities to gather information for purposes of carrying out life-cycle GHG emissions analyses of natural gas imports. (Health and Safety Code § 39731)
- 6) Requires each gas corporation to develop a plan for the safe operation and management of its pipeline system. Existing law specifies components that must be included in this plan, including leak detection monitoring, reporting, and mitigation. Existing law requires gas corporations to submit these plans to the CPUC for review, approval, modification, or rejection, and implement an approved plan. (Public Utilities Code § 961)
- 7) Requires the CPUC to, in consultation with CARB, minimize natural gas leaks from CPUC-regulated gas pipeline facilities, and provide for the development of metrics to quantify the

volume of emissions from leaking gas pipeline facilities, and to evaluate and track leaks geographically and over time. (Public Utilities Code §§ 975 *et seq.*)

FISCAL EFFECT: According to the Senate Committee on Appropriations, this bill will result in ongoing costs in the millions of dollars to CARB to develop the low-methane emissions certification program, and ongoing costs of approximately \$624,000 to the CPUC to coordinate with CARB on natural gas procurement.

BACKGROUND:

Methane and Natural Gas –Methane is termed a SLCP because it has a much shorter lifetime in the atmosphere than carbon dioxide, but has a much higher global warming potential. According to the United Nations Environment Programme, methane is more than 80 times more effective than carbon dioxide in trapping heat in the atmosphere over a 20-year period. SLCPs, including methane, are responsible for 30-40% of global warming to date. Atmospheric methane concentrations have been increasing as a result of human activities related to agriculture, fossil fuel extraction and distribution, and waste generation and processing.

Methane is the principal component of natural gas. As a result, methane is emitted into the atmosphere at various points along the natural gas supply chain, which relies on extensive processing and transportation to make natural gas ready for use. The steps in this supply chain are categorized as either “upstream” (exploration and production), “midstream” (processing, compressing, and transporting the gas), or “downstream” (distribution to industrial, residential, or commercial customers). Nearly 90% of California’s natural gas usage is imported from out of state,¹ underscoring the importance of monitoring and evaluating ongoing market trends but also raising the difficulty in quantifying or enforcing methane emission reductions in out-of-state infrastructure.

Slippery Molecules – The term “fugitive emissions” is used to refer to unintended emissions at any step in the natural gas supply chain. Notably, the majority of fugitive methane emissions from natural gas occur in the mid- and upstream processes. Identifying and addressing points of methane leakage along the natural gas supply chain is a pressing issue. However, identifying fugitive methane emissions is technologically challenging. California’s natural gas supply is transported over thousands of miles of pipelines, which vary in age and condition, and cross state and international borders. This infrastructure includes small leaks gradually emitting natural gas slowly over long periods of time. Quantifying these fugitive emissions has long posed challenging for creating a full inventory of California’s emissions from the power sector, which makes up about 45% of natural gas end use in the state.

¹ CEC, “Supply and Demand of Natural Gas in California,” accessed on February 2, 2023; <https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california>

In 2014, the Legislature passed SB 1371 (Leno, Chapter 525, Statutes of 2014), which required gas corporations to file reports on methane leaks from the natural gas pipeline system, and it required the CPUC to adopt rules and procedures to reduce methane emissions from the natural gas system. In response to SB 1371, the CPUC opened a proceeding² to address gas leak abatement. As part of the first phase of this proceeding, the CPUC adopted a decision³ which established annual reporting requirements to track methane emissions from natural gas facilities, compliance plans, 26 mandatory best practices for leak prevention and mitigation, and created a cost recovery mechanism for implementing those best practices. Since the adoption of these best practices, the CPUC has conducted a second phase of rulemaking to limit cost-recovery for gas corporations that fail to reduce methane emissions 20% below their 2015 baseline level of emissions.

Given the value of supplying natural gas to end users, minimizing its release can actually benefit suppliers' bottom line and much of the methane emission mitigation work can actually save producers money. The International Energy Agency (IEA) has stated that there is a huge opportunity to cut methane emissions from the energy sector. The IEA estimates that more than 70% of current emissions from oil and gas operations are already technically feasible to prevent, and around 45% could typically be avoided at no net cost because the value of the captured gas is higher than the cost of the abatement measure. However as noted above, the natural gas system contains many segments across many states, making quantification of emissions savings difficult.

Certified Gas – With natural gas drawing increasing scrutiny for its emissions footprint, the industry has responded with a cleaned-up version of its traditional product, known as certified gas. While a universally accepted definition has yet to emerge, broadly this term refers to gas that has been verified by an independent third party to have been produced in a manner consistent with certain environmental, social, and governance standards. Methane emissions are a key performance metric for certified gas, with an emphasis on monitoring and measurement.

As of October 2022, only 14% of the United States' natural gas supply was certified. Certification standards vary, but there are three major standards: Project Canary's TrustWell certification, Equitable Origin's EO100 standard, and the MiQ Standard. As an example of what certification standards include, the MiQ Standard grades methane intensity, technology deployment, and operational best practices. Methane intensity is the ratio of natural gas produced to excess methane emitted, though methane emissions are particularly difficult to measure.

COMMENTS:

- 1) *Author's Statement.* According to the author, "Climate change is upon us, and it poses significant and immediate threats to all states, communities, resources and infrastructure. The best way to slow these impacts in the near-term is to reduce emissions of potent

² R.15-01-008

³ D.17-06-015

short-lived climate pollutants – “super pollutants” that are both powerful climate forcers and harmful air pollutants – including methane. Our fossil fuel energy systems are one of the largest sources of methane emissions in the U.S., and one of the easiest and lowest cost ways to reduce emissions. Even while we focus on transitioning away from fossil fuels, we can, and should focus on minimizing the impacts of our ongoing fossil fuel use, including methane emissions from imported natural gas. This is the definition of low-hanging fruit in the fight against climate change, and it’s time the state starts to look at mitigating emissions associated with imported natural gas, just like we already do for imported electricity and transportation fuels.”

- 2) *Costs and Benefits.* This bill seeks to reduce the leakage of methane from natural gas production by requiring CARB to develop a certification standard for natural gas producing low methane emissions. In this, the bill seems to align with existing statewide climate goals, such as the recently adopted 2045 carbon neutrality goal from AB 1279 (Muratsuchi, Chapter 337, Statutes of 2022), as well as the pipeline leak abatement program at the CPUC mentioned above. Additionally, given the enormous market California represents (with over 90% imports of natural gas), setting standards for the gas that California buys could impact the type of gas available in the broader market. Even though only 14% of gas sold today is certified, that percentage could climb rapidly as producers try to provide gas that meets the state’s standards.

However, as is the case with many decarbonization initiatives, there may be real impacts to customer bills by adding new—and potentially more costly—requirements on the natural gas supply mix. As was felt acutely this past winter, fluctuations in the cost of natural gas prices can have severe consequences to customers’ bottom lines. In December 2022 prices at both Pacific Gas & Electric CityGate and SoCal CityGate exceeded or nearly exceeded \$50 per million British thermal units (MMBtu).⁴ For context, the past few years have seen natural gas prices hovering between \$5-\$10/MMBtu at the SoCal CityGate hub. While these spikes in cost of fossil natural gas procurement are troubling, they foreshadow a growing trend of natural gas unaffordability, with natural gas rates—not just commodity prices—increasing. Moreover, recent efforts to decarbonize the natural gas system with biomethane procurement have the likely impact of further raising natural gas costs.

In February 2022, the CPUC adopted biomethane procurement targets for 2025 and 2030.⁵ The 2030 target reflected approximately 12% of the residential and small business natural gas usage in 2020. In the Decision, the CPUC reported that the average cost of biomethane was \$17.70/MMBtu, far more costly than the average cost of fossil natural

⁴ Energy Information Administration’s *Natural Gas Weekly*, December 22, 2022.

⁵ D. 22-02-025, *Decision Implementing Senate Bill 1440 Biomethane Procurement Program*, R. 13-02-008, February 24, 2022; <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M454/K335/454335009.PDF>

gas at \$9.40/MMBtu.⁶ The Decision didn't set a price cap on biomethane procurement, but did require the gas utilities to seek CPUC review if prices exceeded \$26/MMBtu, what the CPUC determined as the "social cost" of methane.⁷ It is unclear to this committee how much more, if at all, certified natural gas may be compared to standard fossil natural gas, as some estimates have claimed only a 10¢ difference,⁸ but any additional requirement poses the risk of increasing volatility to the natural gas supply and the potential to greatly impact customer bills if that supply is ever limited.

This bill takes a cautious approach and does not mandate the procurement of certified natural gas, and even explicitly requires any encouragement from CARB to shift natural gas usage to certified natural gas must be feasible, cost effective, and in the best interest of ratepayers as determined by the CPUC. This seems appropriate given the various changes occurring simultaneously to decarbonize the natural gas sector: biomethane procurement, the CPUC's gas leak abatement proceeding, customer reduction in natural gas usage through conservation measures, and increasing electrification in the building and industrial sectors. In this way CARB and the CPUC can consider whether the low-methane natural gas certification required under this bill can help achieve meaningful methane reductions from the natural gas sector beyond those achieved through these existing initiatives.

3) *Prior Legislation.*

AB 2195 (Chau) required CARB to quantify and annually publish the amount of GHG emissions resulting from the loss or release of uncombusted natural gas to the atmosphere and emissions from natural gas flares during all processes associated with the production, processing, and transporting of natural gas imported into the state. Status: Chapter 371, Statutes of 2018.

AB 1496 (Thurmond) required CARB to work with air districts to measure high-emission methane hot spots and consult with federal and state agencies and other appropriate stakeholders to develop a life-cycle analysis of GHG emissions from natural gas produced and imported into the state. Status: Chapter 604, Statutes of 2015.

SB 1371 (Leno) required gas corporations to file reports on methane leaks from the natural gas pipeline system and required the CPUC to adopt rules and procedures to reduce methane emissions from the natural gas system. Status: Chapter 525, Statutes of 2014.

4) *Double Referral.* This bill was heard in the Assembly Committee on Natural Resources on June 26, 2023, where it passed out on an 8-3-0 vote.

⁶ Average natural gas price in California in 2021; U.S. Energy Information Administration, "California Natural Gas Industrial Price", <https://www.eia.gov/dnav/ng/hist/n3035ca3A.htm>

⁷ Order # 13, pg. 59, D. 22-02-025, *Ibid.*

⁸ Mora Fernandez Jurado, "Certified gas: What? Why? How? Who? How Much?," *Darcy Partners*; <https://darcypartners.com/research/certified-gas-what-why-how-who-how-much>

REGISTERED SUPPORT / OPPOSITION:

Support

350 Bay Area Action
350 Conejo
350 Humboldt
350 Sacramento
350 Southland Legislative Alliance
350 Ventura County Climate Hub
Ban Sup (single Use Plastic)
Climate Action California
Elders Climate Action, Norcal and Social Chapters
Indivisible South Bay LA
Planning and Conservation League
Project Canary
The Climate Center
Urban Ecology Project

Other

CalChamber

Opposition

None on file.

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