

Flaring and Venting



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Methane Abatement for Oil and Gas: Handbook for Policymakers

About the Handbook

A 'how-to' action guide to empower legislators, ministries, regulators, and NOC officials to adopt and enforce legal instruments that will rapidly and effectively 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



Methane Abatement for Oil and Gas: Handbook for Policymakers

About the Handbook (Cont.)

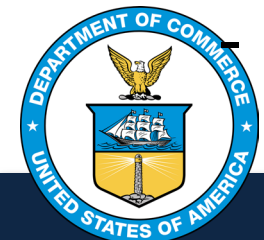
- Sponsored by **U.S. Department of State, Bureau of Energy Resources.**
- Drafted over one week in an intense session with 13 expert co-authors.
- Co-written by authors representing:
 - Government (U.S., Sri Lanka, and Bangladesh)
 - NGOs
 - Multilaterals
 - Industry
 - Academia



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Key Takeaways

- Addressing the flaring and venting of natural gas is one of the primary ways regulators can abate oil and gas methane emissions.
- Technologies to reduce or eliminate routine flaring and venting are well-known and, with appropriate infrastructure, can be deployed.
- A number of countries have adopted regulations to reduce flaring and venting. These flaring and venting regulations generally include several key features, which this chapter discusses in more detail.
- Colombia and Kazakhstan have recently enacted new regulations to reduce flaring and venting. This section looks at their regulations for insight into how other regulators can craft their regulations.



Flaring and Venting

Features of Flaring and Venting Regulations

There are tried-and-tested regulatory options for regulators to reduce or prevent routine flaring or venting:

- **Measure and report** – Many governments require operators to report volumes of gas flared or vented, either through direct measurement or estimations using gas-to-oil-ratio and oil production volumes.
- **Royalties, penalties, and other economic incentives** – A flaring royalty or tax can provide a monetary incentive for companies to reduce their flaring. These charges can be imposed on all flared volumes or volumes above a threshold.

Incentives to increase gas utilization – Some countries incentivize the creation of a domestic market for flaring gas, and some require operators to develop gas utilization plans and offer direct investments in infrastructure for gas utilization or other incentives to encourage gas utilization.

Flaring efficiency – Some flares may not function properly and may operate less efficiently than industry standards; improving flare efficiency is an important technology development and emission reduction research area.



Features of Flaring and Venting Regulations (cont.)

- **Exceptions to bans on flaring and venting** – Flaring is often allowed for safety purposes or to protect human health.
- **Reduction of flaring over time** – The World Bank Global Gas Flaring Reduction Partnership (GGFR) secures global commitments from governments and companies to end routine gas flaring.
- **When a permit is required** – Some jurisdictions require operators to obtain a permit for flaring, which provides an opportunity to collect information on emissions levels.



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Example: Flaring & Venting Restrictions in Colombia

- Columbia has significantly reduced flaring through regulations and the effort of its national oil company (Ecopetrol).
 - Absolute flare volumes reduced by 75%
 - Flaring intensity reduced by 65%
- In general, flaring is not allowed, with limited exceptions for safety, planned maintenance, and economic non-viability.
- Operators must submit information and justification for an annual permit for gas flaring, including in emergencies or for safety reasons.
- Operators must monitor and verify their flare efficiency and gradually reduce flaring over time, with exceedances subject to royalties and penalties.

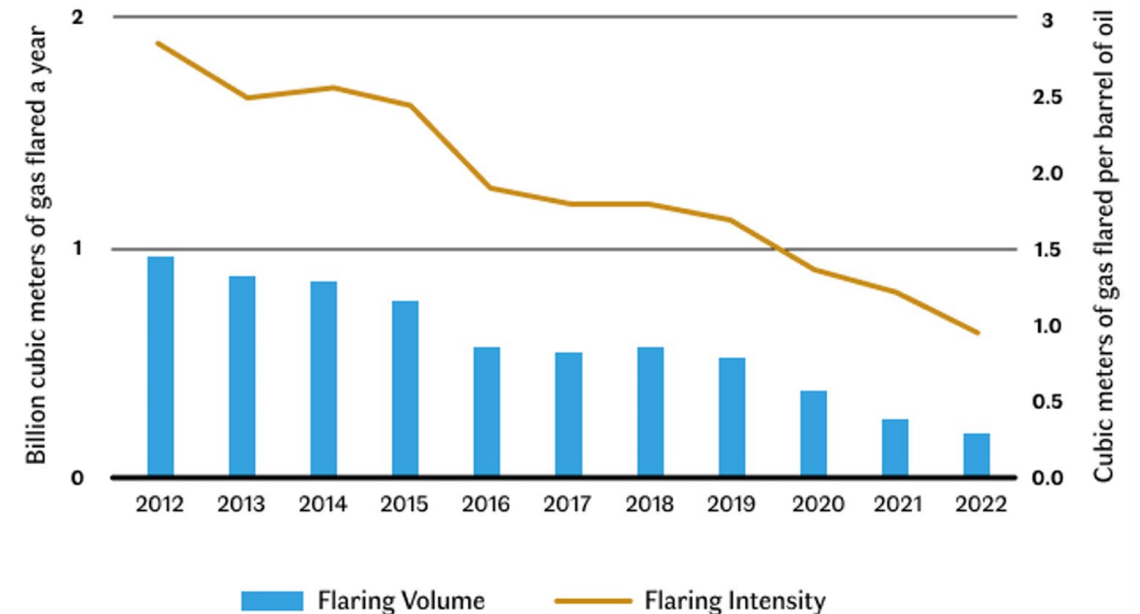


Figure 6.1: Flaring volumes and intensity in Colombia, 2012-2022.⁶²



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Example: Associated Gas Utilization in Kazakhstan

- Kazakhstan provides an example of how a country can reduce flaring by encouraging the use of associated gas.
- Operators are required to develop a plan to utilize associated gas before receiving permission to construct new oilfield projects.
- This requirement may help create a domestic market for associated gas and incentives for the installation of necessary infrastructure.
- Because companies are required to actively seek out utilization opportunities, this creates a business opportunity for companies that may be able to use that gas productively.

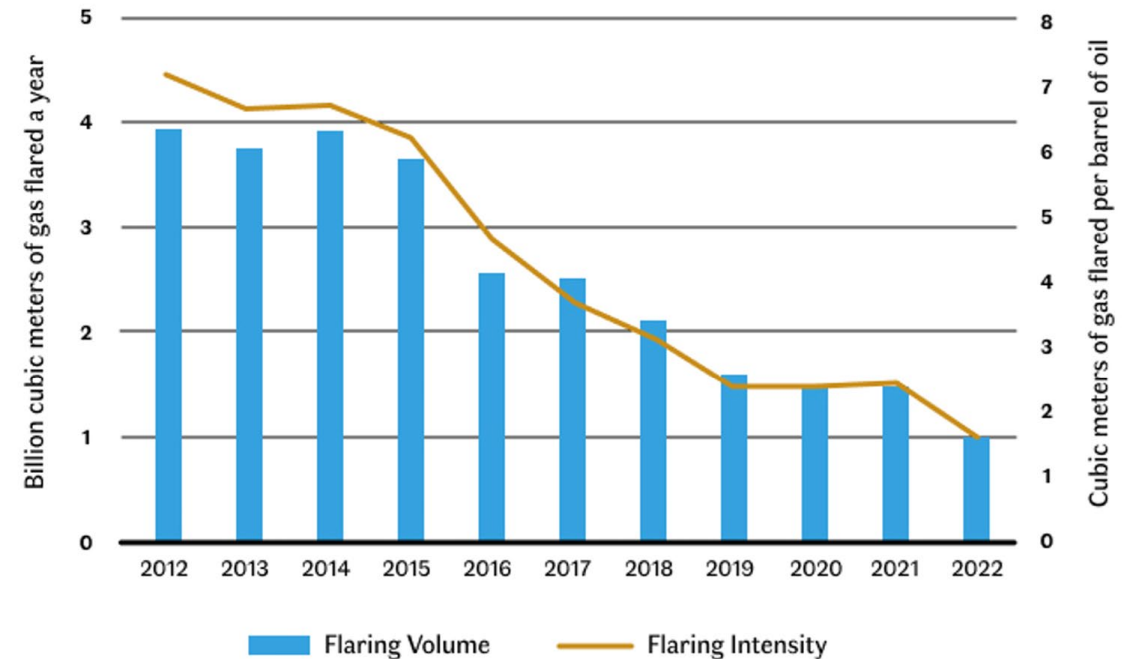


Figure 6.2: Flaring volumes and intensity in Kazakhstan, 2012-2022.⁶⁷



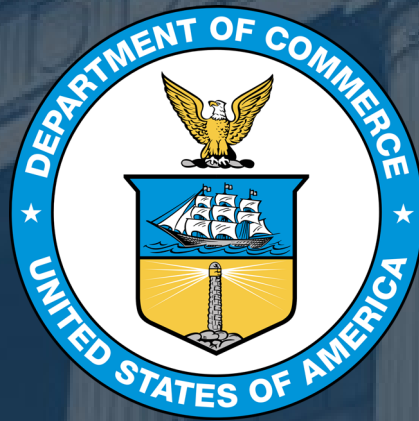
Flaring and Venting

Useful Resources on Flaring and Venting

This is a non-exhaustive list of resources/services:

- World Bank 2022: Comparative Review of Global Flaring and Venting Regulations
- Methane Guiding Principles 2019, Reducing Methane Emissions: Best Practice Guide — Flaring
- Global Gas Flaring Reduction Partnership, Oil and Gas Climate Initiative, Methane Guiding Principles, and Methane Flaring Toolkit





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