

## CALIFORNIA CLIMATE POLICY FACT SHEET: METHANE

Under [Assembly Bill 32](#) (Health & Safety Code § 38500 et seq.), California's landmark environmental law to achieve technologically-feasible and cost-effective statewide greenhouse gas (GHG) emissions reductions, the California Air Resources Board (CARB) developed and periodically updates California's Climate Change [Scoping Plan](#). The Scoping Plan lays out a central goal in reducing emissions of methane, a highly-potent GHG associated primarily with the oil and gas and agriculture sectors. This California Climate Policy Fact Sheet provides a foundational understanding of statewide efforts for methane emissions tracking, regulation, and abatement as California works towards reducing emissions of this key climate pollutant.

### Understanding Methane's Impact:

Methane is the second-largest source of global GHG emissions and is responsible for [20 percent](#) of current global warming. Methane has a climate impact approximately [28 times greater](#) than carbon dioxide, the most abundant greenhouse gas, over a 100-year timespan. In 2017, methane accounted for [9 percent](#) of GHG emissions in California (measured in carbon dioxide equivalents). Methane is emitted through the production and transport of fossil fuels, through various agricultural practices including livestock enteric emissions and animal waste, and through the decay of organic waste in landfills. In California, livestock enteric fermentation (i.e., digestive gas) and manure management, among other agricultural practices, contribute to a [majority](#) of statewide methane emissions in a given year. In addition to their heightened global warming potential, methane emissions can be particularly challenging to control because they arise from these natural processes.

### California Methane Regulation and Tracking:

While California's general GHG emission reduction mandates under AB 32 and [Senate Bill 32](#) (Health & Safety Code § 38566) cover methane emissions, the state legislature has enacted distinct methane-related laws to address its particular potency as a pollutant and unique sources of emissions. Most importantly, [Senate Bill 1383](#) (Health & Safety Code § 39730.5 et al.), set statewide targets for reducing emissions of [short-lived climate pollutants](#) (SLCPs), of which methane is the central type (others include hydrofluorocarbons (HFCs) and anthropogenic black carbon).

In its [2014 Scoping Plan Update](#), CARB identified SLCP reductions as an important aspect of a comprehensive approach to addressing climate change. SB 1383 directed CARB to take steps to reduce methane emissions 40 percent below 2013 levels by 2030. California's legislation and regulation designed to achieve these reductions is organized across three primary sectors:

#### 1. Agriculture

California dairy and livestock industries are responsible for [over half](#) of the state's methane emissions and are the largest source of dairy-related methane in the country. In response to SB 1383, CARB, along with other state agencies, convened a Dairy and Livestock Greenhouse Gas Emission [Working Group](#) to provide recommendations to inform actions related to reducing methane emissions from agricultural operations and incentivizing funding and research.

#### 2. Oil and Gas

In 2017, CARB issued the Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities, or the [Oil and Gas Regulation](#), after a three-year workshop and proposal process. The regulation is designed to reduce methane emissions from oil and gas production, processing, storage, and

transmission compressor stations. The regulation requires oil and gas producers to address both fugitive and vented emissions of methane from new and existing oil and gas facilities through emission control plans, leak testing, and repairs; CARB estimates compliance will reduce methane emissions by over 1 million tons annually. In addition, under [Senate Bill 887](#) (Health & Safety Code § 42710 et al.), natural gas storage facility operators (whose product is primarily methane) must conduct continuous leak monitoring and prevention.

### 3. Organics/Landfills

Building on [Assembly Bill 341](#) (Pub. Res. Code § 41780 et al.), SB 1383 established a statewide target of reducing the amount of organic waste sent to landfills 75 percent below 2014 levels by 2025. The law also directs CalRecycle to achieve recovery of at least 20 percent of food waste by 2025. CARB's updated Scoping Plan calls for eliminating the disposal of organic materials at landfills in their entirety, which would lead to the potential elimination of methane emissions from landfills.

Because methane emissions result from such diverse sources (such as livestock, oil and gas infrastructure leaks, and waste decomposition), accurate and precise methane emissions tracking is essential to ensuring the effectiveness of regulation and evaluate whether California is meeting its methane reduction goals. CARB's [Greenhouse Gas Monitoring Network](#) has seven monitoring stations strategically sited throughout the state to measure ambient GHG concentrations. Future methane emission reduction efforts may build on this monitoring capacity or require increased reporting from individual entities.

#### **Evolution of California Methane Reduction Policies:**

The last five years have seen a marked increase in the focus on methane reduction policies, especially as CARB's SLCP strategy was developed and implemented.

- [Assembly Bill 32](#) tasked CARB with developing a plan to achieve technologically feasible and cost-effective statewide GHG emission reductions of 1990 levels by 2020, which California has subsequently built upon. Today, the state has a goal of meeting a target of 80% below 1990 levels by 2050 and achieving carbon neutrality. Furthermore, CARB developed its [Oil and Gas Regulation](#) pursuant to this bill.
- [Senate Bill 605](#) (Health & Safety Code § 39730) requires CARB to develop a plan to reduce emissions of SLCPs.
- [Senate Bill 1371](#) (Pub. Util. Code § 975 et seq.) directs the California Public Utilities Commission (CPUC) and CARB to adopt rules and procedures that will minimize natural gas leaks from gas pipelines and facilities.
- [Senate Bill 1383](#) requires CARB to approve and begin implementing a plan for SLCP reductions with targets for statewide reductions in SLCP emissions of 40 percent below 2013 levels by 2030 (for methane and HFCs) and 50 percent below 2013 levels by 2030 (for anthropogenic black carbon). The bill provides specific direction for reductions from dairy and livestock operations and from landfills by diverting organic materials.

#### **Key Outcomes and Next Steps for California Methane Reductions:**

Integrated strategy and implementation of methane reductions in California is essential to realize environmental, economic, and health benefits throughout the state. While regulated GHG emissions have dropped in California since 2000, methane emissions have persisted at [similar levels](#) over the same time frame. Furthermore, at the federal level, the Environmental Protection Agency [proposed](#) in August 2019 to loosen rules on the enforcement of methane emissions from the oil and gas industry and to rescind emissions limits for methane from the production and processing segments of the industry. Future policies for methane reductions will require collaboration and a connected approach from local, state, and federal government, along with businesses, scientific institutions, and other stakeholders, to ensure that these emissions are reduced in an efficient and cost-effective manner.