



Proposed Amendments to the Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities

Board Hearing
June 22, 2023

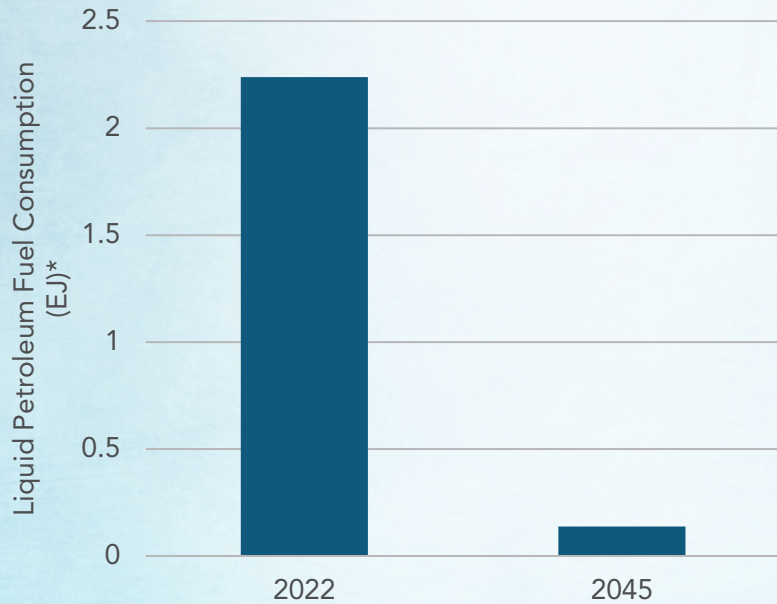
Agenda

- Background
- Proposed Amendments
- Costs and Benefits
- Staff's Recommendations

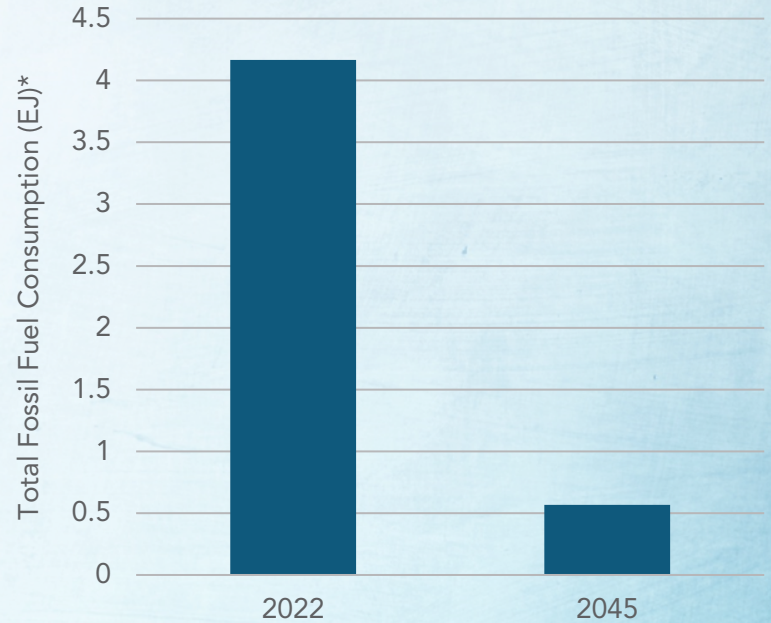


Scoping Plan: Reductions in Fossil Fuel Demand

94% reduction in liquid petroleum



86% reduction in total fossil fuel



The Road to Zero Emissions

CARB has put a roadmap in place to drastically reduce our dependence on petroleum in the transportation sector by 2045.

AB 32

Requires we cut GHGs. To reach goals, fuel use must be cut by 94%.

How cuts happen?
Zero emission cars, trucks and fuels.



ACT ACC ACF

CARB rules that make that possible:
Advanced Clean Trucks, Advanced Clean Cars, Advanced Clean Fleets

- ACT: Phases out sales of most fuel-powered trucks by 2035
- ACC: 100% ZEV sales requirement by 2035
- ACF: Requires that trucks in CA be zero emissions by 2045

LCFS

All together, these actions will help us build a cleaner, healthier California for current and future generations.

Governor Newsom creates new oversight committee to monitor oil companies.

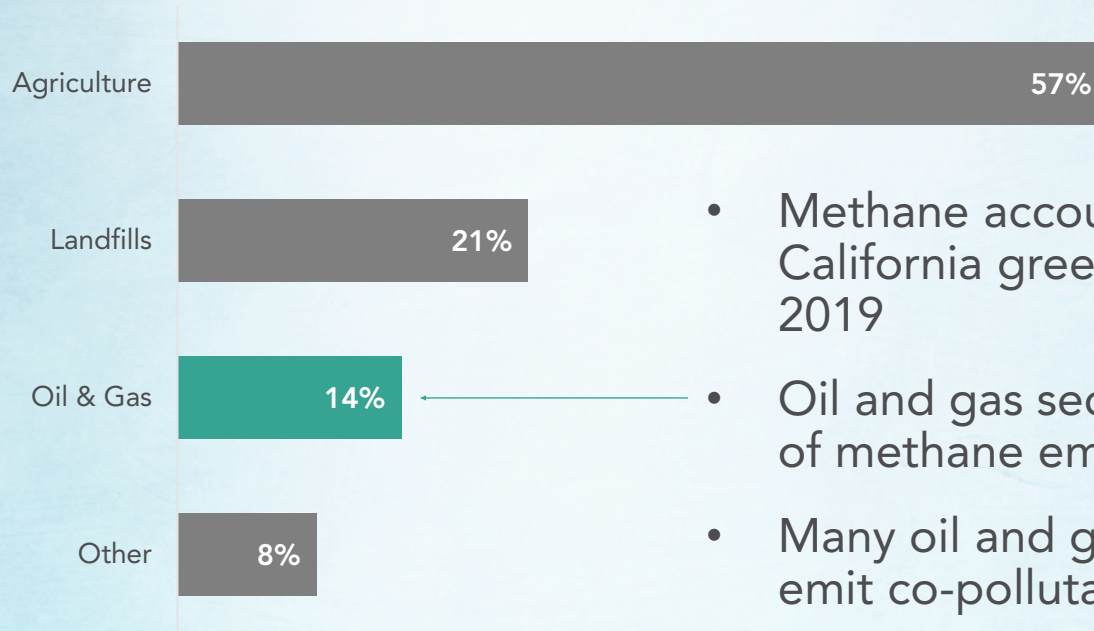


Makes fuel less polluting and encourages production of cleaner alternatives.

How it works:



California's 2019 Methane Emissions by Sector



- Methane accounted for ~10% of total California greenhouse gas emissions in 2019
- Oil and gas sector accounted for 14% of methane emissions
- Many oil and gas sector sources also emit co-pollutants

Oil and Gas Sector Emission Reduction Efforts

- Local Air District Rules and Requirements
- Natural Gas Leak Abatement Program (CPUC/CARB)
- Methane Task Force (CARB/CalGEM)*
- US EPA's Proposed Emissions Guidelines*
- CARB's Oil and Gas Methane Regulation

The Oil and Gas Methane Regulation

- Adopted in 2017 as an early action measure for AB 32
- Addresses methane emissions from oil and gas facilities
- Builds off local air district rules
- Jointly implemented and enforced by CARB and local air districts



Coverage of the Regulation

Production & Processing

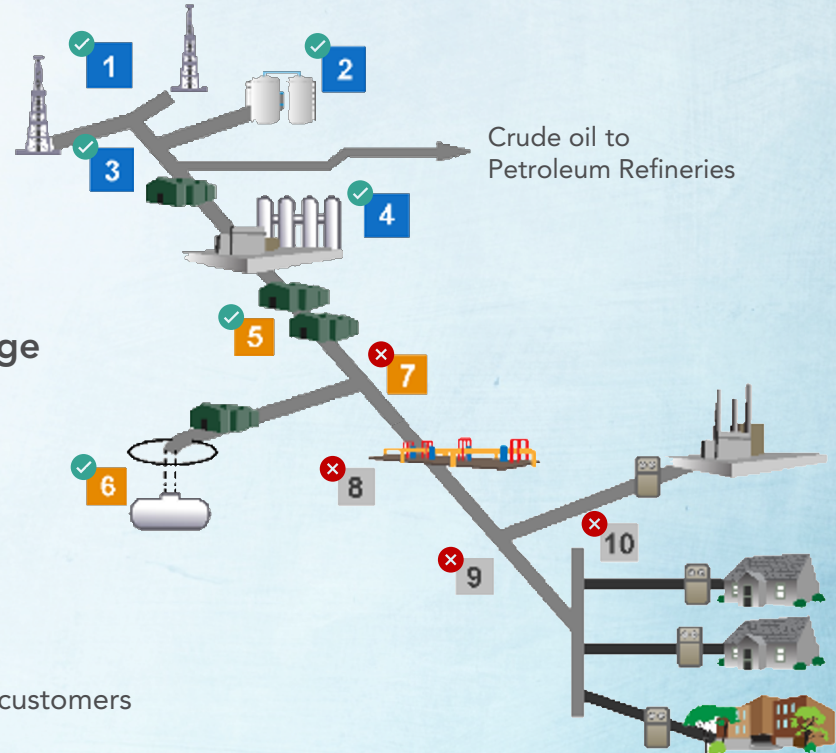
- ✓ 1. Onshore and offshore well sites
- ✓ 2. Storage tank batteries
- ✓ 3. Gathering and boosting compressor stations
- ✓ 4. Natural gas processing plants

Natural Gas Transmission & Storage

- ✓ 5. Transmission compressor stations
- ✓ 6. Underground storage facilities
- ✗ 7. Transmission pipeline







Distribution

- ✗ 8. City Gate
- ✗ 9. Distribution mains/services
- ✗ 10. Regulators and meters for customers



- ✓ Covered
- ✗ Not covered

Existing Requirements in the Regulation

-  Leak detection and repair (LDAR)
-  Vapor collection and control
-  Equipment replacement and repair
-  Emissions measurement
-  Natural gas underground storage facility monitoring
-  Recordkeeping and reporting

Pre-rulemaking Public Process

Two Public Workshops

Introduction:
September 2022

Draft Text:
January 2023

Individual Meetings

Industry

Environmental
groups

Interagency Discussions

US EPA

Local air districts

Factors Driving the Proposed Amendments



Meet State Implementation Plan (SIP) Requirements



Utilize Remote Emission Plume Monitoring Data



Make Other Clarifying and Cleanup Adjustments

US EPA's SIP Decision

2016

US EPA issued Control Techniques Guidelines for the Oil and Natural Gas Industry (CTG)

2018

CARB submitted Oil and Gas Methane Regulation into California SIP

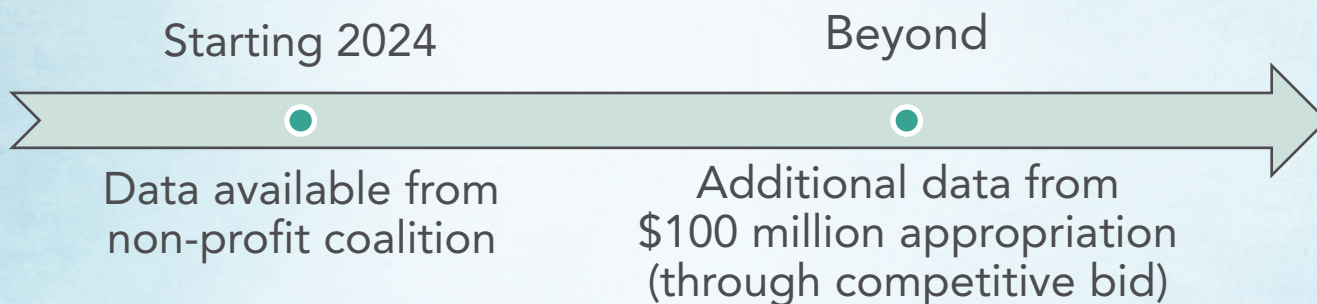
2022

US EPA issued *limited approval, limited disapproval* of SIP submittal and sanctions clock started

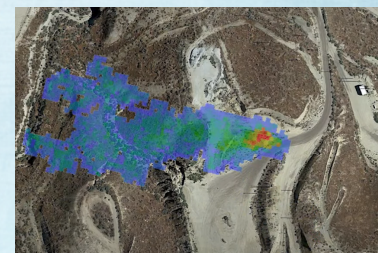
Changes to Align with the CTG

- Require LDAR plans
- Additional requirements for vapor collection and control systems
- More rigorous process for delay-of-repair approval
- Air district rules listed as basis for exemptions
- Other changes, such as:
 - Repair timeframes, definitions, exemptions, Executive Officer's discretion, measurement procedures, recordkeeping, etc.

Action Based on Methane Emission Plume Data from Satellites



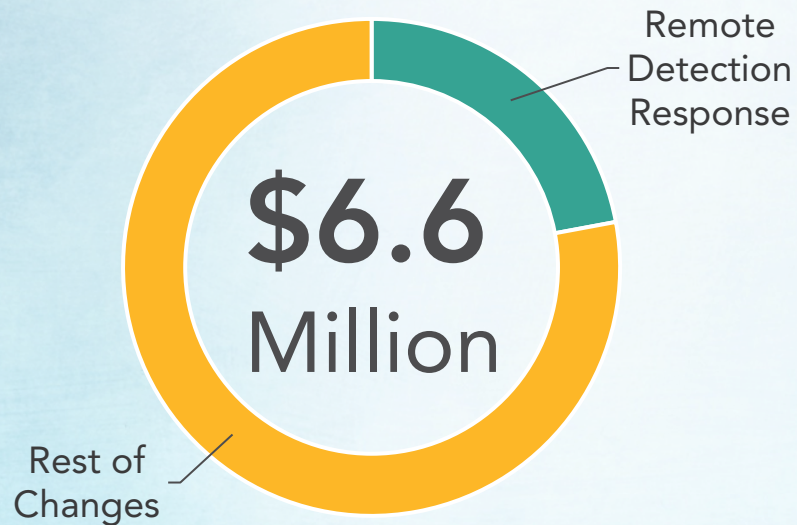
Proposed notification system and response requirements will enable early detection and mitigation of emission plumes



Source: Carbon Mapper
([upper image](#)) ([lower image](#))

Estimated Costs of the Proposed Amendments (2021\$)

Five-year total cost*



Fraction of industry sales in sectors covered by the regulation**

~0.02%

*Five-year period runs from 2024-2028

**California oil & gas extraction and natural gas transmission & storage

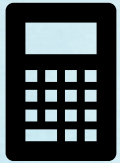
Benefits of the Proposed Amendments



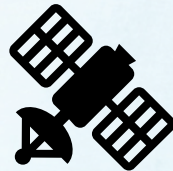
Necessary for
SIP approval



Greater compliance
assurance

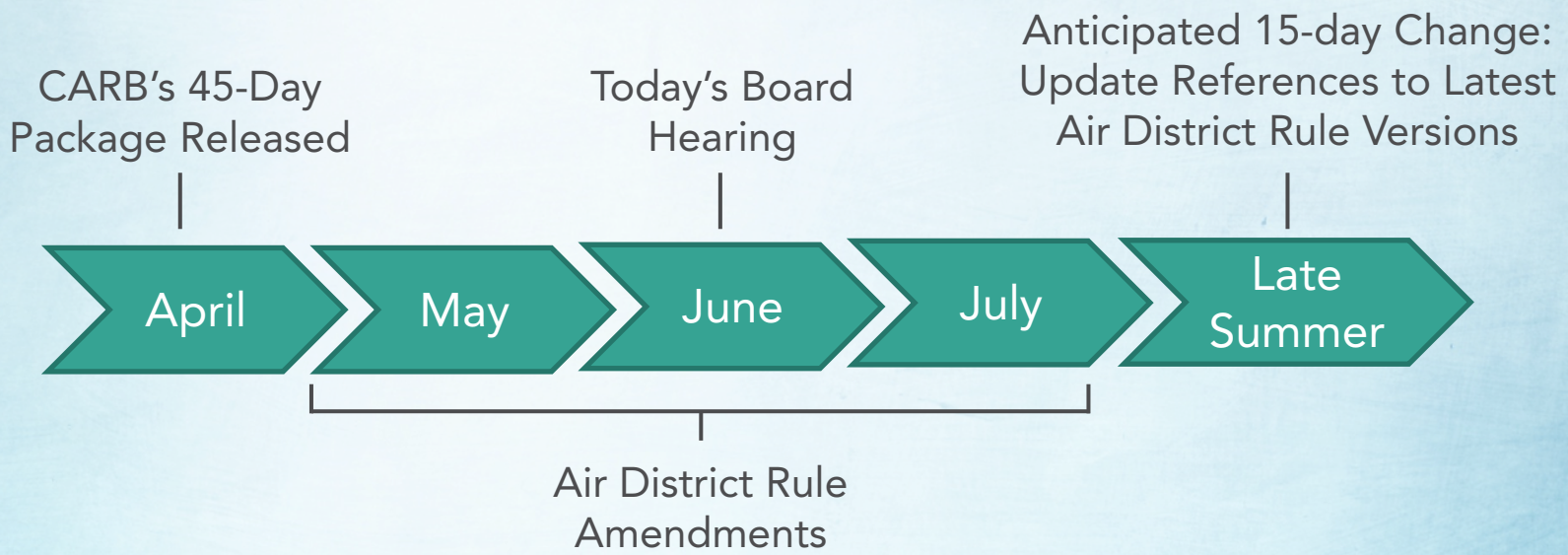


More accurate
emissions
calculations



Emission reductions
from remote plume detection
response (currently unquantified)

Procedural 15-day Change Needed



Staff Recommendation

- Adopt Resolution 23-18

