



SWEPi LP COMMENTS ON

- **OIL AND NATURAL GAS SECTOR: EMISSION STANDARDS FOR NEW, RECONSTRUCTED, AND MODIFIED SOURCES REVIEW; PROPOSED RULE (SEPTEMBER 24, 2019)**

DOCKET ID NO. EPA-HQ-OAR-2017-0757

NOVEMBER 25TH, 2019



U.S. Environmental Protection Agency
EPA Docket Center
Docket ID No. EPA-HQ-OAR-2017-0757
Mail Code 28221T
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Re: SWEPI LP Comments on Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Review; Proposed Rule (September 24, 2019)
Docket ID No. EPA-HQ-OAR-2017-0757

SWEPI LP and affiliates supporting onshore exploration and production ("Shell"¹) appreciate the opportunity to submit the following comments on the proposed rule, entitled *Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Review*. In this proposed rule, the Environmental Protection Agency ("EPA" or "Agency") seeks comments on several possible regulatory alternatives for revising the current new source performance standards ("NSPS") for limiting the VOC and methane emissions from the oil and natural gas sector that is codified in the federal regulations at 40 C.F.R. Subpart OOOOa. The primary regulatory alternative under consideration involves removing sources in the transmission and storage segments from the current oil and natural gas source category and rescinding the Subpart OOOOa standards for both VOC and methane emissions that apply to those two segments of the source category, while also rescinding the methane-specific standards that apply to the production and processing segments of the source category. Another alternative involves rescinding all of the methane control requirements applicable under Subpart OOOOa rules, without removing any of the segments within the oil and natural gas source category.

For the reasons discussed below, Shell does not support either of the two proposed regulatory alternatives. EPA should not remove the transmission and storage segments from the current NSPS oil and natural gas source category. Nor should the Agency rescind any of the methane-specific requirements applicable under Subpart OOOOa. Methane is a potent greenhouse gas (GHG) for which its direct regulation is appropriate and necessary in order to address the many challenges of global climate change while further supporting the benefits of the increased use of natural gas for reducing GHG emissions throughout the U.S. economy. Based on these considerations, Shell supports the direct regulation of methane as long as those regulatory control requirements are implemented in an efficient and effective manner that encourages innovation. We believe that such an approach is critically important for ensuring natural gas plays a vital role in transitioning to a low-carbon energy future and economy.

¹ *The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate legal entities. In this publication "Shell" is used for convenience where no useful purpose is served by identifying the particular company or companies.*

Our support for direct regulation of methane is reflected in our commitment to work with the Agency in developing fit-for-purpose regulations for reducing methane emissions from new and modified oil and natural gas sources under Subpart OOOOa. In that regard, Shell has worked closely with EPA to craft an efficient and cost-effective regulatory framework for reducing methane emissions through leak detection and repair (LDAR) programs, enhanced pneumatic device standards, control requirements on regulated storage tanks, and reduced emissions completions on new and modified wells. Furthermore, our support for direct methane regulation extends to existing oil and natural gas sources. Shell has gone on record on many occasions supporting the adoption of cost-effective and flexible federal regulations for limiting methane from existing sources. We believe that the EPA's strong commitment to cost-effective regulation in this area makes the Agency uniquely qualified for developing a workable regulatory framework for reducing methane emissions from the oil and natural gas sector in a cost-effective manner.

Shell's comments below begin by providing an overview of our long-standing commitment to reduce methane emissions from our operations and then highlight many of the important policy reasons why direct federal regulation of methane makes good policy sense for both new and existing oil and natural gas facilities across the entire industry. This discussion is followed with a brief analysis of several important legal issues raised in the proposed rule regarding the Agency's authority to regulate methane emissions under section 111 of the Clean Air Act ("CAA" or "Act"). In particular, the comments address why the CAA does not require the Agency to make an endangerment finding for each air pollutant and whether such a finding is needed to expand the oil and natural gas source category to include the transmission and storage segments.

SHELL'S COMMITMENT TO REDUCE METHANE EMISSIONS

Shell has implemented a wide array of concrete actions to reduce as much as realistically possible the methane emissions from its operations and, to that end, remains committed to achieving an ambitious methane emission intensity target of 0.2% or less by 2025 for all of its assets operated globally. Examples of methane mitigation measures Shell is implementing include: leak detection and repair program on both new and existing sources; the phasing out of high bleed pneumatic devices; close monitoring of liquid unloadings; a program to install electric pumps on dehydration units; improved new facility designs; and enhanced training for operations management.

Shell's efforts to reduce methane emissions is just one important element of Shell's overall strategy to address climate change. Most notably, we have pledged to cut roughly in half the net carbon footprint of our energy products by 2050. Furthermore, Shell's commitment for reducing methane and other air emissions stems from a strong corporate culture of being a good environmental steward focused on continuously improving our environmental performance while providing affordable and reliable energy to the nation and world. Notable examples of the voluntary actions now being undertaken by Shell to help reduce its methane emissions include the following:

- **Asset-Specific Management Plans:** As a complement to our Onshore Operating Principles, Shell has established detailed greenhouse gas (GHG) and energy management plans for our

key oil and natural gas development and production assets. Among other things, the management plans identify those viable GHG mitigation measures that Shell could implement to reduce GHG emissions from its own operated onshore oil and natural gas facilities. The implementation of these plans also will help to reduce emissions of GHG, VOC and other air pollutants by, for example, enabling reductions in fuel gas combustion and optimizing equipment performance. As a general matter, the plans focus on improving performance of our operations in the following three ways:

- Enhancing energy efficiency of facilities, assets, processes and operations, and reliability of our equipment that, in turn, reduces fossil fuel consumed and GHG emitted into the atmosphere;
 - Increased use of alternative energy resources that emit fewer or no GHG emissions to power our assets and equipment, such as electricity, hydro, solar, and fuel cell technologies; and
 - Pursuit of opportunities to upgrade our technology solutions for cost-effectively reducing emissions from Shell's oil and natural gas operations, including increased investments in research and development of new innovative technologies that could go into new designs as part of our continuous improvement efforts.
- **The Environmental Partnership:** Shell is a founding member of an industry initiative to reduce methane emissions across the oil and natural gas value chain. Referred to as "The Environmental Partnership," this voluntary initiative is comprised of almost 70 oil and natural gas producers and midstream operators of all sizes that have made commitments to take specific actions to reduce methane emissions across their operations in the United States. The mission of the initiative is to continuously improve the industry's environmental performance by taking voluntary actions to lower their methane emissions, promoting the use of best practices and new technologies, and fostering collaboration through industry outreach and workshops in order to responsibly develop our nation's essential oil and natural gas resources in an environmentally beneficial manner. Key elements of the Environmental Partnership's strategy to reduce methane emissions include the following actions:
 - Implementation of leak detection and repair programs at designated new and existing oil and natural gas facilities;
 - Replacement, removal, or retrofit of high-bleed pneumatic controllers with low or zero-emitting devices; and
 - Use of best practices to minimize emissions associated with the removal of liquids that can build up and restrict gas flow at natural gas resources.

- **Methane Guiding Principles:** In November 2017, Shell convened and collaboratively worked with the leading global oil and natural gas companies, along with other key stakeholders, to formulate guiding principles for reducing methane emissions from the oil and natural gas sector. These principles were developed as a concerted industry response to the growing climate change challenge and commit Shell and the other signatory companies to implement plans for continuously reducing methane emissions from their operations; advancing strong performance across the whole natural gas value chains; improving the accuracy of methane emissions data; advocating sound policy and regulations for limiting methane emissions; and increasing transparency of methane emission performance levels. A copy of the Methane Guiding Principles is attached to these comments.
- **Other Collaborations for Maximizing Methane Emissions Reductions:** Shell is actively participating in several other initiatives for promoting – to the maximum extent practicable – the reduction of methane emissions across the oil and natural gas value chain. The following is a brief summary of these collaborative efforts for cost-effectively maximizing emissions reductions:
 - *OGCI:* Shell is a member of Oil & Gas Climate Initiative (OGCI), which will collectively invest \$1 billion in low carbon technologies, around a third of which is provisionally allocated to natural gas and methane management. OGCI is a voluntary, CEO-led oil and natural gas industry initiative which aims to catalyze meaningful actions on climate change through collaboration and engagement. Member companies share a will to collaborate, support the Paris Agreement, and are committed to working together to drive the initiative. The 13-member companies represent approximately one quarter of the world's oil and natural gas production.
 - *CCAC:* Shell is a member of Climate and Clean Air Coalition's Oil and Gas Methane Partnership. This global, voluntary program seeks to reduce methane emissions associated with oil and natural gas production. The current Shell implementation plan under this initiative has approximately 20+ upstream and integrated natural gas assets across the globe participating through 2020 with more to be added.
 - *CRSD:* Shell is a member of the Center for Responsible Shale Development (CRSD), an audited and certified program that delivers responsible stewardship of the environment and its resources. The performance standards cover key areas, including measures to limit emissions. These standards are audited through a third-party certification process.
 - *GGFR:* Shell has been an active member of the World Bank-sponsored Global Gas Flaring Reduction (GGFR) partnership since 2002. This public-private partnership helps reduce flaring by working collaboratively to find alternative uses for natural gas that would otherwise be flared. As part of the partnership, the World Bank has developed the "Zero Routine Flaring by 2030" initiative, which Shell signed up to in 2015. This

encourages governments, companies and development organizations to work together to end the disposal of gas by flaring. The initiative aims to identify ways to use natural gas from oil production – for example, to generate electricity for local communities.

- **Technology Innovation and Research:** Shell continues efforts in a wide range of research and development initiatives for advancing technologies for the monitoring, reducing, and avoidance of methane emissions from our operations. Many of these actions involve partnerships with laboratories, universities, NGOs, vendors, suppliers and other industry participants. Notable examples include the following:
 - Environmental Defense Fund’s Methane Detectors Challenge (MDC) for accelerating technology innovation detection in the oil and gas sector;
 - Mobile Monitoring Challenge (MMC) led by Stanford University and the Environmental Defense Fund to test and evaluate emerging mobile methane leak detection and quantification technologies that could provide rapid and low-cost assessment of significant methane emissions sources over a large number of facilities;
 - GHGSat Inc. and Shell recently executed a framework agreement for the trialing of monitoring services aimed to obtain methane emissions data from four Shell facilities globally. The initial pilot phase is intended for GHGSat to demonstrate its technology and the reliability of the data recovered.
 - Collaboratory to Advance Methane Science (CAMS) that brings together a diverse group of experts from industry, academia, and the scientific community to advance research on the detection, measurement and quantification of methane emissions across the natural gas value chain.
- **Continuous Data Improvement:** Shell has in place a program to continuously improve the emissions and operational data for achieving its ambitious methane intensity target in the most efficient manner and prioritization of our methane reduction efforts. Our ability to further lower the methane emissions across our operations across the natural gas value chain can be greatly enhanced with this improved emissions and operational data.

POLICY REASONS FOR DIRECT REGULATION OF METHANE EMISSIONS

Reducing methane emissions across the oil and natural gas value chain is a critically important element of an effective strategy for providing reliable and affordable energy while addressing the risks of global climate change. Natural gas plays a major and growing role in meeting the nation’s energy demand. Given that methane is a potent greenhouse gas, our success in transitioning to a low-emitting clean economy will be affected by the extent to which the oil and natural gas sector can reduce efficiently and effectively its methane emissions.

The importance of natural gas to achieving our climate change goals cannot be overstated. Increased production and use of natural gas in the United States is significantly contributing to GHG emission reductions being achieved throughout the U.S. economy. One key indicator of this trend is a recent report by the U.S. Energy Information Administration confirming that approximately two-thirds of the GHG emission reductions in the power sector since 2005 are attributable to the shift from coal- to natural gas-fired generation.² Furthermore, the increased reliance on natural gas-fired generation in the electric power sector is playing a critical role in supporting the increased integration of renewable resources – specifically, providing fast-ramping natural gas generation as a dispatchable energy resource to complement the intermittent availability of renewable energy resources, such as solar and wind. In addition, the export of natural gas produced in the United States and shipped in the form of liquefied natural gas is helping to displace the use of more carbon-intensive fossil fuels for electricity generation and industrial operations in other countries. In order for natural gas to continue to provide these important climate mitigation benefits, it is crucial for industry to limit methane emissions throughout the oil and natural gas value chain.

As noted above, Shell is taking many steps to reduce methane emissions from its operations and is participating in a wide array of collaborations and partnerships with industry, academic institutions, environmental groups, and other stakeholders in order to develop better practices and technologies for measuring, monitoring, and reducing methane emissions. These efforts have paid great dividends for not just Shell, but the entire oil and natural gas industry. Based on these efforts, the oil and natural gas industry has already substantially lowered its costs of reducing and avoiding methane and other GHG emissions from all segments of the oil and natural gas sector, including those in production, processing, transmission, and storage of natural gas. Building upon these methane mitigation accomplishments so far achieved, the most effective and efficient way to lower further methane emissions is through the implementation of a flexible, but comprehensive, framework for the direct federal regulation of methane emissions from all legitimate segments of the oil and natural gas source category. In addition, such a comprehensive regulatory approach makes good policy sense for both new and existing oil and natural gas sources provided that those regulations establish a workable, fit-for-purpose, regulatory framework that allows for technological innovation and can be implemented in an efficient and cost-effective manner.

The current Subpart OOOOa NSPS regulations generally established such a workable and effective framework for reducing methane and VOC emissions from new, modified, and reconstructed sources within all segments of the oil and natural gas source category. That regulatory framework is based on the establishment of work practice standards that allow for, in many cases, the use of innovative new technologies for achieving emissions reductions in the least-cost manner. Over the last two years, EPA has been working to improve upon the workability and effectiveness of Subpart OOOOa NSPS regulations for new, modified, and reconstructed sources. Once adopted, these improvements should spark additional technological innovation and innovative approaches that hold the promise of further reducing the cost of methane detection and mitigation. We urge EPA to complete the current

² https://www.eia.gov/environment/emissions/carbon/pdf/2017_co2analysis.pdf, at p. 12

rulemaking efforts to adopt and incorporate these improvements into the current federal Subpart OOOOa regulations.

For similar reasons, it makes good policy sense for EPA to extend this same flexible, fit-for-purpose NSPS regulatory framework to the regulation of methane emissions from existing oil and natural gas sources under section 111(d) of the CAA. We believe that the EPA's strong commitment to establish cost-effective regulatory requirements in this area makes the Agency uniquely qualified for developing workable methane rules for reducing methane emissions from existing oil and natural gas sources in the least-cost manner. Reducing methane emissions from existing sources across the oil and natural gas value chain is a critically important element of an effective national strategy for providing reliable and affordable energy while addressing the risks of global climate change.

And finally, Shell believes that the direct federal CAA regulation of methane emissions from new and existing sources helps build public confidence in the environmental responsibility and stewardship of the oil and natural gas industry and our ability to deliver clean and dispatchable energy that will lower the nation's carbon footprint. Viewed from this perspective, EPA's proposal to narrow the oil and natural gas source category and remove the methane control requirements from the Subpart OOOOa rules will clearly undermine the environmental policies outlined above for addressing climate change while delivering reliable and affordable energy to consumers. Furthermore, it will likely have counterproductive ramifications for the efforts of the oil and natural gas industry, as well as the nation as a whole, to establish and implement an effective energy strategy for meeting the many challenges of global climate change.

KEY THRESHOLD LEGAL ISSUES ON THE DIRECT REGULATION OF METHANE

In the proposed rule, EPA raises two important threshold legal issues relating to its authority to regulate methane emissions from the oil and natural gas sector. The first issue is whether the statute requires EPA to make a specific endangerment finding for methane emissions from the oil and natural gas source category before methane may be regulated under section 111 of the CAA. If such an endangerment finding is a prerequisite for methane regulation, the current Subpart OOOOa performance standards for methane would be legally deficient and arguably must be rescinded because the Agency never made an endangerment finding for methane but instead generally relied on the endangerment finding that the Agency had previously made for the oil and natural gas source category. The second issue is whether a new endangerment finding is required before EPA may expand the oil and natural gas source category to include the transmission and storage segments of the source category. Notably, the initial endangerment finding for the source category was limited to only the production and processing segments in the initial NSPS rulemakings in 1979 and 1985,³ and EPA never formally made an endangerment finding with respect to the transmission

³ See 44 Fed. Reg. 49,223 (August 21, 1979) (making an endangerment finding for crude and natural gas production); 50 Fed. Reg. 26,122 (June 24, 1985) (making an endangerment finding for natural gas processing plants).

and storage segments in the subsequent Subpart OOOO and OOOOa rulemakings in 2012 and 2016, respectfully.

The comments below address each of these two key threshold legal issues. As discussed below, both issues not only have important precedential ramifications for the regulation of stationary source categories under section 111 of the CAA, they also have significant implications with regards to EPA's authority to control methane emissions from the oil and natural gas sector under section 111 of the Act.

Requirement for Pollutant-Specific Endangerment Finding

The EPA set NSPS control requirements for limiting methane emissions from new, reconstructed, and modified oil and natural gas sources based on the authority provided in section 111(b)(1) of the CAA. This provision of the Act generally authorizes EPA to set performance standards for a source category if EPA determines that the source category "causes, or significantly contributes to, air pollution which may reasonably be anticipated to endanger public health and welfare." This determination is commonly referred to as an "endangerment finding" and is a prerequisite for the listing and regulation of any source category under CAA section 111.

In the case of Subpart OOOOa NSPS rulemaking for regulating methane emissions from the oil and natural gas source category, EPA interpreted the statute to require an "endangerment finding" (as described above) to be made for the source category, and not the air pollutant. EPA based its interpretation on the fact that CAA section 111(b)(1) does not specify which air pollutants EPA should regulate once it lists a source category for NSPS regulation pursuant to an affirmative endangerment finding. Rather, the Act provides EPA with broad discretion to decide which pollutants to regulate from an already-listed source category so long as the Agency has a "rational basis" for doing so.⁴

This approach is the statutory interpretation that EPA used in setting performance standards for methane in the Subpart OOOOa rulemaking. Furthermore, the Agency is proposing to retain its past interpretation that a pollutant-specific endangerment finding is not required in the current rulemaking.⁵

Under this statutory interpretation, EPA has the authority to set new source performance standards for methane emissions from the oil and natural gas source category given that the Agency had previously made an endangerment finding for the already-listed oil and natural gas source category and relied on this endangerment finding in setting new source performance standards for various other air pollutants (such as VOC, SO₂, and NO_x) that are emitted from affected facilities within the source category. Following this past precedent established in many other NSPS rulemakings, the

⁴ See *National Lime Ass'n v. EPA*, 627 F.2d 416, 431-32, n. 48 (D.C. Cir. 1980). See also *Chevron U.S.A. Inc. v. NRDC*, 837, 843-44 (1984).

⁵ See 84 Fed. Reg. at 50261-62.

EPA found in the Subpart OOOOa NSPS rulemaking that there is “a rational basis” for concluding that methane emissions from the oil and natural gas sector “merit regulation under CAA section 111.”⁶

Shell agrees with EPA’s interpretation of the statute and supports the Agency’s proposal to retain its current interpretation that a pollutant-specific endangerment finding is not necessary for regulating methane emissions in the Subpart OOOOa rulemaking. Furthermore, we believe that even if the statute could be interpreted to require a separate endangerment finding for methane (which is not the case), the EPA could easily make such an endangerment finding based on the information and conclusions contained in the Subpart OOOOa rulemaking record that provided a rational basis for regulating methane from the oil and natural source category. As EPA has properly noted in the proposed rule, the scientific data and other supporting documentation that EPA marshalled on the adverse climate change effects of GHG emissions in support of its original 2009 endangerment finding for motor vehicles “have only grown stronger and the potential adverse consequences of GHG to public health and the environment more dire.”⁷ Under this alternative approach, EPA effectively would be using the same Subpart OOOOa rulemaking record to make an endangerment finding for the regulation of methane from the already-listed oil and natural gas source category.

Expansion of the Source Category

As already noted above, EPA’s original source category listing for the oil and natural gas sector, issued in 1979 and updated in 1985, included only the production and processing segments of the source category. In the subsequent Subpart OOOO and OOOOa rulemakings, the Agency expanded the source category by interpreting the source category to include the transmission and storage segments of the oil and natural gas industry. In the alternative, the Subpart OOOOa rule justified the expansion of the source category by formally revising the source category to include the transmission and storage segments. However, under either approach for justifying the expansion of the oil and natural gas source category, the Agency never made a formal finding that emissions from the transmission and storage segments cause or significantly contribute to air pollution that endanger public health or welfare, as required by section 111(b)(1) of the CAA.

Shell has concerns that EPA’s abbreviated procedures for expanding the oil and natural gas source category may not have strictly adhered to the source-category listing requirements of CAA section 111(b)(1), as described above in the prior section. To the extent that there is an inconsistency with the relevant statutory requirements, the proper remedy should not be for the Agency to remove the transmission and storage segments from the oil and natural gas source category. Such an outcome would be counterproductive of the overall environmental and policy objective of assuring the establishment of flexible, fit-for-purpose regulatory framework for limiting methane and VOC emissions from all legitimate segments of the oil and natural gas source category. Rather, EPA should take the appropriate actions to make a defensible endangerment finding for the transmission

⁶ 81 Fed. Reg. 35,824, 35842 (June 3, 2016).

⁷ 84 Fed. Reg. at 50,261, footnote 68. See also 81 Fed. Reg. at 35,843 (the Final Subpart OOOOa rule).

and storage segments in order to rectify any potential deficiencies of the source category expansions adopted in the 2012 and 2016 rulemakings.

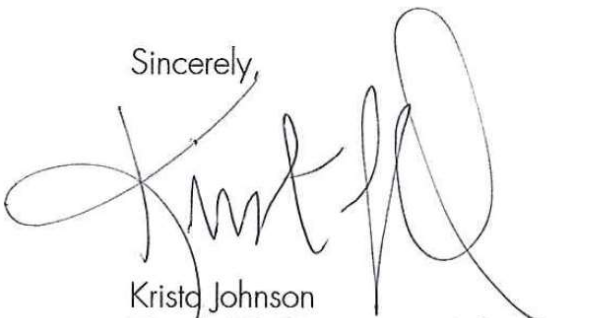
As EPA correctly notes, the statute affords the Agency considerable discretion in determining the scope of a source category when listing source categories for NSPS regulation under CAA section 111(b)(1).⁸ Furthermore, this discretion is not just limited to when the Agency lists source category at the outset of the NSPS regulatory process, but also extends to an Agency's decision to modify the source category "by revising its scope, once EPA has listed that source category."⁹ If demonstrated by the rulemaking record, the expansion of the original oil and natural gas source category in this case makes good policy sense because the expansion would add the remaining major components of the natural gas value chain that are functionally related to and necessary for the production, processing, transmission, and distribution of natural gas to end users and consumers.

CONCLUSION

Shell remains committed to taking action in our operations to protect the environment, including the implementation of effective measures for reducing methane emissions from our oil and natural gas operations. To that end, we look forward to continuing our work with EPA to establish and implement workable and effective regulations, as well as voluntary programs and initiatives, for addressing the many challenges of global climate change while ensuring natural gas plays a vital role in transitioning the nation to a low-carbon economy.

Shell appreciates the opportunity to submit comments on the proposed rule that raises important policy and legal issues for the regulation of methane emissions from the oil and natural gas source category under section 111 of the CAA. If you should have any questions concerning these comments, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Krista Johnson', with a large, stylized loop at the end.

Krista Johnson
Head, US Government Relations
Shell Oil Company

⁸ 84 Fed. Reg. at 50,254.

⁹ 84 Fed. Reg. at 50,256.

Reducing methane emissions across the natural gas value chain

Guiding Principles

Providing access to energy, while addressing global climate change, is one of the greatest challenges of the 21st century. Natural gas plays a major role in meeting global energy demand today. Since natural gas consists mainly of methane, a potent greenhouse gas, its part in the transition to a low-carbon future will be influenced by the extent to which the oil and gas industry reduces its methane emissions.

These Guiding Principles focus on priority areas for action along the natural gas value chain, from production to the final consumer. They are complementary to and mutually reinforcing of other initiatives, including the Oil and Gas Climate Initiative and the Climate and Clean Air Coalition's Oil and Gas Methane Partnership.

These principles were developed collaboratively by a coalition of industry, international institutions, non-governmental organisations (NGOs) and academics. The signatory companies below commit to undertake the principles, the implementation of which will be defined in an action plan. A concerted industry response is needed to increase focus on the reduction of methane emissions. Therefore, signatories will encourage other companies to apply the principles.



THE GUIDING PRINCIPLES

These principles, which address priority areas for action highlighted in International Energy Agency's World Energy Outlook 2017, focus on reducing methane emissions across the natural gas value chain. The signatories intend to apply them concurrently. In the context of these principles, methane emissions refer to venting, fugitive (unintended) emissions, and incomplete combustion, including during flaring. In pursuing significant emission reductions through these principles, parties will consider cost effectiveness and efficiency. All activities will be undertaken in compliance with applicable anti-trust and competition laws.

1. Continually reduce methane emissions

- We establish and maintain plans to systematically monitor and reduce methane emissions from identified sources in our existing operated assets, and we will prioritise higher emitting operations. We incorporate the management of methane emissions in maintenance plans, and the design and construction of our new projects. We encourage these actions in non-operated assets.
- We will reduce venting, and fugitive methane emissions, and improve combustion efficiency. We implement systematic leak detection and repair programmes, prioritising potential higher emitting sources.
- We implement and continue to develop effective technologies and practices for monitoring and reducing methane emissions, and consider them in our project engineering and design.
- We provide financial and operational support for the development and deployment of innovative technologies and approaches that monitor and reduce methane emissions.

2. Advance strong performance across gas value chains

- Given that it is necessary to understand methane emissions across the whole natural gas value chain, we seek to engage with upstream, midstream and downstream participants to undertake studies to that end.
- Through industry partnerships, trade associations and proactive stakeholder engagement, we work to help improve approaches to and the application of robust methane emissions management, including sound estimation, detection and abatement practices, as well as robust reporting as defined in Principle 5.

3. Improve accuracy of methane emissions data

- In operated assets, we continuously improve methane emissions data collection methodologies to improve the accuracy of methane emissions data.
- We will support research that improves the accuracy of the quantification of methane emissions, and make progress towards verifiable reductions.

4. Advocate sound policy and regulations on methane emissions

- We advocate for sound methane policies and regulations that incentivise early action, drive performance improvements, facilitate proper enforcement, and support flexibility and innovation.
- We work constructively with international institutions, governments, industry and NGOs in the development and implementation of effective methane abatement policies or regulations.

5. Increase transparency

- We provide information in our relevant external reports on methane emissions data, methodologies used to derive these data, and progress and challenges in methane emissions management.
- We contribute towards the standardisation of comparable external methane reporting, thereby simplifying the reporting process, which may encourage others to participate.