

Financing for Methane Abatement



Supported and funded by:



Energy Resources

U.S. DEPARTMENT *of* STATE

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



Energy Resources
U.S. DEPARTMENT *of* STATE



Berkeley
Law



The Commonwealth



CLEAN AIR
TASK FORCE



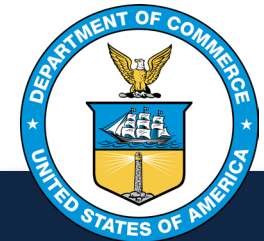
Key Takeaways

- Methane solutions have one of the highest emission reduction benefits per dollar of capital invested but are underfunded globally.
- Sufficient finance flows towards methane abatement in the oil and gas sector are needed to help reduce emissions.
- Realization of the methane opportunity requires investment in technical solutions and enabling activities. Ineffective financing of “soft costs” to governments could be a significant bottleneck.
- Financing sources include Development Finance Institutions (DFIs), climate-specific funding mechanisms, and Green Bond Issuers.
- The Global Methane Pledge may contribute to the integration of methane abatement into the climate finance architecture.



Key Takeaways (Cont.)

- The Global Methane Pledge may contribute to the integration of methane abatement into the climate finance architecture.
- Methane emissions are a form of waste, but absent a GHG price, not all sources are cost-effective for companies to fix or prevent.
- Some companies might only voluntarily use previously wasted methane that provides the most attractive investment opportunity. In many countries, governments will need regulation to drive methane reduction action.



Financing for Methane Abatement

The Financing Gap

Methane Abatement Measures are underfunded

- Methane abatement has received less than 2 percent of total climate finance flows
- Just USD 11 billion for methane abatement in 2020, but more than USD 100 billion is needed, at least 10-fold increase from current levels.
- The fossil fuel sector has the highest potential for mitigation but receives the least finance!

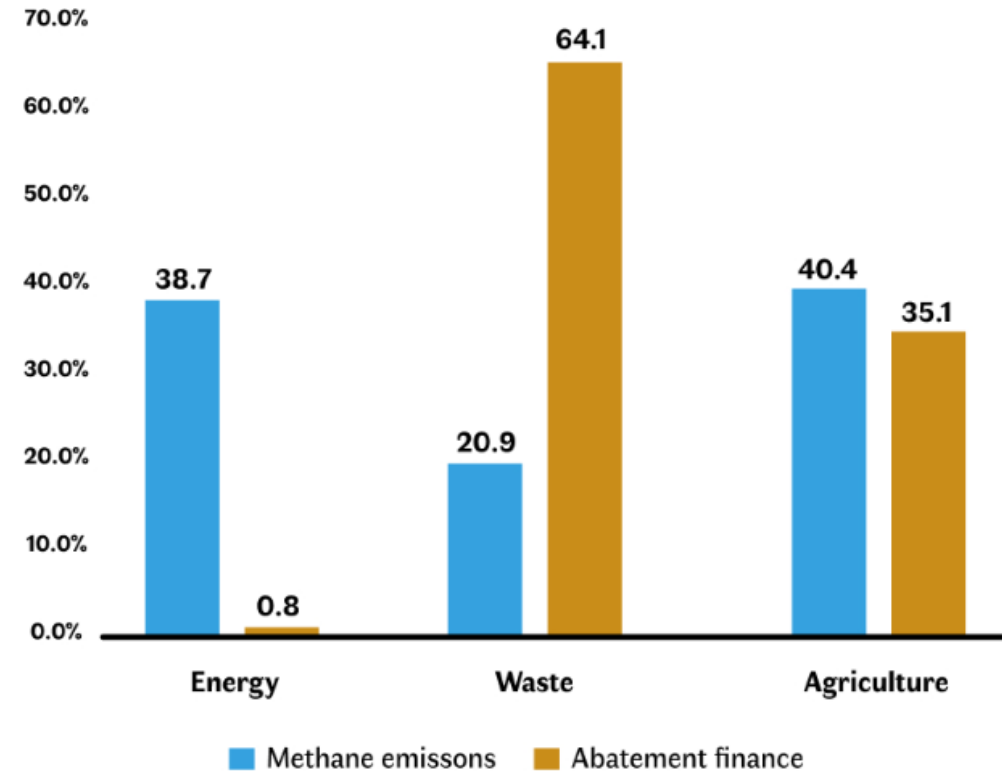


Figure 11.1: Distribution of abatement finance and distribution of methane emission across sectors by percentage.^{112, 113}



What needs financing?

Infrastructure

- ✓ Upgrades to Existing Production
- ✓ Equipment for New E&P
- ✓ Gas Capture Projects
 - ✓ Services

Enabling Environment

- ✓ New Standards
- ✓ Gas Market Regulation
 - ✓ Contract Terms
 - ✓ Training



Where could the financing come from?



Development Finance Institutions (DFIs)

- Development-focused, with government policy objectives and often requiring comprehensive environmental and social conditions.
- Offer long-term loans, coverage for default, add transparency.
- May be willing to take on technical risks for emerging technologies.

Development Finance Institutions (DFIs)

Multilateral DFIs	World Bank, Asian Development Bank, European Bank for Reconstruction and Development, International Finance Corporation
Bilateral DFIs	CDC Group (United Kingdom), Swedfund (Sweden), International Development Finance Corporation (United States)
National DFIs	China Development Bank, KfW Banking Group (Germany), Export-Import Bank of India
Subnational DFIs	Buenos Aires Guarantee Fund, Lower Austria Guarantees and Investments, Rio de Janeiro Development Agency



Where could the financing come from? (Cont.)



Dedicated Climate Funds

- For rapid deployment of low-carbon technologies, often renewable energy.
- Examples: Green Climate Fund, Global Environment Facility, Global Methane Hub, Climate Investment Funds.
- Can offer below-market rates (concessional financing) – reduces the financing cost.
- Global Methane Hub has provided direct funding for methane abatement projects, and has raised some \$340M.

Climate-specific Funding Mechanisms

Dedicated Multilateral Climate Funds (UNFCCC)	UNFCCC's Adaptation Fund, the Green Climate Fund, Least-Developed Countries Fund and Global Environmental Facility (GEF)
Non-UNFCCC Climate Funds	UNDP Low Emission Capacity Building Programme, UNEP Enlighten Energy Efficiency Initiative
National Climate Funds (NCFs)	Indonesia Climate Change Trust Fund, UK International Climate Fund, Bangladesh Climate Change Trust Fund, and the German IKI Initiative
Philanthropy	Rockefeller Foundation, Bloomberg Philanthropies, Energy Foundation, Ford Foundation, Global Methane Hub



Where could the financing come from? (Cont.)



Export Credit Agencies (ECAs)

- Promotes a country's goods and services
- May be able to support transactions for methane abatement goods and services that are imported from the ECA country.
- Provides insurance, guarantees of payment, commercial and political risk coverage.



International Oil & Gas Companies

- Yes, a source of financing!
- Several companies have dedicated portions of their capital budgets to reduce methane..

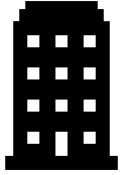


National Oil Companies

- Redirection of a share of profits, or as a conduit for public financial support
- Understands well the opportunities for methane abatement, as operators and JV partners



Where could the financing come from? (Cont.)



Commercial Banks and Equity Funds

- Will evaluate methane abatement projects on the basis of commercial viability, like any other project.
- Many lenders have ESG goals.
- Some lenders may be particularly nimble at obtaining revenue streams, through carbon credits, tax rebates.



Government Funding

- Government-backed bonds for infrastructure, “green bonds”
- Canada’s Orphan Well Program, some CAD \$1.7B for plugging abandoned O&G wells
- Must compete against under fiscal spending commitments, however.



Financing for Methane Abatement

Trends in Financing

Philanthropy

**Blended
Finance**

Cooperation

**ESG
Requirements**

**Non-
Traditional
Approaches**

**Carbon
Markets**



Limits on Financing for Methane

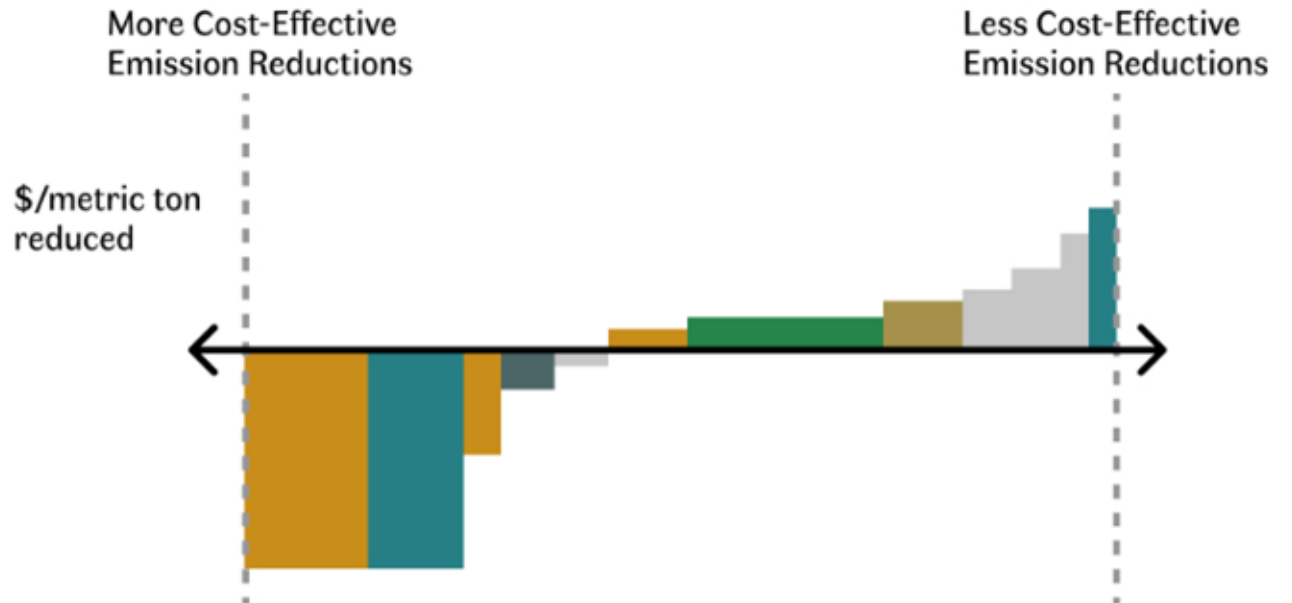
- **Will governments support financing for methane abatement projects? If so, under what conditions?**
- For countries seeking to secure international development finance for O&G projects, expect increasing scrutiny, often with regard to how the project will expand O&G and/or “lock in” future operations and production.

Countries covering over half of global gas imports and one-third of global gas exports recently called for minimizing flaring, methane, and CO2 emissions in the supply chain to the fullest extent practical



Making the Economic Case for Methane

- Operators are incentivized to avoid waste, but they are seeking methane solutions that yield positive returns.
- Regulators can make the economic case: help identify the cost-effective reductions, and streamline the approvals of these solutions.



Making the Economic Case for Methane

- **Company perspective:** reduces methane with a positive net present value (NPV) to the company, or an internal rate of return (IRR) that means a company's investment criteria.
- **Economy perspective:** reduces methane with a positive net return to the national economy: lower consumer prices, pollution avoidance.
- **Regulatory perspective:** reduces methane with a positive return for public health and the environment.



Monetizing Methane Abatement



Gas Capture

- Selling the gas for domestic consumption (cooking, home heating, etc.).
- Producing Liquified Natural Gas or Liquified Petroleum Gas if the gas is wet.
- Reinjecting the gas into an oil and gas reservoir for enhanced recovery.
- Using natural gas for power generation.
- Supplying feedstock for hydrogen, methanol, and gas-to-liquid industries.



Monetizing Methane Abatement



Carbon Credits

Case Study: Bangladesh LDAR Project

- About 65% of commercial energy in Bangladesh is from natural gas, but distribution network is aging, leaking.
- Enter a Clean Development Mechanism (CDM) project with the Titan Gas Transmission and Distribution Company Ltd
- TGTDCCL reduced 4.0 million metric tons of CO2E annually.
- TGTDCCL gained revenue in two ways by reducing methane leaks through new CDM-funded LDAR: the saved gas (not wasted) and the sale of CERs (Certified Emissions Reductions)



Monetizing Methane Abatement



Case Study: Bangladesh LDAR Project (Cont.)

- The project was so successful, additional gas distribution companies signed CDM-funded methane reduction projects, primarily LDAR to find and stop leaks.
- Paschimanchal Gas Company (PGCL) also obtained a CDM-funded project with the result of a 0.36 million metric ton of CO2E reduction annually.
- Karnaphully Gas Distribution Company (KGDCL) followed with 2.64 million metric tons of CO2E reduction, between 2019-2022; and its leakage detection program has since been replicated with other distribution companies.



Financing for Methane Abatement

Financing Resources

The Climate and Clean Air Coalition

<https://www.ccacoalition.org/en/content/methane-technical-assistance>

The Landscape of Methane Abatement Finance (Climate Policy Initiative)

<https://www.climatepolicyinitiative.org/publication/the-landscape-of-methane-abatement-finance/>

The Global Methane Hub

<https://globalmethanehub.org/>



Financing for Methane Abatement

Financing Resources

Global Methane Initiative Project Network

<https://www.globalmethane.org/about/index.aspx>

World Bank Group Green Bond Program

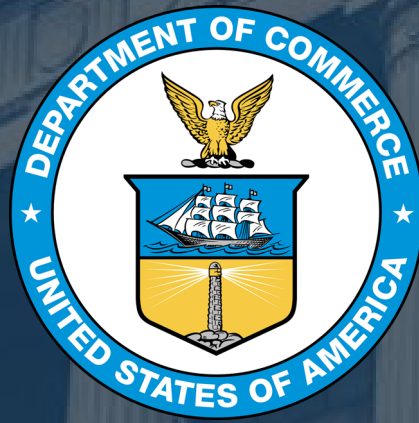
<https://treasury.worldbank.org/en/about/unit/treasury/ibrd/ibrd-green-bonds>

This program offers funding for methane abatement from gas flaring, along with agricultural and waste sector projects.

Financing Solutions to Reduce Natural Gas Flaring and Methane Emissions

<https://openknowledge.worldbank.org/entities/publication/e7bb2e64-799c-59d7-9f92-4531d541b129>





Tel: +1 202 482
2400



1401 Constitution Avenue,
NW, Washington,
DC 20230



www.cldp.doc.gov

Commercial Law Development Program
Office of General Counsel
U.S. Department of Commerce