

BP Internal

US Methane Policy

Given BP's publicly stated intent to lead on methane issues, BP America must have a coherent strategy to navigate the growing controversy regarding methane regulation in the US. This note includes: (a) regulatory and political context; (b) a discussion of L48 historical and prospective methane reductions; (c) a review of NGO reaction to the ongoing Trump Administration methane actions; and (d) a summary of a methane event BP America is hosting in Washington, DC on October 1st. In addition, attached is a draft US methane policy statement being discussed with L48.

US Regulatory & Political Context: the impending controversy and policy solution

After the 2010 failure of cap ~~and~~ trade legislation in the US Congress, the Obama Administration announced its Climate Action Plan, which focused on using existing statutory authorities to address climate change. Regulation of methane from the ~~Oil & Gas~~ oil and gas (O&G) sector was a key pillar of the plan.

In mid-2016, the US Environmental Protection Agency (EPA) finalized a regulation that applied to emissions of volatile organic compounds (VOC) and methane from new and modified sources in the O&G sector (known as the Quad Oa rule). Under the relevant statute, the regulation of new and modified sources is a prerequisite to, and trigger for, the development of a rule applicable to existing sources ~~— which comprising~~ most sources in US ~~o~~ onshore operations.

Recognizing that an EPA existing source rule might take several years to finalize, in late 2016, the Obama Bureau of Land Management (BLM) finalized a rule similar to the EPA rule, but which applied to all sources (including *existing* sources) on federal and tribal leases. Since BLM does not have authority to regulate on private leases, a gap still existed with respect to existing sources on private leases.

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Most importantly, in 4Q 2018 or 1Q 2019, we expect EPA to propose to eliminate the direct regulation of methane from its 2016 rule. API refers to this as the “Policy Rule ~~to distinguish it from the Technical Fixes rule.~~” The Policy Rule will continue to regulate emissions of VOCs, (which reduces methane as a co-benefit). The main purpose of deregulating methane is to remove the legal trigger for issuing an existing source methane rule. All of these rule changes will be controversial, but the Policy Rule will draw the most attention since it will delay the regulation of methane emissions from ~~of~~ existing sources for many years.

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L48 Methane Accomplishments & Forward Plan

BP's Lower 48 business has reduced its total greenhouse gas emissions by more than 2 million metric tonnes of CO2 equivalent (CO2e) since year 2000, with methane reductions accounting for most of the decline.

Of note, it has replaced ~~~99%~~approximately 99 percent of its high-bleed pneumatic controllers with continuous low-bleed, or intermittent, pneumatic controllers, and it implemented "green completion" technology before such technology was a regulatory requirement.

Recently, the business has conducted a holistic review of its remaining methane footprint (not including the BHP assets) and identified a number of potential projects, some of which are being executed in 2018. There are two cost-effective options for additional performance improvement that L48 is considering. BP America and L48 are discussing whether these options can become commitments that can be discussed publicly.

The first option is to expand the L48 LDAR program to all existing sites. L48 had internally committed to this option before the BHP deal was announced, but is now reassessing this option. If implemented, the LDAR expansion would be expected to occur incrementally based on through 2021. The timing is contingent on the success of ongoing trials of innovative remote leak detection technologies that could help operators identify and intervene more efficiently to address methane leaks. In addition, the schedule may also depend on the timing of the closing of the BHP acquisition and as well as the sale of other assets in the L48 portfolio.

Implementing this option would establish leadership on existing sources just as EPA is acting to delay the regulation of existing sources. The L48 action could help develop a cost-effective framework for a future EPA methane rule applicable to existing sources.

~~The second option is to replacing some, or all of, the North Business unit gas-driven, pneumatic heat-trace pumps with solar pumps in the North Business unit.~~

If implemented, the The North BU pump replacements would be expected to occur in phases and the timing may be influenced by the potential sale of impacted assets. gradually. We expect "X" pumps to be replaced in 2018,

and this will deliver “Y” thousand MTe of CO2e of real sustainable reductions. Any replacements beyond 2018 are dependent on the potential sale of the Wamsutter asset.] This option would also demonstrate leadership and generate significant methane reductions.

US NGO Reaction

Many NGOs have reacted very negatively to the Trump Administration changes to efforts to roll back the Obama Climate Action Plan. The Environmental Defense Fund (EDF) has shown a particular n acute interest in efforts to roll back methane regulations. EDF and BP America have held several conversations recently in which EDF stated its intent to hold accountable companies who claim to be leaders on methane issues accountable, but who support (or do not oppose) the EPA and BLM rulemakings. On September 12th, EDF blogged “[w]ill companies positioning themselves as leaders support effective regulation of methane emissions, or stand by as rules are weakened and ultimately dismantled?”

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Second, they object to EPA’s proposal to reduce the frequency of leak detection sampling for small volume wells (“stripper wells”). The immediate effect of this action is very limited since few (if any) new or modified wells will meet the 15 boe/day maximum on stripper wells. We believe EDF’s objection may be based on the precedent it might set for less frequent sampling or even a full exemption for stripper wells from a future existing source rule (many thousands of existing wells meet the definition).

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If L48 agrees, we would likely would like to share these options with EDF and the broader public as part to the overall campaign, perhaps beginning on during an October 1, 2018, when methane event that BP America is hosting a methane event in Washington DC.

Despite the difficult conversations with EDF over the past weeks, they have agreed to participate in the October 1 event.

October 1 Event

To demonstrate leadership on methane management in the US, in 2Q, L48 and BP America agreed in 2Q to engage with key external stakeholders, including NGOs, think tanks, industry competitors and regulators.

To advance this commitment, BP America will host a 1/2-day methane event-workshop on October 1, 2018 in Washington, DC. This will, to bring together the diverse stakeholders to discuss the best approaches for managing methane from an operations and policy perspective.

The event will follow a format similar to like the April 2018 event held in London and will begin with an update on the state of methane science and a discussion by BP executives regarding of our global and US-specific approaches to emission reductions and methane policy principles.

The event will also include three simultaneous break-out sessions with targeted conversations on (i) regulation and policy, (ii) US onshore operational challenges and opportunities, and (iii) leak detection and quantification technology emissions detection and measurement. These sessions will be facilitated by important external institutions such as CSIS, Brookings and C2ES.

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The objective of the event is to improve dialogue among the diverse group of attendees to help establish a solid network of methane experts in US. Ultimately, the goal is a more pragmatic approach to methane regulation in the US when the political environment changes.

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Appendix

U.S. Methane Policy Holding Statement

- We recognize the ~~need to address the dual~~ challenge of producing and delivering the energy needed for a growing world with fewer greenhouse gas emissions. This includes monitoring and mitigating emissions of methane, a potent greenhouse gas.
- We are **reducing methane** emissions across our operations, as a company, and in association with others in the oil and gas industry.
 - We also support the development of **remote sensing technologies** for detecting and measuring methane leaks.
 - These new technologies are critical to allow for the cost-effective monitoring and mitigation of methane emission in U.S. onshore operations, where natural gas is produced from hundreds of thousands of wells spread across wide geographical areas, many of them very remote.
- We **support well-designed regulation** to reduce methane emissions in addition to voluntarily reducing emissions from our operations.
 - We advocate for sound methane policies and regulations that are **cost-effective and incentivize early action, drive performance improvements, facilitate proper enforcement, and support flexibility and innovation.**
 - Additionally, we work constructively with international institutions, governments, industry and NGOs in the development and implementation of effective methane abatement policies or regulations.
- Our ultimate **preference is for one consistent set of federal regulations** in the U.S., based on the foregoing principles. We will support well-designed regulation that applies to onshore gas production operations, whether on federal, state or private lands, ~~and whether in new, modified or existing operations.~~
- However, we recognize that there is **no consensus currently** across industry, public stakeholders, and the government supporting a single set of federal regulations governing methane emissions.
- Given the current political environment, we believe **USEPA will rescind the direct regulation of methane** for new and modified sources to remove the legal predicate for issuing an existing source rule. The rule will still regulate VOC's, so the emissions impact is minimal – the main impact is that EPA will not need to regulate existing sources.

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- We do not want the perfect to become the enemy of the good. Thus, *in lieu of ~~one set of federal regulations~~, we will support well-designed regulations at the state level* (as we are currently doing in New Mexico).

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- Likewise, we will work with colleagues within our industry to build consensus supporting specific regulations.
- To be successful in these cross-industry efforts, we will need to recognize that often the measures acceptable across the industry may be less stringent than those we are voluntarily implementing or would be willing to include in regulations applicable to our own operations.
- We are optimistic about the *potential for well-designed federal regulations in the future*, following the development of enhanced and more cost-effective technologies for detecting and measuring leaks. But we will not stand still.
- In the absence of comprehensive federal regulation of methane across our portfolio, *we will take the following voluntary actions:*
 - Share a framework for a well-designed methane rule with stakeholders.
 - Test new methane detection and mitigation technologies. Participate in the Environmental Partnership and share what we learn with its members.
 - Work with the Global Methane Guiding Principles group ~~and~~ to adopt and implement “best practices.”
 - Participate in the Oil & Gas Climate Initiative (OGCI) and fund its investment arm, which is keenly focused on methane.
 - Meet our BP global methane ambitions. Our US operations will contribute materially to our global targets of methane intensity of 0.2% and 3.5 million metric tonnes (3.86 US tons) of GHG emission reductions by 2025. Our US onshore business is considering ~~has already identified~~ the following ~~measures~~options:
 - ~~over time, extending an LDAR program to its existing sites operations over time to test technology and approaches that might, someday, be the foundation of a cost-effective federal methane regulation for existing sources; and~~
 - replacing a significant number of pneumatic heat trace pumps with solar pumps.