



Potential Amendments to the Oil and Gas Methane Regulation to Implement U.S. EPA's Emissions Guidelines

August 15, 2024

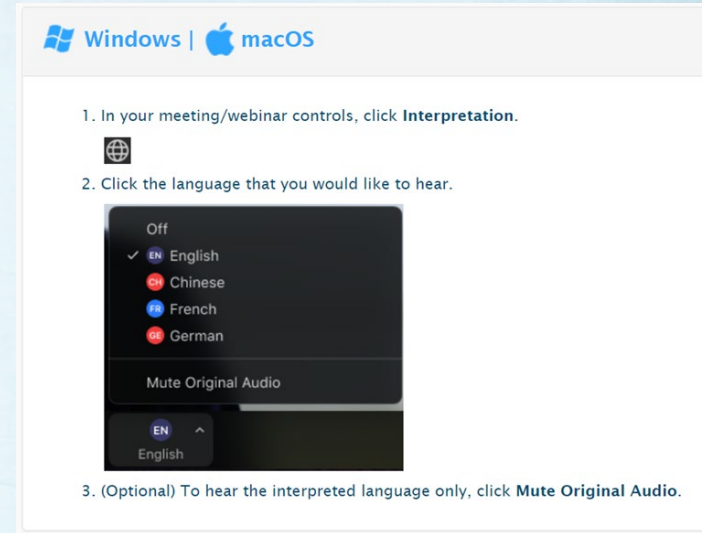
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2. Click the language that you would like to hear. Options for this meeting are English and Spanish.
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Como Escuchar la Interpretación

1. En los controles de su reunión/seminario web (meeting/webinar), haga clic en **Interpretación** (Interpretation) ubicado en la parte inferior de la pantalla.
2. Haga clic en el idioma que le gustaría escuchar. Las opciones para esta reunión son inglés y español.
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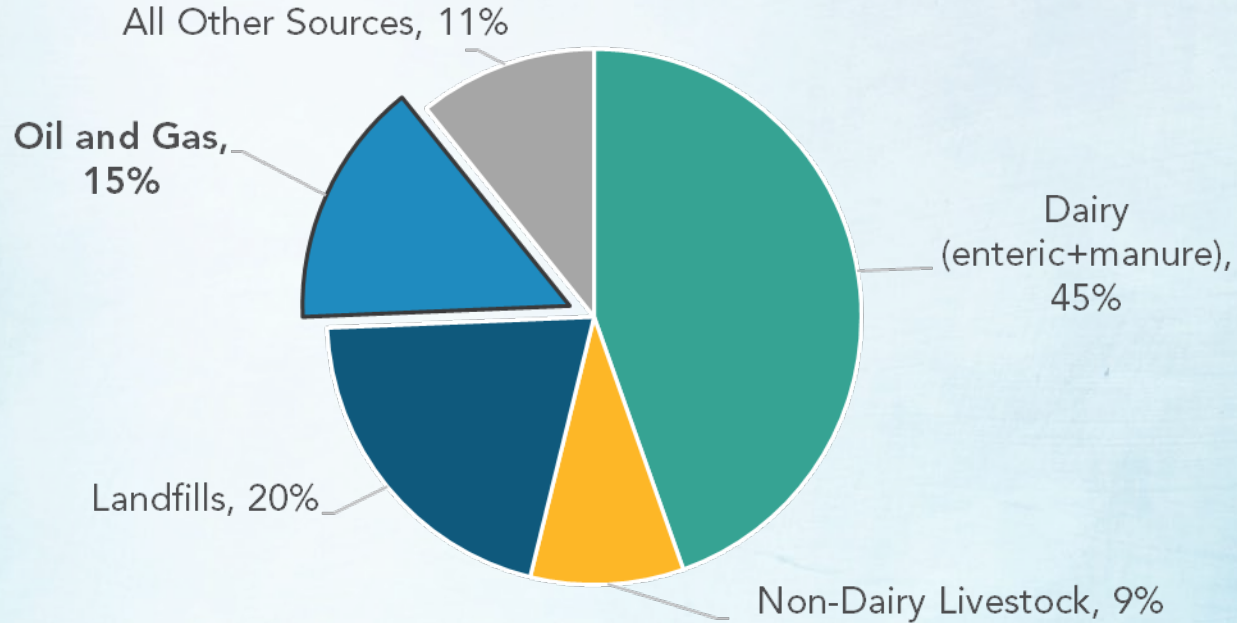
Agenda

- Background
- Potential Amendments to Regulation
- Solicit Feedback
- Next Steps

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Methane Emissions in California



Source: 2019 California Greenhouse Gas Inventory; using 100-year AR4 global warming potential

Oil and Gas Methane Emissions

- Methane is a potent greenhouse gas (GHG)
- Short-lived: emission reductions have large near-term benefits
- Many cost-effective emission reduction measures
- Reducing methane emissions can reduce emissions of co-pollutants, which have potential health implications (e.g., VOCs, BTEX)

VOCs = Volatile organic compounds

BTEX = Benzene, toluene, ethylbenzene, and xylenes

CARB Oil and Gas Methane Regulation

- Adopted in 2017; amended in 2023
- Complements local air district rules for VOCs
- Addresses methane emissions from oil and gas facilities not covered by district rules
- Jointly implemented and enforced by CARB and local air districts since 2018



Where CARB Regulation Applies

Crude Oil and Natural Gas Industry

CARB
Regulation
Applies

Production & Processing

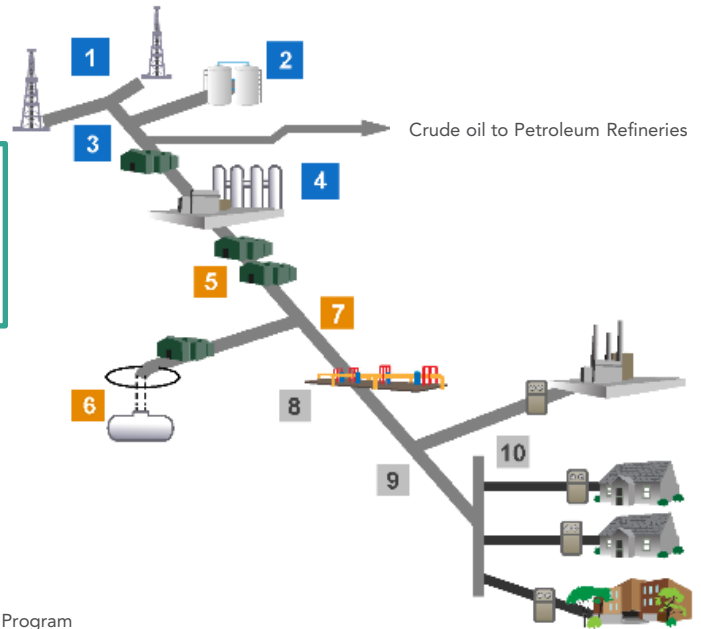
1. Onshore and offshore well sites
2. Storage tank batteries
3. Gathering and boosting compressor stations
4. Natural gas processing plants

Natural Gas Transmission & Storage

5. Transmission compressor stations
6. Underground storage
7. Transmission pipeline

Distribution

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



Source: Adapted from American Gas Association and U.S. EPA Natural Gas STAR Program

June 2023 Amendments to the Regulation

- U.S. EPA requirements for State Implementation Plan (SIP)
- Operators required to find and fix satellite-detected leaks
- General cleanup

Current Regulatory Requirements

- Quarterly leak detection and repair (LDAR)
- Vapor control on tanks above an emission threshold
- Replacement of high-emitting seals on compressors
- Zero-emitting pneumatics (some exceptions)
- Additional monitoring for natural gas underground storage facilities
- Measuring liquids unloading and well casing vent emissions
- Mitigation of remotely-detected plumes (new in 2023)
- Record keeping and reporting for all the above

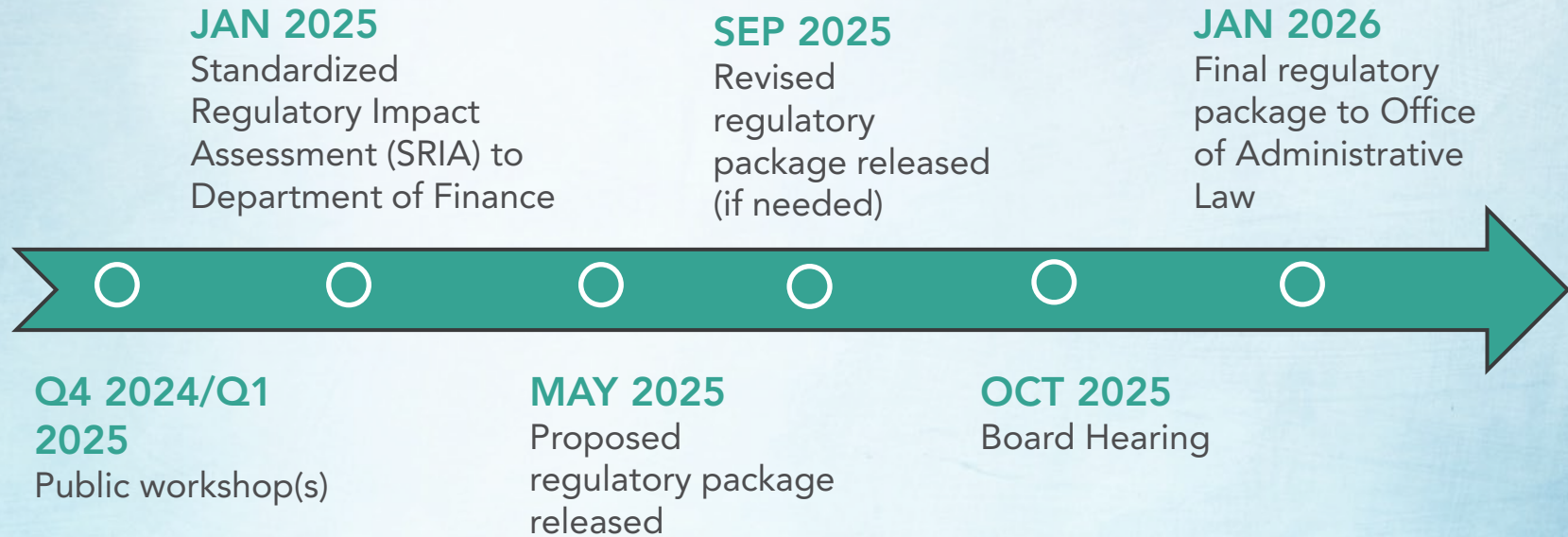
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U.S. EPA's Emissions Guidelines

- U.S. EPA released the Emissions Guidelines in December 2023
- Emissions Guidelines are requirements that all states must implement to reduce methane emissions from existing oil and gas sources
- CARB must amend the Oil and Gas Methane Regulation to comply where needed
- Amended Regulation due to U.S. EPA by March 9, 2026

Anticipated Rulemaking Timeline



Potential Changes to Address Emissions Guidelines

- Convert to all zero-emitting pneumatics/process controllers
- Ban associated gas venting (no open well casing vents)
- Lower LDAR leak concentration to 500 ppm
- Additional LDAR requirements for gas processing plants
- Allow alternative LDAR approaches that achieve equivalent or better emissions reductions
- Ban or minimize emissions from liquids unloading
- Limit emissions from centrifugal compressor dry seals

Potential Changes to Address Emissions Guidelines

- Expand Audio, Visual, Olfactory (AVO) inspections
- Require additional recordkeeping and reporting
- Require operator compliance plans, notifications of compliance, and well closure plans
- Revisit separator and tank system emission estimation methods and limits

Additional Topics

- Address U.S. EPA's Super Emitter Program
- Reconsider heavy oil exemption for LDAR

Heavy Oil LDAR Exemption

- Emissions per component are extremely small
- LDAR for heavy oil not cost effective
- Emissions Guidelines do not exempt heavy oil from LDAR
- Emissions Guidelines are methane-specific
- CARB has received feedback to consider including heavy oil components in Regulation

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Feedback Requested

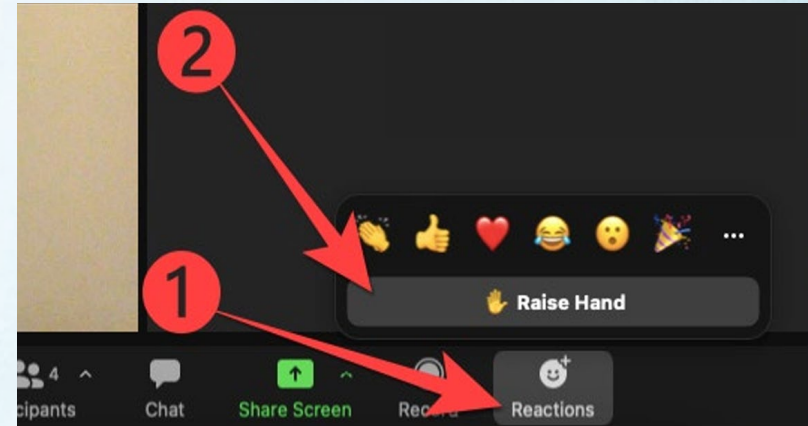
- General feedback on the potential areas of update CARB has identified
- Initial feedback on the areas of potential change CARB identified to address the Emissions Guidelines:
 - Barriers
 - Options
 - Cost considerations
- Any additional requirements in the Emissions Guidelines that should be addressed

Written Feedback

- In addition to the comments made today, we appreciate written feedback
- A link to submit written feedback is on the [Meeting & Workshops](#) section of Oil and Natural Gas Production, Processing, and Storage webpage

Questions or Feedback?

- To ask a question or give feedback:
 - Click "Reactions" at the bottom of your screen
 - Select "Raise Hand"
 - When staff call your name, click "unmute" in the popup box and then introduce yourself



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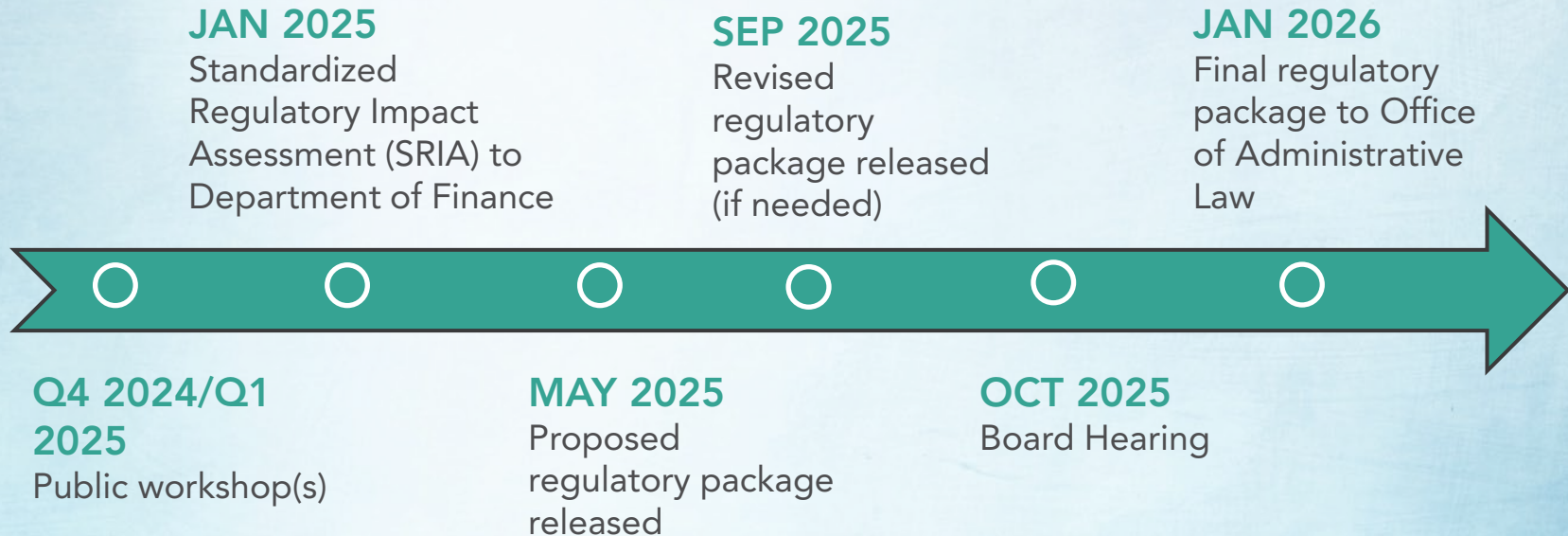
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Next Steps

- Submit written feedback online through **September 13, 2024** (5 p.m. Pacific Time)
 - A link to submit written feedback is on the [Meeting & Workshops](#) section of Oil and Natural Gas Production, Processing, and Storage webpage
 - [Subscribe](#) for updates via email
- Additional workshops Q4 2024/Q1 2025

Anticipated Rulemaking Timeline



Contact Information

Questions?

Contact Kelly Yonn:

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We are available for individual meetings by request