

Texas Environmental Superconference: Methane

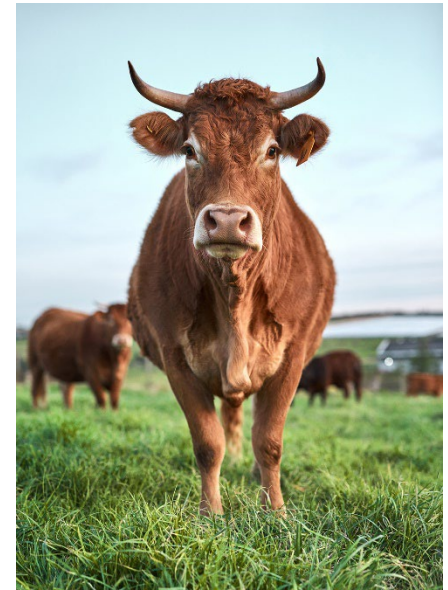
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Ashley T.K. Phillips
Ashley.Phillips@hklaw.com
(512) 469-6135

Holland & Knight

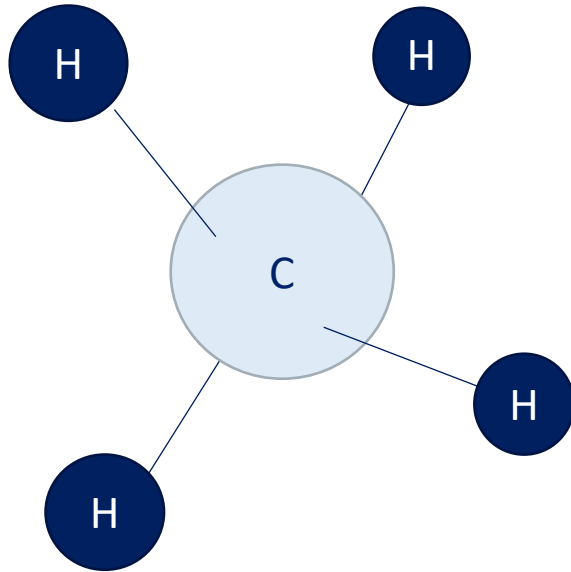
What We'll Cover

- Methane Basics
- Why We Care
- Methane Regulation
- Other Approaches



Methane Basics

Methane Basics



Simplest hydrocarbon (CH₄)

Main component of natural gas

Potent greenhouse gas

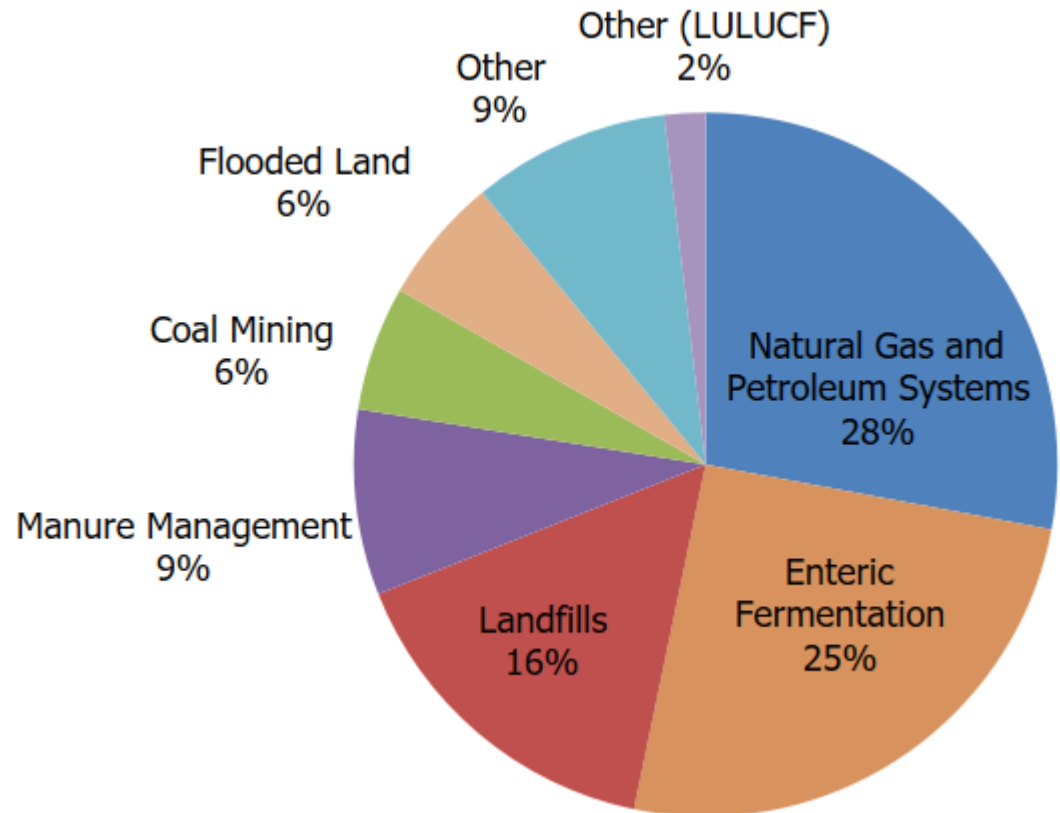
Shorter atmospheric lifetime than CO₂

Challenging to inventory

Methane Basics

- Natural Sources
 - Decomposing organic material (e.g., wetlands)
 - Enteric fermentation (e.g., cows, termites)
- Anthropogenic Sources
 - Agriculture
 - Oil & Gas
 - Landfill
 - Coal Mining

U.S. Methane Emissions, By Source



Why We Care

Opinion: “To Slow Climate Change, Curb Methane First”—The Wall Street Journal (November 16, 2023)

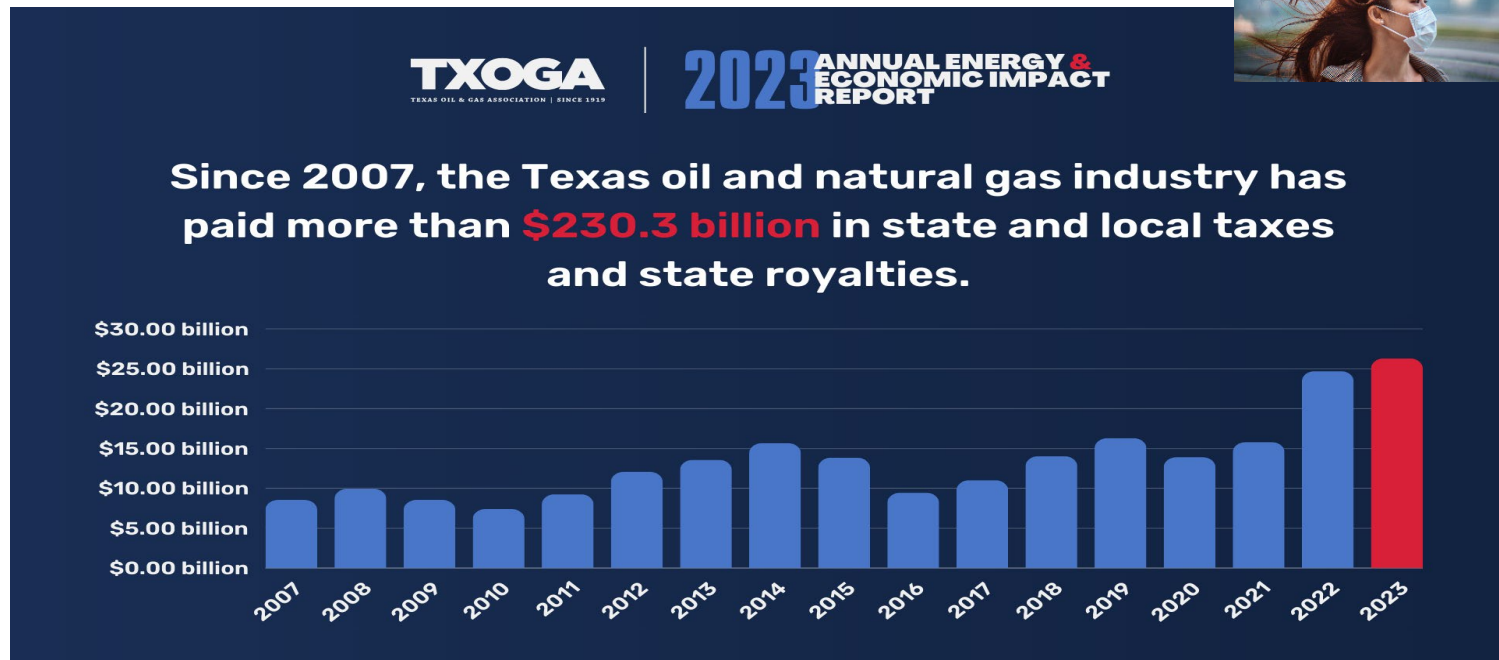
“Global methane emissions rising at fastest rate in decades, scientists warn”—The Guardian (July 30, 2024)

“Air quality report finds three landfills make up nearly all methane emissions in Harris County”—Houston Landing (July 30, 2024)

“Oil Fields Release Far More Methane Than Thought, Study Finds”—The New York Times (March 13, 2024)

Why We Care

- Health Concerns
- Climate Concerns
- Significance of Oil and Gas



Source: <https://www.txoga.org/our-industry/economic-benefits/> (last visited 7/29/2024)

Methane Regulation

Methane Regulation

History & Regulatory Basis

- Clean Air Act (“CAA”) §111 Regulation of Pollutants from New & Existing Sources
 - CAA §111(b)(1)(A) requires the U.S. Environmental Protection Agency (“EPA”) to identify source categories that emit pollutants that, “in [the EPA Administrator’s] judgment [the source category] causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.”
(= **Endangerment Finding**)
 - CAA §111(b)(1)(B) and (b)(2) require EPA to set standards of performance for new sources in those source categories, with discretion to “distinguish among classes, types, and sizes” of sources within those categories, and to review such standards at least every 8 years (= **New Source Performance Standards (“NSPS”)**)
 - CAA §111(d) requires that EPA prescribe regulations to establish procedures under which states (and Tribes, if they wish) submit plans to establish, implement, and enforce standards of performance for existing sources for certain air pollutants to which a Federal NSPS would apply if such existing source were a new source, but that are not otherwise regulated under the CAA (e.g., criteria air pollutants or hazardous air pollutants) (= **Emission Guidelines**)

Methane Regulation

History & Regulatory Basis

- CAA §111(b)(1)(A) Endangerment Findings for Methane
 - Source categories identified by EPA that emit methane:
 - Crude Oil and Natural Gas Production
 - *Priority List and Additions to the List of Categories of Stationary Sources*, 44 Fed. Reg. 49222 (August 21, 1979)
 - *Standards of Performance for New Stationary Sources; Equipment Leaks of VOC and SO₂ Emissions from Onshore Natural Gas Processing Plants; Proposed Rules*, 49 Fed. Reg. 2635 (January 20, 1984)
 - *Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources, Final Rule*, 81 Fed. Reg. 35824 (June 3, 2016)
 - Municipal Solid Waste Landfills
 - *Standards of Performance for New Stationary Sources and Guidelines for Control of Existing Sources: Municipal Solid Waste Landfills*, 61 Fed. Reg. 9905 (March 12, 1996)
 - Methane as the subject of source category standards:
 - Crude Oil and Natural Gas Production
 - *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66496 (December 15, 2009)
 - *Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources, Final Rule*, 81 Fed. Reg. 35824 (June 3, 2016)
 - Municipal Solid Waste Landfills
 - *Standards of Performance for New Stationary Sources and Guidelines for Control of Existing Sources: Municipal Solid Waste Landfills*, 61 Fed. Reg. 9905 (March 12, 1996)
 - *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66496 (December 15, 2009)

Methane Regulation

History & Regulatory Basis

- Clean Air Act §111(d)(1) (emphasis added):

(d) STANDARDS OF PERFORMANCE FOR EXISTING SOURCES; REMAINING USEFUL LIFE OF SOURCE

(1)The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 7410 of this title under which each State shall submit to the Administrator a plan which (A) establishes standards of performance for any **existing source** for any air pollutant (i) **for which air quality criteria have not been issued or which is not included on a list published under section 7408(a) of this title or emitted from a source category which is regulated under section 7412 of this title** but (ii) to which a standard of performance under this section would apply if such existing source were a new source, and (B) provides for the implementation and enforcement of such standards of performance. Regulations of the Administrator under this paragraph shall permit the State in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into consideration, among other factors, the **remaining useful life of the existing source** to which such standard applies.

- See *also* 40 C.F.R. §51.100(s), which excludes methane from the definition of VOCs.

Methane Regulation

Oil & Gas – New & Existing Source Performance Standards

NSPS Subpart (40 C.F.R. Part 60)	Federal Register Publication Date	Pollutant	Affected Sources that commenced construction, modification, or reconstruction . . .
OOOO	8/16/2012	VOCs	New Sources 8/24/2011 – 9/18/2015
OOOOa	6/3/2016	VOCs and Methane	New Sources 9/19/2015 – 12/6/2022
OOOOb	3/8/2024	VOCs and Methane	New Sources 12/7/2022 and after
OOOOC	3/8/2024	Methane	Existing Sources on or before 12/6/2022 <i>(as implemented by an approved State or Tribal Plan or, alternatively, a Federal Plan)</i>

Methane Regulation

Oil & Gas – Performance Standards for New Sources

Evolved/More Stringent Standards

- Green completions of hydraulically fractured gas wells (OOOO) → green completion of gas wells **and** oil wells (OOOOa)
- Storage vessel affected facility threshold: 6 tpy VOC **per tank** (OOOO/a) → 6 tpy VOC or 20 tpy methane **per tank battery** (OOOOb)
- Leak Detection and Repair fugitive emission surveys: 2 times/year for well sites and 4 times/year for booster and compressor stations (OOOOa) → increased frequency (up to bimonthly), depending on type of site (OOOOb)
- **Low-bleed** pneumatic controllers at facilities upstream from gas processing plants (OOOO) → **zero-bleed** pneumatic controllers (now referred to as “process controllers”) (OOOOb)
- Closed Vent Systems designed for **no detectable emissions**, as determined by Audio/Visual/Olfactory inspection (OOOO/a) → **no identifiable emissions**, as determined by optical gas imaging (OOOOb)

New Standards (Originating with OOOOb)

- Associated gas recovery requirements for oil wells: limitations on routine flaring, with eventual elimination of flaring
- Flare monitoring to ensure proper operation
- Well Closure Plans
- Super Emitters (3/8/2024 rulemaking incorporated into OOOOb and OOOOc and retroactively added to OOOOa and OOOO)
- Criteria for legally and practicably enforceable limits to be considered in storage vessel affected facility determinations

Compliance Deadlines for OOOOb Requirements: Vary by affected source, but generally effective as of 5/7/2024, with some phase-in for certain sources and standards—e.g., flaring of associated gas must be eliminated from oil wells that commence construction after 5/7/2026.

Methane Regulation

Oil & Gas – Emission Guidelines for Existing Sources

- In 40 C.F.R. Part 60, Subpart OOOOc, EPA determined the standards of performance for existing sources that reflect the degree of emission limitations achievable through the best system of emission reduction (“BSER”), as identified in EPA’s final Emission Guidelines.
- States and Tribes (if choose to do so) are expected to take over responsibility for implementation of Subpart OOOOc by submitting a State or Tribal (as applicable) Plan to EPA. EPA will implement a Federal Plan if a state or tribe doesn’t submit a Plan or if EPA disapproves the Plan.
- These requirements generally apply to the same source types and apply the same, or nearly the same, BSER as the NSPS OOOOb requirements for new sources, although the limitations are aimed solely at methane emissions (not VOCs).
- EPA may make an exception to a standard if a state or Tribe demonstrates that remaining useful life and other factors warrant a less stringent standard (referred to as a “RUFOL” demonstration).
- Timing:
 - Deadline for submittal of State Plans: 3/9/2026
 - State Plans, if approved by EPA, will become effective (i.e., existing sources will have to comply) by 3/8/2029, although states can set sooner deadlines for compliance.
 - Accordingly, compliance of existing sources with Subpart OOOOc may not be required until 3/8/2029.

Methane Regulation

Oil & Gas NSPS and Emission Guidelines – Potential Points of Challenge

- Original 1979 Source Category = Crude Oil and Natural Gas Production → Transmission and Storage?
- No Methane NAAQS
- Cooperative federalism
- Time allowed for state plan development
- Overly stringent criteria for “legally and practicably enforceable”
- Recent U.S. Supreme Court Decisions
 - *Loper Bright Enterprises v. Raimondo*, Case No. 22-451 (June 28, 2024) (overturned *Chevron*)
 - *Corner Post, Inc. v. Board of Governors of the Federal Reserve System*, Case. No. 22-1008 (July 1, 2024) (reinterpreted when 6-year Administrative Procedures Act statute of limitation begins to run)

Methane Regulation

Oil & Gas NSPS – Current Challenges / Subsequent EPA Actions

- Challenges
 - Consolidated Cases in D.C. Circuit Court of Appeals
 - Case Nos. 24-1504, 24-1059, 24-1101, 24-1103, 24-1111, 24-1114, 24-1115, 24-1116, 24-1117, 24-1118): Petitions for Review and Motions to Stay
 - July 9, 2024: ***Motions to Stay denied by D.C. Circuit***
 - American Petroleum Institute (“API”) and American Exploration and Production Council (“AEPC”): April 5, 2024 Petition for Review
- Subsequent EPA Actions
 - May 6, 2024: EPA Response to API and AEPC Petition for Reconsideration –while continuing to review other issues raised by Petitioners, Discretionary Reconsideration of :
 - (1) vent gas net heating value monitoring and alternate sampling demonstration requirements for flares and enclosed combustion devices; and
 - (2) temporary flaring provisions for associated gas in certain situations.
 - June 11, 2024: EPA Interim Final Rule to Make Technical Corrections to the Final Methane Rule

Methane Regulation

Additional Recent Regulatory Efforts

- U.S. Department of Interior Bureau of Land Management *Waste Prevention, Production Subject to Royalties, and Resource Conservation* Rule (Federal Register publication 4/10/2024; effective 6/10/2024)
- EPA *Greenhouse Gas Reporting Rule (“GHGRR”): Revisions and Confidentiality Determinations for Petroleum and Natural Gas Systems* (Federal Register publication 5/14/2024; generally effective 1/1/2025)
- EPA Methane Fee or “*Waste Emissions Charge*” Rule (proposed 1/26/2024); see also the GHGRR (40 C.F.R. Part 98)
- U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration *Pipeline Safety: Gas Pipeline Leak Detection and Repair* (Notice of Proposed Rulemaking 6/30/2023)

Other Approaches

Other Approaches

INCENTIVES

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Infrastructure
Investment and
Jobs Act &
Inflation
Reduction Act
Federal Funding
Opportunities

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CREATIVE AND COLLABORATIVE SOLUTIONS



VOLUNTARY EFFORTS



