

# Oil and Natural Gas Sector Climate Review: Supplemental Proposal

Webinar for Small Businesses

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NOVEMBER 30, 2022

Welcome!

Introduction

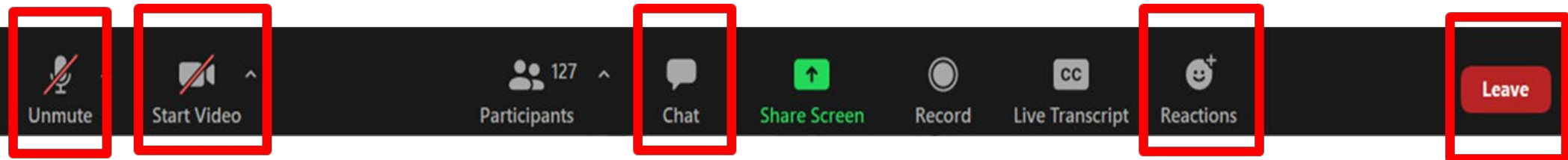
Logistics

Information on EPA's Oil and Gas Proposal

Opportunity for Q&A

# Webinar Instructions and Tips

- To minimize distractions, please **remain muted** and **turn your camera off** during the presentation
- If you have a question about **the information EPA presents during today's webinar**:
  - Raise your hand or type your question in the chat
  - EPA staff will call on you when we are at a stopping point, or at the end of the presentation during the Q&A portion of the webinar
  - When you are called on, unmute yourself and if you'd like, turn on your video
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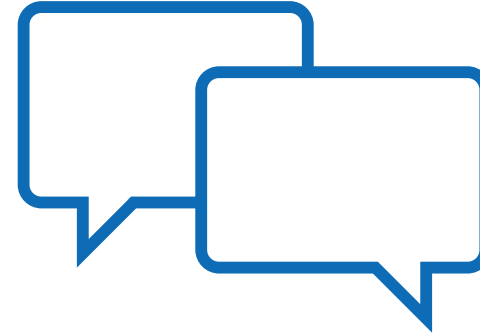
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In a supplemental proposal signed November 8, 2022, EPA is proposing to update, strengthen, and expand its November 2021 proposal for new and existing sources in the oil and natural gas industry



EPA is seeking comment on all aspects of the supplemental proposal

# Supplemental Proposal

# Overview of Rulemaking



Proposal

**November 2021**

Proposes to:

- Update and strengthen methane and VOC standards on the books for new sources
- Add standards for currently unregulated new sources
- Establish first nationwide Emission Guidelines for states to regulate existing sources

EPA received over 470,000 comments and held three days of public hearings



Supplemental Proposal

**November 2022**

Proposes to:

- Make proposed standards more comprehensive
- Encourage innovative technologies
- Modify and refine proposed standards based on public input
- Provide key information for stakeholders
  - Updated Regulatory Impact Analysis
  - Implementation details
  - Regulatory text



Final Rule

**2023**

# Crude Oil and Natural Gas Operations: Where EPA's Proposed Methane Rules Would Apply

## Production & Processing

EPA's methane proposal covers equipment & processes at:

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

## Natural Gas Transmission & Storage

EPA's methane proposal covers equipment & processes at:

5. Compressor stations
6. Storage tank batteries

## Distribution *(not covered by EPA rules)*

7. Distribution mains/services
8. City gate
9. Regulators and meters for customers

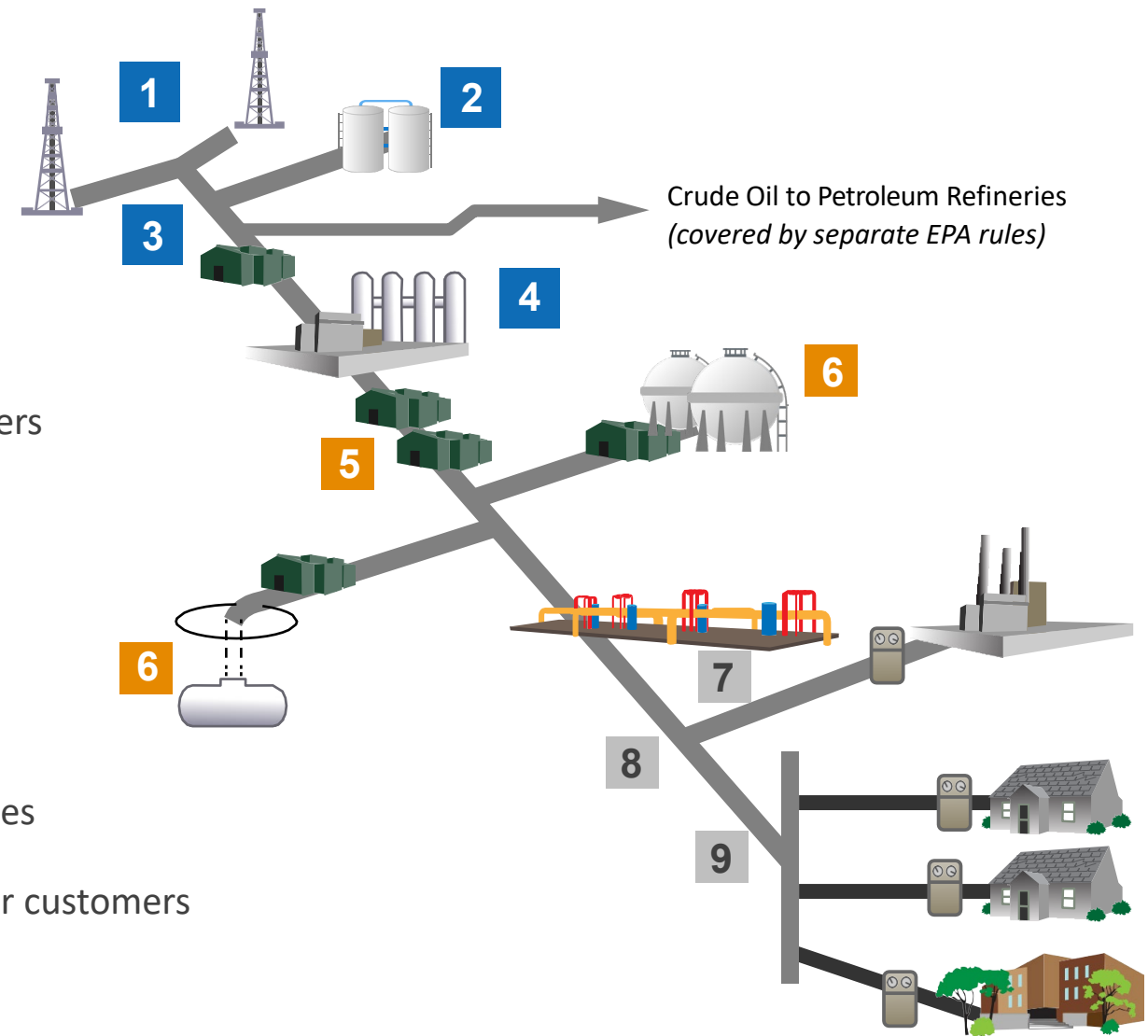
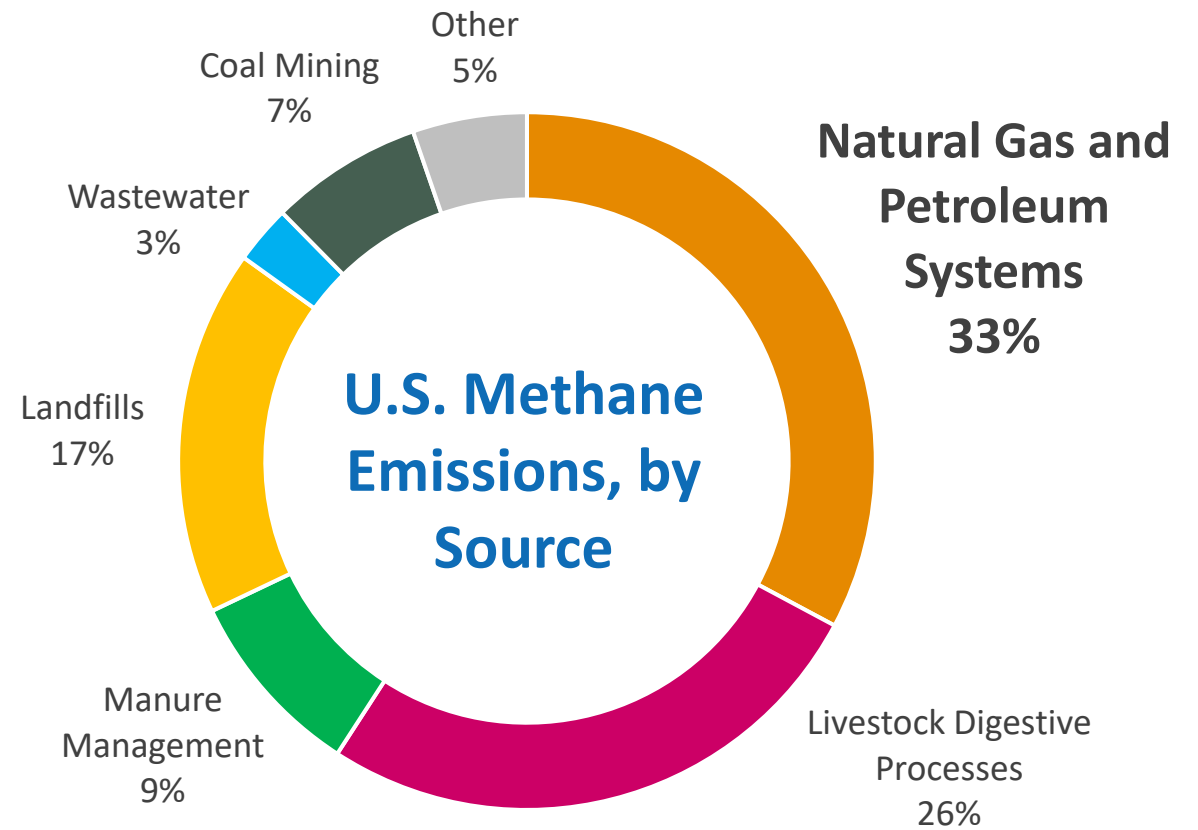


Figure: Adapted from American Gas Association and EPA Natural Gas STAR Program

- The oil and gas sector is the **largest industrial source of methane emissions** in the United States
- Methane is responsible for approximately **one-third of current warming** from human activities
- The oil and gas sector also emits **other harmful pollutants**, like smog-forming volatile organic compounds, and toxic chemicals like benzene

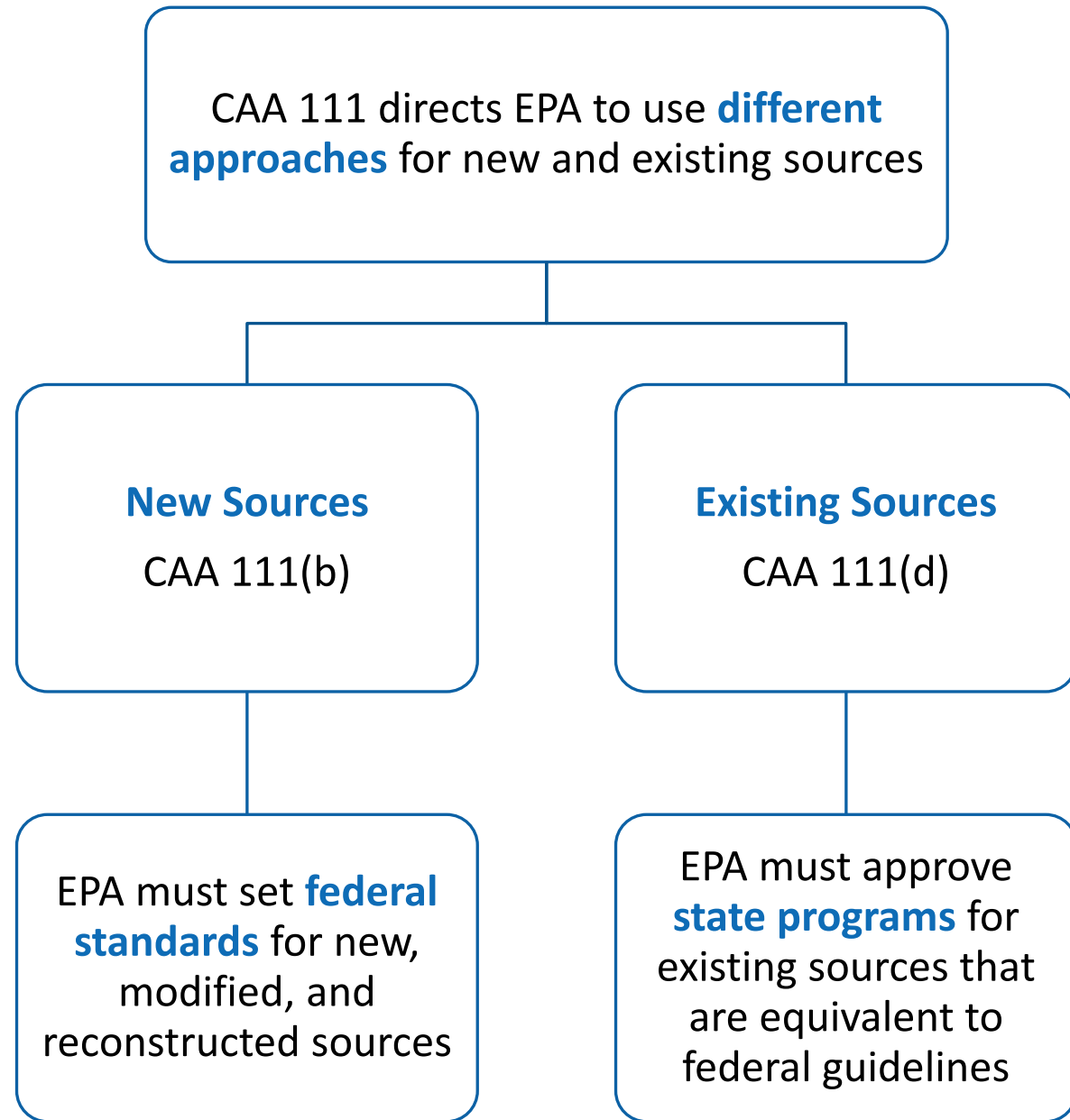


Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020

## Methane Emissions from the Oil and Gas Sector

# Clean Air Act Section 111

This part of the Clean Air Act (CAA) gives EPA the authority to set methane and VOC pollution standards for the oil and gas industry



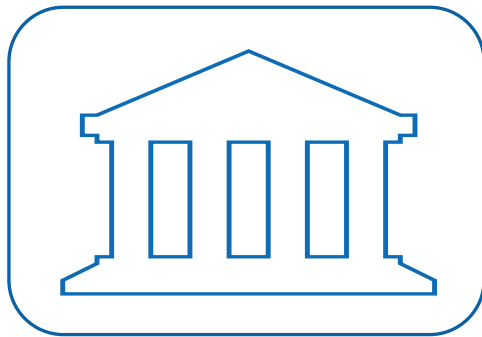


# Reducing Emissions at New, Modified, and Reconstructed Sources

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EPA's standards for **new sources** reflects the degree of emission limitation achievable through the application of the **best system of emission reduction**

Standards are **reviewed at least every 8 years** and revised, if appropriate



**Congress**  
Clean Air Act Section  
111(b)



**EPA**  
Sets new source  
performance  
standards



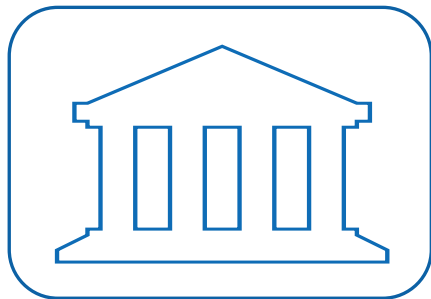
**States**  
Issue state permits



**Emissions  
Reductions**

# Reducing Emissions at Existing Sources

- Congress recognized that **existing sources** do not have as much flexibility as new sources to build emission controls into their design



## Congress

Clean Air Act  
Section 111(d)



## EPA

Sets emission  
guidelines



## States

Develop state plans  
to submit to EPA



## EPA

Reviews and  
approves state plans



**Emissions  
Reductions**

If a state does not submit an  
approvable plan, EPA will issue  
a Federal Plan



# Making Proposed Standards More Comprehensive

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FUGITIVE EMISSIONS, ABANDONED AND UNPLUGGED WELLS, SUPER EMITTERS, FLARES, PNEUMATIC PUMPS, DRY SEAL CENTRIFUGAL COMPRESSORS, OTHER UPDATES

# Fugitive Emissions from Well Sites

Ensures that all well sites are monitored for leaks, with requirements based on the type and amount of equipment on site

EPA is revising its Nov. 2021 proposal to find and fix leaks at new and existing well sites, including wellhead-only sites, to add proposed options that allow owners to use a **wider selection of methane detection technologies** to check for leaks

Ties leak monitoring requirements to the **types and amount of equipment** at a site rather than to estimated emissions

- Owners and operators of **small well sites** would not need to purchase equipment to conduct inspections for leaks as they would rely on sensory methods such as sight, sound, smell

Ensures that **all well sites** are regularly checked for leaks and includes **leak repair deadlines** for each type of site

# Abandoned and Unplugged Wells

Prevents leaks from abandoned and unplugged wells by requiring documentation that well sites are properly closed and plugged before monitoring is allowed to end

EPA's proposal would require owners to continue monitoring a well site for leaks until all wells are properly closed and plugged

EPA's proposal would require owners to submit a **well closure plan**

- Plan for plugging all wells
- Documentation of financial assurance to complete the well closure
- Schedule for completing closure activities

Once a well site is closed, owners/operators would have to conduct a **final survey** using OGI to ensure emissions are not continuing

- If emissions are detected, owners/operators would be required to make repairs and resurvey the site

# Super- Emitter Response Program

Leverages qualified expert monitoring to identify super-emitter events for prompt mitigation

“Super emitters” are **large leaks from a small number of sources** that are responsible for significant emissions of methane, smog-forming VOCs, and air toxics

- Often are caused by malfunctions or abnormal operating conditions, including unlit flares and open thief hatches on storage tanks

In addition to other proposed requirements that would reduce the number of super-emitters, EPA is proposing a **Super Emitter Response Program**

**Approved third parties** using approved remote detection technologies would notify oil and natural gas owners and operators when a super-emitter is detected; owners and operators would then be required to determine the cause and address it

- Notices sent to oil and natural gas owners and operators would be available on a public website for easy access
- The owners’ and operators’ response, along with any corrective actions taken, if needed, also would be available online

# Flares

Requires flares to be properly operated to reduce emissions

If not **properly designed and operated**, flares that are used to meet emission reduction requirements can result in super emitters

EPA is proposing **additional compliance requirements** to ensure that flares meet all standards for good flare performance

- Requirements to continuously monitor the flare to ensure that a pilot flame burns at all times
- Requirements to monitor enclosed combustors

In addition, EPA is proposing to **limit the use of flares** as part of proposed requirements to eliminate venting of associated gas from oil wells

# Pneumatic Pumps

Sets a zero-emissions standard for pneumatic pumps at affected facilities in all segments of the industry

EPA is proposing a **zero-emissions standard** for all pneumatic pumps

- Pumps used at an affected facility would not be driven by natural gas

EPA is proposing a **feasibility exemption** from the zero-emissions standard for sites that do not have access to electricity

- Owners and operators at sites with exemptions would have to use the emissions from the gas-driven pumps by routing them to a process on site
- If routing emission to a process is not feasible, the emissions control requirement depends on the number of pumps on site



# Dry Seal Centrifugal Compressors

Sets requirements for previously  
unregulated source

Owners or operators of dry seal compressors would be required to **maintain the volumetric flow rate** at or below 3 standard cubic feet per minute to prevent emissions

EPA also is proposing updates to proposed requirements for new and existing **wet seal centrifugal compressors**

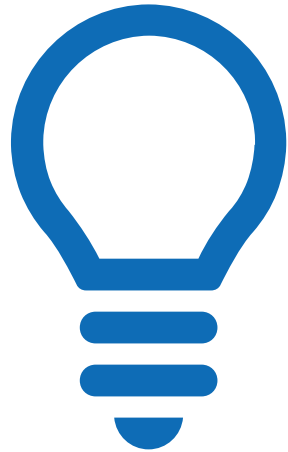
# Achieving Additional Methane and VOC Reductions

## EPA is proposing presumptive standards for **liquids unloading**

- Proposing to update the definition of liquids unloading affected facility, meaning not all liquids unloading would be considered modifications
- In light of this proposed change, EPA also is proposing presumptive standard for liquids unloading for existing sources

## Updating the proposed protocol for using **optical gas imaging** (Appendix K)

- Protocol could be used for detecting leaks in more industrial sectors, if the rule specifies it
- For EPA's oil and natural gas rules, it would be used for OGI surveys to detect leaks at onshore natural gas plants; all other OGI surveys would follow procedures in the proposed NSPS regulatory text



# Encouraging Innovative Technologies

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SURVEY MATRIX, CONTINUOUS MONITORING  
SYSTEMS, ALTERNATIVE TEST METHOD  
APPROVALS

# Alternative Periodic Screening Approach

Ties the frequency of required monitoring surveys to the detection ability of the technology used

EPA is proposing to allow the use of a **broader range of advanced technologies** in lieu of optical gas imaging or EPA Method 21

The supplemental proposal has several **different screening frequencies** corresponding to a range of minimum detection levels

- Wide variety of stakeholders recommended this approach
- Provides greater flexibility than the single screening frequency and detection level proposed in Nov. 2021

Provides clear framework for vendors interested in the development of **future technologies** for methane detection

# Continuous Monitoring Systems

Allows owners and operators the option of using continuous monitoring technologies to check for methane leaks as an alternative to periodic screening

An owner or operator using continuous monitoring technologies would conduct a **root cause analysis** and **corrective action** whenever methane emissions exceed an action level at the boundary of a facility

- Similar approach to EPA's fenceline monitoring requirements for air toxics at petroleum refineries

EPA is proposing two **action levels**, designed ensure that both smaller leaks and **super emitters** are promptly repaired

# Alternative Test Methods Approvals

Streamlines approval process  
for use of advanced methane  
measurement technologies

**Clear and streamlined pathway** for technology developers and other entities to seek approval for the use of advanced measurement technologies

Once EPA approves a technology and technique, owners and operators would be able to use it **without the need for additional approval**



# Providing Information on Plans for Existing Sources

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MEANINGFUL ENGAGEMENT, REMAINING USEFUL LIFE  
AND OTHER FACTORS, TIMELINES, STATE PROGRAM  
EQUIVALENCY

# Meaningful Public Engagement

Includes meaningful public engagement as a criteria in evaluating state plans

Adds detail to a proposed requirement that states conduct meaningful public engagement during development of their **existing source plans**

Seeking comment on including meaningful engagement in **completeness criteria** for state plans

Seeking comment on **proposed definitions** of meaningful engagement and “pertinent stakeholders” who states should include in that engagement

Seeking **examples or models** of state meaningful engagement, including best practices and challenges



# Remaining Useful Life and Other Factors

Includes requirements for the types of information and evidence states must provide

The Clean Air Act directs EPA to allow states to consider "remaining useful life and other factors" in applying a standard to a particular existing source

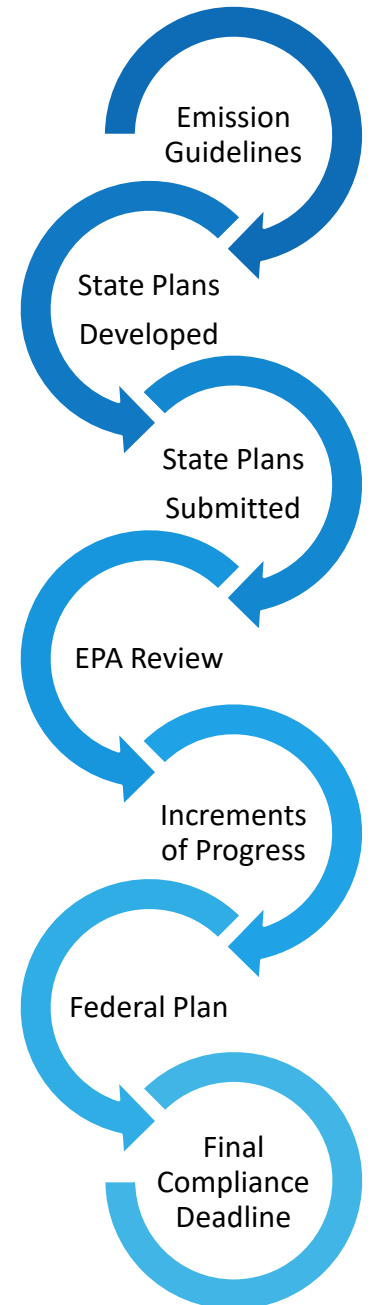
EPA is proposing requirements for the types of **information and evidence** states must provide to apply a less-stringent standard based on these factors

States must consider **communities most affected by and vulnerable** to the impact of the emissions from those facilities

# Emission Guidelines Implementation Timelines

EPA is proposing to require states to **submit plans** to EPA for review within **18 months** after the final Emissions Guidelines are published in the Federal Register

States would be required to impose a **compliance deadline** on existing sources that is no later than **36 months** after the state plan is due to EPA



# State Program Equivalency

Includes criteria for determining whether state programs can be considered equivalent to the presumptive standards

**Five basic criteria** would be used in a source-by-source evaluation of a state program

- Designated facility
- Designated pollutant
- Standard type or format of standard (numeric, work practice)
- Emission reductions (with consideration of applicability thresholds and exemptions)
- Compliance assurance requirements (monitoring, recordkeeping and reporting)

EPA will compare the state program to EPA's **presumptive standards**

- Is state program designated facility definition, pollutant, and format the same?
- Does the state plan include a demonstration that the state requirements achieve the same or greater emissions reduction as the presumptive standards?
- Does the state plan make a demonstration that compliance measures under a state program are at least as effective as those in the presumptive standard?



# Projecting Benefits and Costs

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AIR POLLUTION REDUCTIONS, USEFUL PRODUCT  
CONSERVATION, COSTS OF COMPLIANCE

# Benefits

- EPA's supplemental proposal would secure major climate and health benefits for all Americans
- EPA has improved its modeling approach to conduct a new analysis of the costs and benefits of the supplemental proposal.
- The new analysis reflects improved estimates of the number of facilities covered by the supplemental proposal and the amount of methane and VOCs they emit.

## Reduce Climate-Warming Methane

- Avoid methane emissions by an estimated **36 million tons** from 2023 to 2035, the equivalent of **810 million metric tons** of carbon dioxide
  - Nearly the same as all greenhouse gases emitted from coal-fired electricity generation in the U.S. in 2020
- In 2030 alone, the proposal would reduce methane emissions from covered sources by an estimated **87 percent** compared to 2005
  - Does not include additional reductions likely to result from the proposed Super-Emitter Response Program.
- Yield nearly **\$3.1 billion to \$3.2 billion** in climate benefits per year, with total net benefits valued at **\$34 to \$36 billion** from 2023 through 2035 (2019\$)

## Reduce VOCs and Air Toxics

- Avoid smog-forming VOC emissions by **9.7 million short tons** from 2023 to 2035, along with **390,000 tons** of toxic air pollutants like benzene and toluene, among others

## Recover Natural Gas

- Increase recovery of natural gas, valued at **\$3.3 to \$4.6 billion** from 2020 through 2035, that otherwise would go to waste (2019\$). That's enough natural gas to heat 3.5 million homes for the winter.

# Consideration of Small Businesses

EPA convened a **Small Business Advocacy Review Panel** to obtain advice and recommendations from small entity representatives that would potentially be subject to the rule's requirements

The panel reviewed EPA's **initial regulatory flexibility analysis**, which examined the impact of the proposed rule on small entities and described regulatory alternatives that could minimize that impact

A copy of EPA's initial analysis and the Small Business Advocacy Review Panel Report is available for review in the **rulemaking docket**

For more information: <https://www.epa.gov/reg-flex/sbar-panel-review-oil-and-natural-gas-new-source-performance-standards>



# Next Steps

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RULEMAKING PROCESS, HOW TO COMMENT,  
MORE INFORMATION

# Rulemaking Process



Nov. 2021  
Proposal

- Comment Period
- Public Hearing

Nov. 2022  
Supplemental Proposal

- Comment Period
- Public Hearing

2023  
Final Rule



# How to Comment

- Your comments may address any aspect of the proposal
- Comments EPA receives in writing get the same weight as comments received at the public hearing



## Comment in Writing

- Comments must be received by **February 13, 2023**
- Label your comments with the docket number **Docket ID No. EPA-HQ-OAR-2021-0317**
- EPA prefers that you submit comments online through the Federal eRulemaking Portal
  - Visit <https://www.regulations.gov/> and type EPA-HQ-OAR-2021-0317 in the search box
- For other ways to submit written comments, please see EPA's fact sheet **How to Comment on the Supplemental Proposal**



## Comment at the Public Hearing

- EPA will hold a virtual public hearing on **January 10, 2023**, and **January 11, 2023**
- You will need to **register to speak in advance**
  - The hearing dates and information on registering will be posted at on EPA's website at <https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry> when the proposal is published
- Each speaker will have **4 minutes** to speak
- If you need **language translation or other reasonable accommodation**, please register **within 7 days** of the proposal being published, so that the Agency may provide this service



# Any Questions?

To read the proposed rule and find additional summary resources, visit: [epa.gov/controlling-air-pollution-oil-and-natural-gas-industry](https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry)