The Methane Opportunity

How Countries Can Abate Methane from the Oil and Gas Sector Now

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About the Handbook

A ‘how-to’ action guide to empower legislators, regulators, and NOC officials to adopt and enforce legal instruments to reduce methane emissions from the oil and gas sector.

Available here:

https://cldp.doc.gov/methane-abatement-resources

Methane Abatement for Oil and Gas: Handbook for Policymakers

About the Handbook (continued)

- Sponsored by **U.S. Department of State, Bureau of Energy Resources.**
- Drafted over one week in an intense session with 13 expert co-authors.
- Co-written by authors representing:
  - Government (U.S., Sri Lanka, and Bangladesh)
  - NGOs
  - Multilaterals
  - Industry
  - Academia

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Key Takeaways

- Methane, a key component of natural gas, is both a global commodity and a greenhouse gas (GHG) that contributes to climate change
- Near-term methane reduction across all economic sectors, including oil and gas, is vital to achieving global climate goals.
- Methane abatement can generate revenue, improve energy access, create jobs, enhance energy security, provide access to investment, enhance safety, advance community health, and showcase leadership.
- Governments can design win-win oil and gas methane abatement policies to achieve these objectives.
- Governments can seize the methane opportunity, abating emissions and advancing their economic and social goals.

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Why Methane?

- Methane is the primary component of natural gas, which today plays a significant role in the energy mix of many countries.
- Used for: Power generation, industry, residential heating, and a critical feedstock for fertilizer, ammonia, and other chemical and petrochemical goods
- In replacing coal, it has been critical in improving air quality and reducing CO2 emissions.
- But methane is also a **potent short-lived greenhouse gas (GHG)**, with a climate impact of between 84 times (over 20 years) or 28 times (over 100 years) more powerful than CO2.

Methane lead rates must be below 2.4-3.4 percent for coal-to-gas substitution to produce a net climate benefit!

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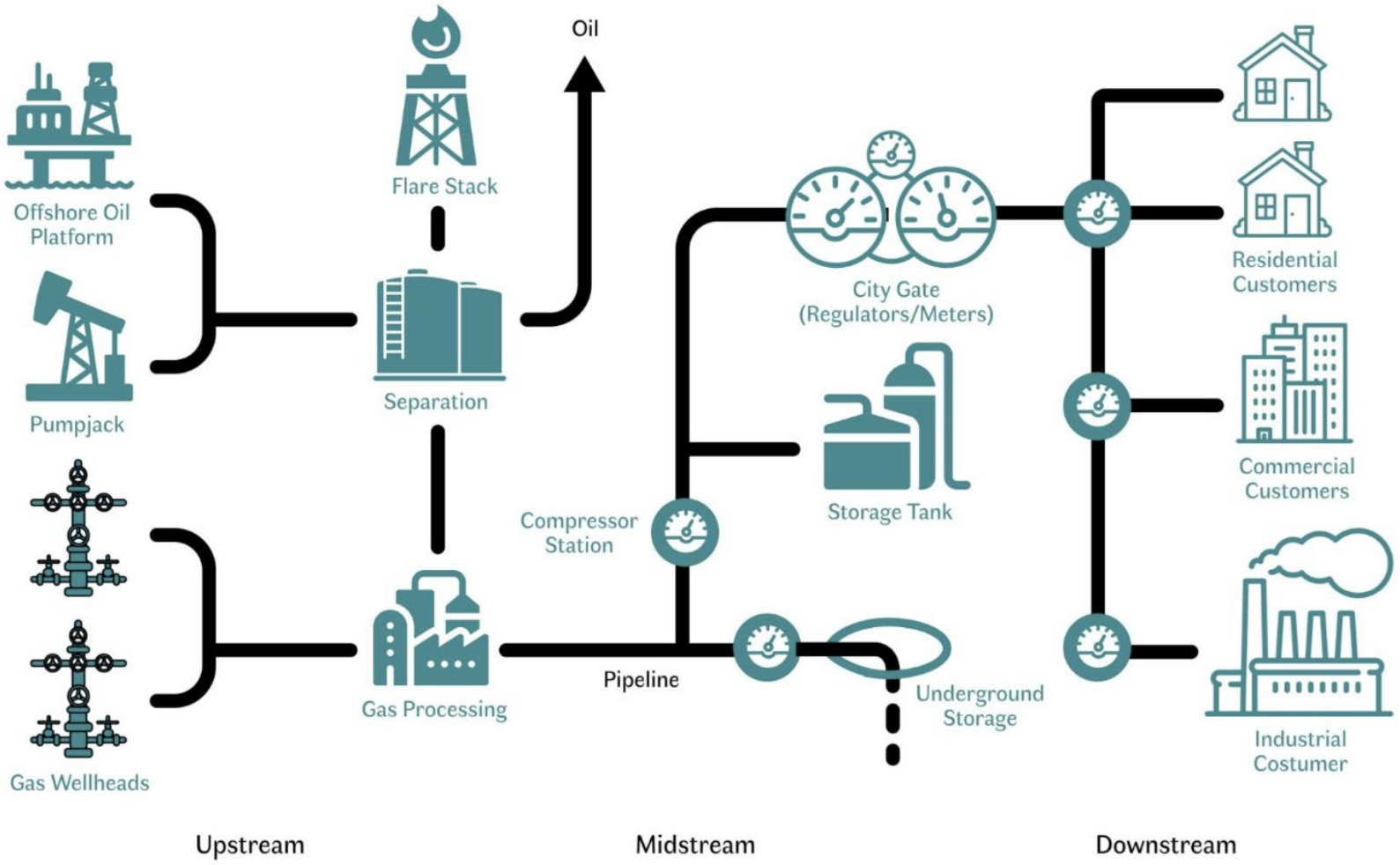
Methane in the Oil and Gas Value Chain



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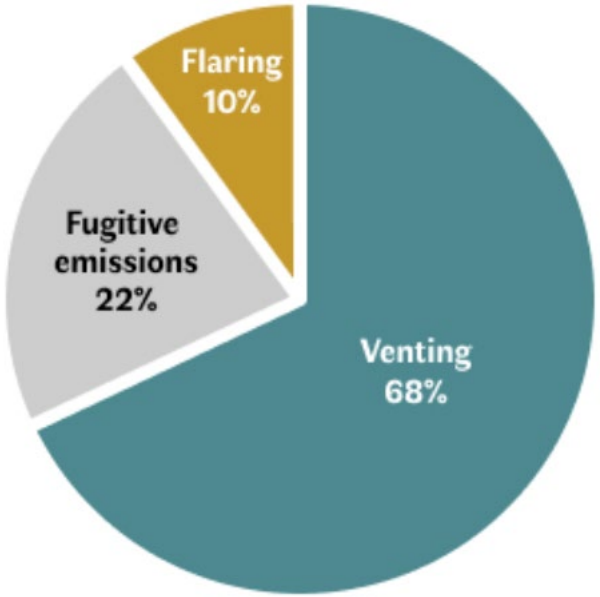
Methane emissions from O&G

Flaring. The intentional burning of natural gas to relieve pressure in upset conditions or when sending gas to sales is not feasible. When flares combust natural gas, most methane is converted to CO_2, but some methane remains uncombusted.

Venting. The intentional release of natural gas arising from a process or activity directly into the air.

Fugitive emissions. The unintentional release of methane from leaks, for example, from valves or flanges. Since methane is colorless and odorless, leaks can go undetected without regular inspection.



The Opportunity

- **Governments are prioritizing methane**. More than 150 countries have joined the Global Methane Pledge (GMP), which commits to collectively reduce man-made methane by at least 30 percent below 2020 levels by 2030.
- **Some 70% of methane from oil and gas can be reduced with well-known technology that is currently available**. Rapid reduction is feasible, and the technology is time-tested and ready for deployment.

Global Methane Pledge

The Opportunity

- **Reducing methane can be a "win-win**". When done right, methane abatement from oil and gas can promote economic growth, worker safety, community health, job creation, and international competitiveness.
- **The "how" matters!** How a country decides to abate methane emissions from oil and gas will determine how it reaps the economic and social benefits.

Methane Abatement Considerations

- Costs
- Revenues
- Capacity
- Jobs
- Technology

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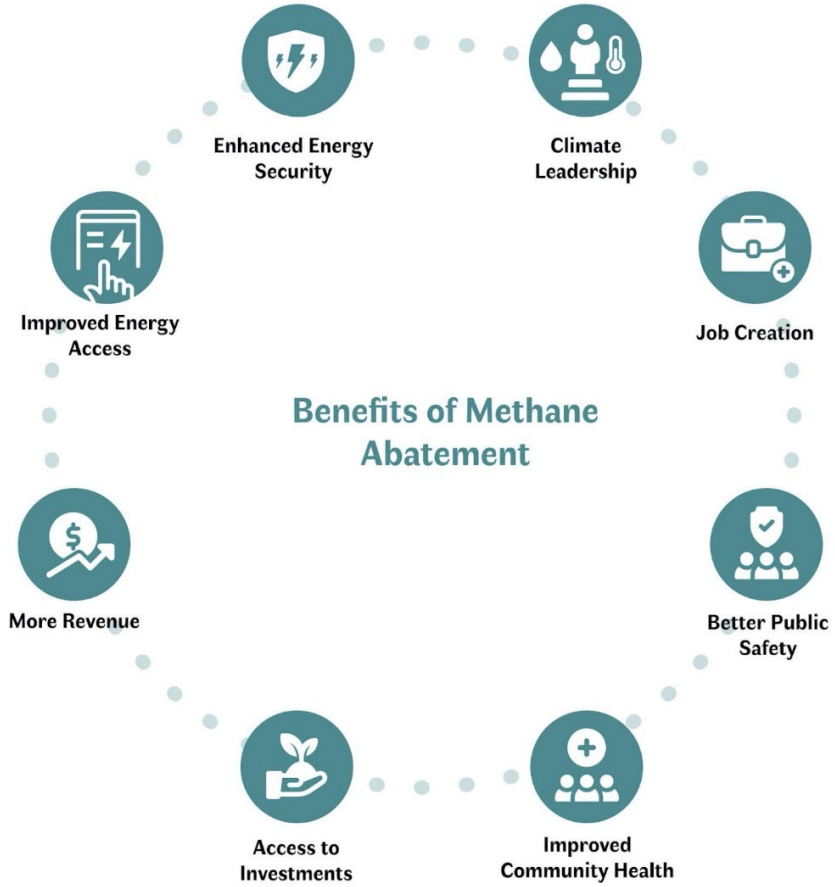
Methane Abatement Benefits

- More Revenue
- Improved Energy Access
- Job Creation
- Enhanced Energy Security



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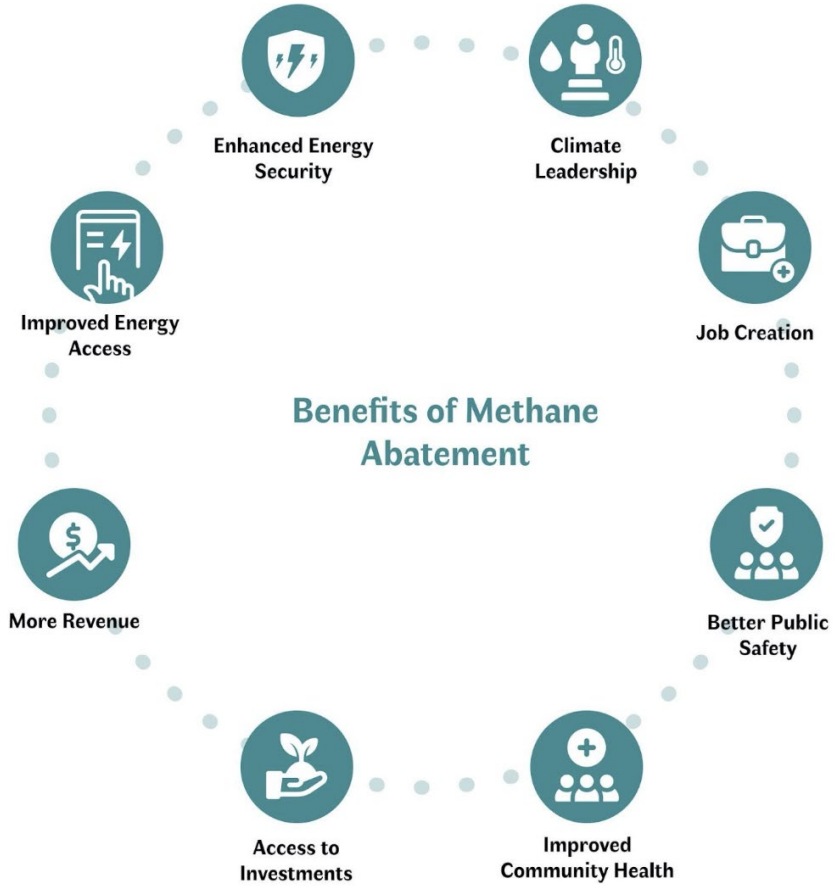
Methane Abatement Benefits

- Access to Investments
- Better Public Safety
- Improved Air Quality
- Climate Leadership



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Capturing and Using Methane

- One way to reduce methane is to capture natural gas, instead of flaring it, and use that captured gas, such as for power generation.
- In some cases, these projects require little to no funding by the government, because private developers and operators see a valuable revenue stream from the sale of that power.
- There are numerous projects that prove the profitability of gas-to-power and gas-to-market projects.

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Case Study: Gas-to-Power in Egypt

- Flaring offers some of the highest value opportunities for methane abatement.
- In Egypt, for example, new gas-fired power generation used natural gas that had previously been flared, and converted it into electricity.
- This electricity also replaced dirtier diesel generation. This project reduced an estimated 42,000 CO2-equivalent tonnes per year a result of both the reduction in flaring and the replacement of diesel power generation.

FlareIntel

Leadership on flaring in Egypt: Recent successes and future opportunities in the lead-up to COP27

The Opportunity

"Readily-available cost-effective methane emission measures have the potential to avoid over 0.2 degrees C of warming by 2050"

Countries that embrace the analyses, tools, standards, practices, and commitments to reduce methane from oil and gas will maximize the benefits!

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