



COLLABORATIVE LEVERS FOR METHANE ABATEMENT IN NATIONAL OIL COMPANIES

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INTRODUCTION

In the race to reduce global methane emissions, national oil companies (NOCs) are the wild card that will determine whether the world will succeed in limiting climate change. Holders of two-thirds of global oil and gas reserves, NOCs produce half of the world's oil and gas, and more than half of the roughly 80 million tonnes of methane emissions from the sector.¹ Historically, NOCs alone have accounted for 35% of all global emissions since 1965.² Yet NOCs have largely fallen behind international oil companies (IOCs) and the rest of the sector in reducing emissions from their operations.³ Beyond fiscally well-positioned companies like Equinor and Petronas, many NOCs lack access to affordable capital to finance methane abatement, and many more face declining access to government credit and rising demands for ever-higher revenues to finance state expenditures. Financial support from commercial banks, investors, and sovereign creditors will therefore be critical to fund NOC efforts towards accurate measurement, monitoring, reporting and verification (MMRV) of methane emissions; leak repair and equipment replacement; and building out infrastructure to get captured methane to market.⁴

But these efforts are at risk of putting the cart before the horse: NOCs must first be willing to achieve deep and sustained methane reductions. To be successful, methane abatement efforts must be driven not just by financial and economic motivations, but perhaps more importantly, by political motivations as well. As state-owned companies—where politicians and not market investors hold final decision-making power—NOCs march to a different drummer when it comes to climate goals and emissions abatement.⁵ Methane abatement in NOCs not only faces numerous technical challenges, but also necessitates buy-in from a range of diverse and interrelated political actors across ministries, regulatory agencies, oversight bodies, and, ultimately, political leaders and their constituencies. This applies not only for NOCs that are fiscally constrained, but also for NOCs flush with capital, such that methane abatement must be driven by both financial and non-financial incentives.

1 Calculated from: Natural Resources Governance Institute. *National Oil Company Database*, May 2024; IEA. (2024). *Global Methane Tracker 2024*. International Energy Agency, Paris. Licence: CC BY 4.0.

2 Calculated from: Heede, Richard. (2014). Tracing anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854–2010. *Climatic Change* 122(1): 229-241; Kenner, Dario, and Richard Heede. (2021). White knights, or horsemen of the apocalypse? Prospects for Big Oil to align emissions with a 1.5 C pathway. *Energy Research & Social Science* 79: 102049.

3 IEA. (2024). *Global Methane Tracker 2024*.

4 Howell, Andrew and Andrew Baxter. (2023, October 5). “State-owned oil companies lag on methane. Could the finance sector hold the key?” *Energy Monitor*; Cahill, Ben, and Kjersti Swanson. (2023, December). *National Oil Companies, Climate Commitments, and Methane*. CSIS Report.

5 Gillies, A., Heller, P. R. P., Mahdavi, P., Manley, D., Marcel, V., Melgar, L., Monaldi, F., Muttitt, G., Picciariello, A., & Roth, J. (2021). *National oil companies and climate change: Insights for advocates*. Natural Resource Governance Institute & International Institute for Sustainable Development.

As a result, successful methane reductions will not happen through top-down, solutions-driven efforts that do not take into account the politics on the ground. Instead, sustained methane abatement will result from targeted efforts that view the problem from the perspective of the NOC—and, more importantly, from the perspective of the government that manages the NOC—as to why and how to engage with international financial actors to fund efforts to reduce methane emissions. Governments have a laundry list of priorities, especially during periods of economic and geopolitical crisis; international actors will have to work together to make methane abatement worthy of topping the lists of government priorities. There is no one-size-fits-all solution, but rather such collaboration will take different shapes for different NOCs, implying that country-specific and tailored approaches will find the greatest chances of success.

Four broad levers to drive methane abatement in NOCs

When it comes to methane abatement, the financial community faces two different but related Goldilocks dilemmas: (1) enough pressure to drive real action on reducing methane emissions, but not enough that will drive away hesitant governments; and (2) enough funding to solve the problem, but not so much as to escalate the cost of capital. Collaborative efforts will be key in finding the sweet spot: collaboration provides a diversity of carrots to incentivize NOCs and governments towards methane abatement, as well as sticks in the form of trade policy and bottom-up pressure from civil society.

With these tradeoffs in mind, this report reviews four broad levers that can be used to achieve deep and sustained methane reductions by NOCs:

Lever 1: Sustainable Finance: From the NOC’s perspective, the rising need for capital and technical assistance—whether for large-scale projects, infrastructure repairs, general operations, or insurance on tanker deliveries—has led to expanded engagements with the international financial sector. This exposure to global markets provides opportunities for investors to incorporate methane-related targets and conditions into NOC financing instruments and commercial agreements.

Lever 2: Financial Statecraft: NOCs are ultimately agents of their host governments, nearly all of whom participate in financial markets as sovereign borrowers. But NOC-managing governments are not simply price takers: political factors drive choices over debt instruments, a concept which scholars refer to as “financial statecraft.” Governments choose a variety of different financing options based on access to capital and political costs and benefits in each choice. Sovereign lending options such as sustainability-linked bonds or the IMF’s Resilience and Sustainability Trust can play to both of these types of factors while baking in methane abatement conditions as incentives for access to cheaper credit.

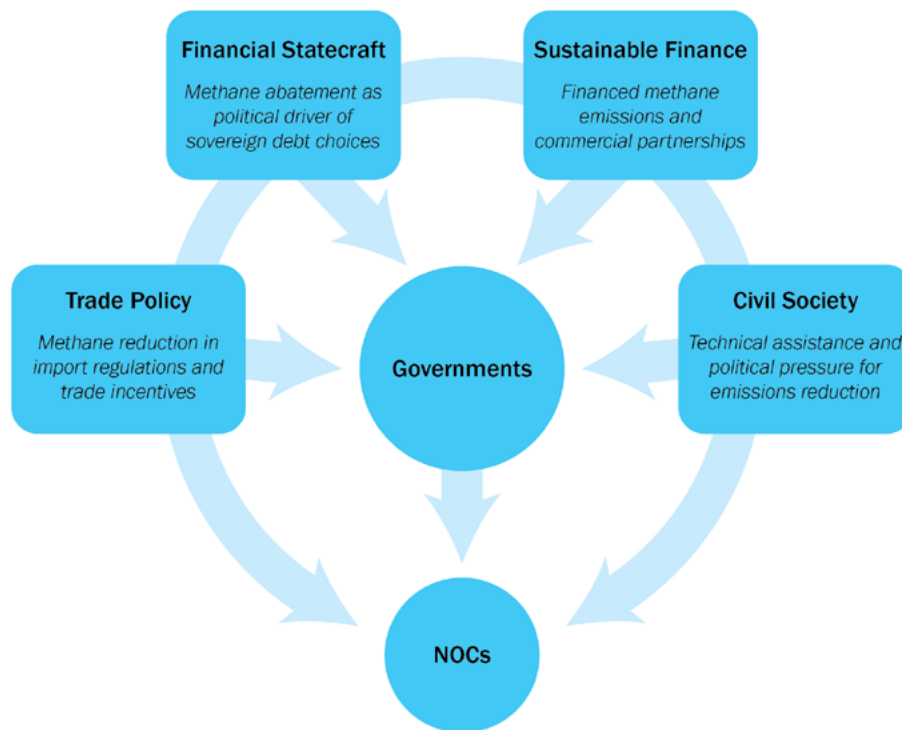
Lever 3: Trade Policy: NOC revenues are heavily dependent on export markets. Importing countries can apply demand-side pressure using supply-side policies that incentivize methane abatement. Policies like the EU’s methane rule on imported oil and gas and the possible expansion of carbon border adjustment mechanisms across the OECD can drive methane emissions reductions if NOCs seek continued access to these markets.

Lever 4: Civil society: Citizens are, in theory, the ultimate owners of the oil and gas resources that NOCs steward. In practice, there is often limited space for civic engagement with NOC activities, with few successful examples of civil society driving NOC emissions reductions. However, the immense potential of civil society means that it is a lever that should not be abandoned, especially for NOCs in emerging democracies.

Collaboration is the key to maximizing the likelihood of methane abatement by even the most reluctant NOCs and host governments. Commercial banks and investors, working with multilateral development banks and diplomatic networks, supported by domestic civil society groups and international NGOs, and with targets guided by looming trade policy standards, can put together formidable methane-tied financial packages that are attractive not just to NOCs seeking external capital, but more importantly to their governments to finance a rising tide of state expenditures. Understanding the ways that each lever interacts—and how they can be sequenced—can multiply impact and accelerate change.

FIGURE 1

Collaborative levers for methane abatement in national oil companies (NOCs) and NOC-managing governments



The rest of this report lays out detailed arguments for each of these levers. The findings draw on research from the scholarly and applied literatures in political economy, development, and finance, triangulated with evidence from published NOC materials and semi-structured interviews with experts and officials in national oil company governance. Brazil's Petrobras is used as a running case study throughout the report, with support from NOCs around the world as illustrative examples.



LEVER 1: SUSTAINABLE FINANCE

Though NOCs vary considerably in size, scope, and mandate, external financing has become an important lifeline for NOCs of all stripes.⁶ NOCs pursuing large-scale projects have increasingly turned to commercial financiers as governments have limited profit reinvestment into capital expenditures and, in some cases, increased royalties, taxes, and dividends paid to the state.⁷ The rising need for outside capital has affected even the most closed-off NOCs, as governments in Angola, Iraq, and Saudi Arabia have called for ever-more NOC revenues in order to finance expenditures on broader state goals of economic diversification, the energy transition, the expansion of social programs, and the consolidation of political coalitions in the wake of the pandemic and geopolitical turmoil.⁸ And even NOCs that primarily finance operations internally, such as the **National Iranian Oil Company** or Venezuela's **PdVSA**, still draw on out-of-country financial services in the form of tanker insurance and product swaps.

To fill these needs, NOCs have turned to a variety of financing portfolios, with differing reliance on equity listings, corporate bonds and loans, and project finance. Each of these options opens an avenue for explicitly incorporating methane-specific conditions into financing instruments.

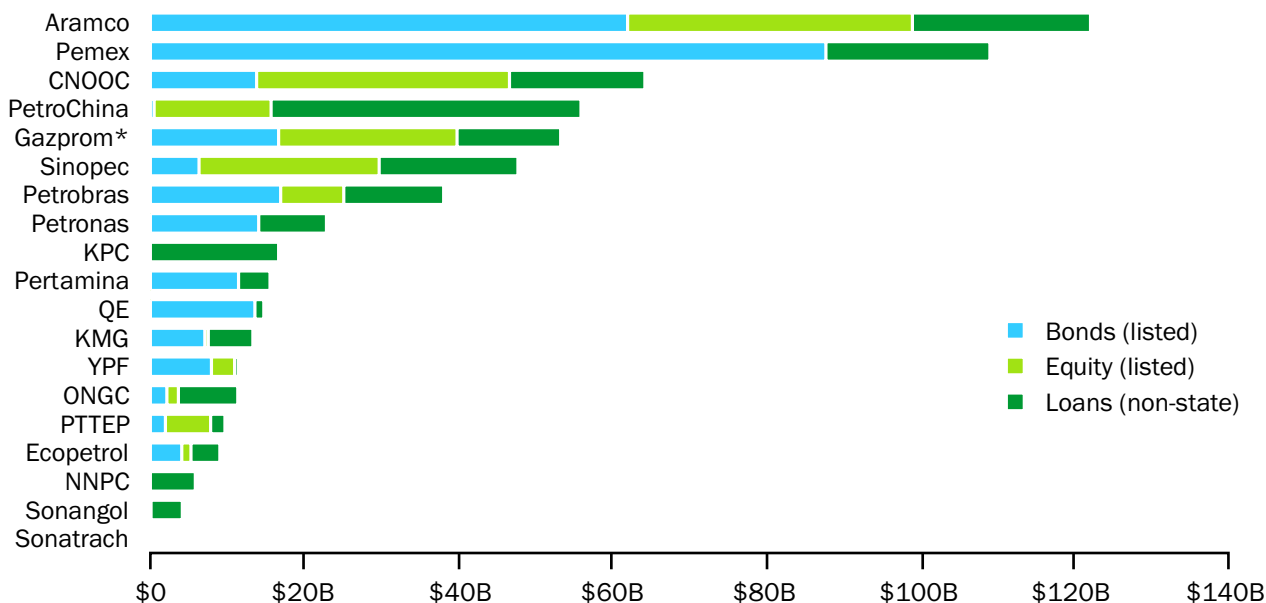
6 Picciariello, Angela and Paasha Mahdavi. (2023, February). *Opportunity NOCs: How investors can jumpstart energy transitions in national oil companies*. International Institute for Sustainable Development and The 2035 Initiative at UCSB policy briefing.

7 Manley, David and Patrick Heller. (2021, February). *Risky Bet: National Oil Companies in the Energy Transition*. Natural Resources Governance Institute report.

8 Manley, David, Andrea Furnaro, and Patrick Heller. (2023, November). *Riskier Bets, Smaller Pockets: How National Oil Companies Are Spending Public Money Amid The Energy Transition*. Natural Resources Governance Institute report.

FIGURE 2

Sources of capital (in USD as of 2022) for selected NOCs



*Gazprom is subject to sanctions that restrict its access to international equity and debt markets.

NOCs are ordered by total non-state capital financing from bank loans, bond listings, and equity listings. Loans include all non-state financing from domestic and foreign commercial banks. For Chinese NOCs, this amount excludes loans from the Central Bank of China, but includes loans from state-supported lenders. Bonds include all listed bonds, with amounts outstanding as of year end 2022. Equity represents the market value of all listed shares owned by non-state entities, as of year end 2022. Data source: EMIA, NOC annual reports, and media reports.

Climate engagement and reporting standards through equity listings

At least twelve major NOCs have listed shares on domestic and/or international financial markets.⁹ Shareholders themselves may directly engage NOCs towards adopting more ambitious climate policies, typically through filing shareholder resolutions and eliciting pressure from outside stakeholders concerned about long-term firm value through climate mitigation.¹⁰ Classical accounts of shareholder theory would hold that investors will push firms on climate goals—and on methane abatement in particular—only if it would minimize costs and increase firm profits and, ultimately, shareholder income.¹¹ Estimates vary on the cost-effectiveness of methane abatement, with the IEA optimistically seeing roughly 45%-50% of all oil and gas methane emissions from the sector as “being possible to abate at no

9 This includes CNOOC, Ecopetrol, Gazprom, KMG, ONGC, Petrobras, PetroChina, PTTEP, Rosneft (frozen since 2022), Saudi Aramco, Sinopec, and YPF. Five of these have significant free float percentages (>35%): Petrobras, Gazprom, YPF, CNOOC, and PTTEP. See: Andrew Howell and Pavel Laberko. (2024, July 24). “Can investors spur national oil companies toward methane action?” *World Economic Forum*.

10 Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & De Colle, S. (2010). *Stakeholder theory: The state of the art*. Cambridge University Press; Slager, Rieneke, Kevin Chuah, Jean-Pascal Gond, Santi Furnari, and Mikael Homanen. (2023). Tailor-to-Target: Configuring Collaborative Shareholder Engagements on Climate Change. *Management Science* 69(12): 7151-7882; Flammer, C., Toffel, M. W., and Viswanathan, K. (2021). Shareholder activism and firms’ voluntary disclosure of climate change risks. *Strategic Management Journal*, 42(10), 1850–1879.

11 Friedman, Milton. (1963). *Capitalism and Freedom*. University of Chicago Press.

net cost.”¹² Though this number may be lower in reality, shareholders of all stripes can nonetheless see value-creation in emissions intensity targets and flaring reduction across market-listed oil and gas companies.

While the bulk of these efforts have been targeted at investor-owned international oil companies (IOCs), shareholders and other stakeholders have engaged with NOCs through investor-led initiatives that drive climate targets and commitments. Investors engaged via Climate Action 100+, for example, applauded the adoption of methane reduction targets by Norway’s **Equinor** (near-zero methane intensity target by 2030) and Thailand’s **PTT** (15% GHG reduction target by 2030).¹³ CA100+ engagement also may have played a role in Petrobras’s decision to join OGMP 2.0 and India’s **ONGC** pursuing offshore wind with the state-owned power company (NTPC Limited) to reduce platform emissions.¹⁴

But the wave of investor-led climate engagement and “say on climate” proxy statements has slowed since a peak in 2022.¹⁵ And recent research shows the limited impacts of shareholder resolutions on the climate strategies of the oil majors and medium-sized IOCs, as investors vary in preferences over short- vs. long-term spending on decarbonization efforts.¹⁶ Shareholders of NOCs will similarly be torn on pressing for maximizing short-term value (e.g., through dividend payouts) versus maximizing long-term value creation through increased re-investment in capital expenditures, including methane abatement investments.

In **Petrobras**, the largest listed NOC in free float percentage, such a battle emerged in 2023 over the restructuring of reduced payouts for dividends from profits when oil prices are high, or what are termed “extraordinary dividends.” The dispute pitted shareholders and board members backing CEO Juan Paul Prates and Finance Minister Fernando Haddad, who supported maintaining high dividend payouts, against backers of Minister of Mines and Energy Alexandre Silveira, who supported reinvestment over dividends. Silveira had been particularly aggrieved by what he saw as “negligence” in how Petrobras was handling gas policy, including his ministry’s objective towards enacting national standards and regulations on methane emissions from the oil and gas sector.¹⁷ At the heart of the dispute was that Petrobras was not complying with the Ministry’s objections to gas reinjection for enhanced oil recovery, not only on the basis of environmental concerns but also given the loss of gas supply for domestic markets.¹⁸ Yet Prates maintained that this strategy came from the President himself, and urged shareholders and the board “to position itself guided by the President of the

12 IEA. (2024). *Global Methane Tracker 2024*, page 267.; see also: IEA. (2021, October). *Curtailing Methane Emissions from Fossil Fuel Operations*. International Energy Agency, Paris. Licence: CC BY 4.0.

13 Equinor. (2019, April 24). “[Joint statement between investors participating in Climate Action 100+ and Equinor ASA](#)”; PTT. (2019). “[Climate Action 100+ 2019 Progress Report](#).” See page 30. There was also initial evidence of CA100+ with Russia’s Rosneft to reduce methane intensity, but since the 2022 invasion of Ukraine, it has become harder to verify progress on achieving targets; see Rosneft. (2022, April 8). “[Rosneft initiatives to achieve carbon neutrality are recognized as the best in Russia](#).”

14 Petrobras. (2023, 13 February). “[CA100+: Investors welcome Petrobras’ signing of the UN Oil and Gas Methane Partnership](#)”; ONGC. (2020, June 17). “[CA100+: Engagements progress around the world](#).”

15 Tufford, Harlan, Florian Sommer, Gül Demirtaş, and David Muirhead. (2024, April 17). “[Is Say-on-Climate Losing Steam?](#)” MSCI.

16 Green, Jessica, Jennifer Hadden, Thomas Hale, and Paasha Mahdavi. (2022). “Transition, hedge, or resist? Understanding political and economic behavior toward decarbonization in the oil and gas industry.” *Review of International Political Economy* 29, no. 6: 2036-2063. See also: Denis Lomov and Paasha Mahdavi. (2024, August). “Limited impacts of shareholder pressure on climate strategy of fossil firms.” UCSB Working Paper.

17 Quoted in Bruno Rosa. (2024, May 14). “[Prates é demitido da Petrobras. Entenda a crise que levou à troca no comando da estatal](#).” *O Globo*. For more on Silveira’s views on methane policy, see Hanrikson de Andrade. (2024, February 27). “[Governo vai propor regulação de emissões de metano até 2025](#).” *epbr*.

18 Camarotto, Murillo and Rafael Bitencourt. (2023, June 15). “[Ministro acusa comando da Petrobras de negligência e desdém com política de gás](#).” *Valor*.

Republic and his direct aides, who are the ministers” to retain the extraordinary dividends.¹⁹ The dispute effectively ended with the board’s approval of a 50% payout from extraordinary dividends, with subsequent support from shareholders at the company’s annual meeting in April 2024.²⁰ But the fight cost Prates his job—showcasing not just the difficulty in garnering support for sustainability goals among a diverse range of investors and stakeholders, but also the political costs of internal disputes between NOCs and their regulators.

Because shareholders will have wide-ranging views on NOC climate strategies, the largest impact on methane abatement activities may ultimately derive from disclosure requirements mandated by securities regulators in certain markets. NOCs that list equities on European and U.K. exchanges will be subject to detailed reporting standards through the Corporate Sustainability Reporting Directive (CSRD) and Sustainability Disclosure Requirements (SDR), respectively, by 2026.²¹ Both regulations call for standardized reporting of operational (scope 1) methane emissions and detailed timelines and mitigation plans on abatement targets, if the company has publicly set an emissions reduction target.²² While emissions reductions are not mandated by either rule, at the minimum these regulations set a clear baseline for more detailed monitoring, reporting and verification frameworks that will keep NOCs in compliance of CSRD and SDR regulations. Should the US SEC’s Climate-Related Disclosure ruling from March 2024 stand, such emission reporting requirements would also apply to NOCs listed in US markets.²³



19 Quoted in Staff. (2024, March 14). “[President of Petrobras Affirms that Guidance to Retain Dividends Came from the Government.](#)” *Folha do Sao Paulo* [English version].

20 Petrobras. (2024, April 25). “[Petrobras sobre pagamento de dividendos.](#)” Press release.

21 Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014; Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting; HM Government, Sustainability Disclosure Requirements: Implementation Update 2024.

22 For more detail on methane reporting in the context of disclosure regulations, see: Ceres, Environmental Defense Fund, and Principles for Responsible Investment. (2018, October). [Setting the Bar: Implementing the TCFD Recommendations for Oil and Gas Methane Disclosure.](#)

23 Securities and Exchange Commission. *The Enhancement and Standardization of Climate-Related Disclosures for Investors.* 17 CFR 210, 229, 230, 232, 239, and 249 [Release Nos. 33-11275; 34-99678; File No. S7-10-22] RIN 3235-AM87.

FIGURE 3

Market-listed NOCs subject to climate-related disclosure regulations in the European Union (Corporate Sustainability Reporting Directive) and the United States (SEC Enhancement and Standardization of Climate-Related Disclosures for Investors)

NOC	Listing in EU markets	Listing in US markets
Ecopetrol	Börse Frankfurt (ADR)	NYSE (ADR)
Equinor		NYSE (ADR)
Petrobras	Bolsa de Madrid / Latibex	NYSE (ADR)
YPF		NYSE (ADR)

Table excludes NOCs which are only listed domestically (KMG, ONGC, PTT), or were previously listed on international markets but remain delisted as of 2024 (CNOOC, Gazprom, PetroChina, Rosneft, Sinopec). As of December 2024, no NOCs were traded on UK exchanges. Data source: EMIA and Bloomberg.

Sustainability-linked commercial bonds and loans

Equity listing remains the exception and not the norm across the NOC landscape; far more NOCs engage in commercial bond markets and corporate bank financing. Roughly \$1 trillion in bond debt has been issued by NOCs around the world. With 60% of outstanding debt maturing before 2030, NOCs will remain active in bond markets to finance operations or refinance existing debt.²⁴ NOCs have a long history of financing general operations through commercial loans from international banks, with finance and foreign affairs ministries championing these instruments as strategic ties to strengthen economic interdependence with foreign investors.²⁵ Following this trend, sustainability-linked lending frameworks have emerged as a new avenue for financing capital toward emissions monitoring and mitigation technologies.

For NOCs that have already set methane targets, sustainability-linked bonds (SLBs) and sustainability-linked loans (SLLs) can be a strategic source of financing abatement costs. These instruments have the added benefit of helping financiers achieve their own portfolio-level emissions targets, while also helping NOCs access low-cost financing from credible external lenders. **JPMorgan Chase**, for instance, has set portfolio-level targets for emissions and emissions intensity reductions in the oil and gas sector, including an average rate of change target of 45% reductions by 2030 compared to its 2019 baseline.²⁶ The company aims to meet this goal by raising capital for financing methane solutions through commercial loans and bonds, and by advising clients on budgeting overall capital needs for hitting their own emission intensity reduction targets, starting with identifying the capital requirements for detailed measurement, monitoring, and verification of methane emissions.²⁷

From the NOC perspective, SLLs and SLBs provide flexibility given limited restrictions on how the borrower can use the funds compared to more project-specific requirements of use of proceeds

24 Palacios, Luisa and Catarina Vidotto Carocati. (2023). *Assessing ESG risks in national oil companies: Transcending ESG ratings with a better understanding of governance*. Center on Global Energy Policy.

25 Victor, David G., David R. Hults, and Mark C. Thurber, eds. (2011). *Oil and governance: state-owned enterprises and the world energy supply*. Cambridge University Press.

26 JPMorgan Chase. “[Sustainability Initiatives](#).” (Note: the 45% target for the oil and gas sector is up to date as of August 2024.)

27 Lopez, Gissell and Ben Ratner. (2023, November). *The Methane Emissions Opportunity: Our perspective on leveraging technology in continuous improvement in the Oil & Gas sector*. JPMorgan Chase report.

bonds.²⁸ This is particularly attractive to NOCs whose governments mandate 100% equity ownership and have restrictions on the types of borrowing in which firms can engage. These frameworks also provide a boost to a NOC's sustainability credentials and can attract new investors, while also locking in voluntary methane abatement targets by tying them to financing.

In Bahrain, for example, state-owned **Bapco Energies** worked with the government to establish the first sustainability-linked financial framework (SLFF) that serves as a platform for both bonds and Sharia-compliant bond-like instruments (*sukuk*). The SLFF, with support from Standard Chartered, raised \$2.2 billion in funding in late 2023 with interest rates tied to a range of emissions targets. These included a 25% reduction in emissions intensity by 2030 and net-zero by 2060; a 30% reduction in scope 1 and 2 emissions by 2035; and a 30% reduction in scope 3 by 2035, with net-zero scope 3 emissions by 2060.²⁹ The funds are slated towards reducing emissions across operational facilities, but also towards the NOC's ability to provide financing for the Bahraini government's ramp-up in political expenditures. As Bapco CEO Mark Thomas noted about the SLFF and other avenues of financing, these investments are "integral to the realisation of the Kingdom's Vision 2030 and its long-term socioeconomic sustainability goals."³⁰

Despite progress, there has been limited ability to evaluate the success of SLLs by NOCs, with the largest challenges deriving from the lack of disclosure on specific targets and timelines for emissions and emission intensity reductions.³¹ To ensure success, methane-related key performance indicators (KPIs) need to be backed by robust measurement, monitoring, reporting and verification (MMRV). This includes direct measurement, so as to compare a NOC's reported progress on abatement targets, which often are derived using factor-based methods, to source-level data on emissions throughout the supply chain.³²

The \$1.25 billion SLL signed by **Petrobras** in July 2022, for instance, did not disclose publicly-available KPIs nor MMRV protocols, other than the company noting the loan is tied to "incentive mechanisms for achieving sustainability commitments, based on GHG intensity indicators in E&P and Refining; and on the methane intensity indicator in the upstream segment."³³ While Petrobras provided an update in its 2023 sustainability report that the company "verified and confirmed compliance with the basic sustainability goals" in the SLL,³⁴ there is still no indication of what the targets are, how progress would be measured and verified, nor what the cost of noncompliance would be if Petrobras fails to achieve these targets.

Overall, SLBs, SLLs, and other sustainability-linked lending instruments are attractive options to NOCs for general financing given the boost in sustainability credentials and the flexibility of terms and the ability to access cheaper capital than market alternatives. Yet this flexibility is what makes these instruments susceptible to ineffectiveness in actually reducing NOC

28 Howell, Andrew, Sudhanshu Mathur, and Lenora Suki. (2024, March). *Financing Methane Abatement: Report On Sustainable Finance Instruments*. Environmental Defense Fund report.

29 Bapco Energies. (2023). *Transition Finance Framework 2023*.

30 Quoted in Ed Reed. (2024, April 3). "[Bapco scores sustainability marks to finance transformation.](#)" *Energy Voice*.

31 Suki, Lenora, Sudhanshu Mathur, and Andrew Howell. (2024, March). *Financing Methane Abatement: Presentation on sustainable finance instruments*. Environmental Defense Fund presentation.

32 U.S. Department of Energy. (2024, March 20). *Overview of the International Greenhouse Gas Supply Chain MMRV Framework*. The Role of Monitoring, Reporting, and Verification (MRV) in Addressing Methane Emissions: Oil and Gas Joint Technical Session. Global Methane Forum presentation.

33 Petrobras. (2022). *Sustainability Report 2022*. Page 53.

34 Petrobras. (2023). *Sustainability Report 2023*. Page 52.

emissions. With that in mind, lenders should look to set clear and consistent methane-specific KPIs to ensure the success of these instruments.

Incorporating methane-related KPIs into project finance and insurance

Historically, international financing for NOC-led developments was scarce and limited by perceptions of commercial and political risks, ranging from cost overruns, delays, and labor disputes to asset expropriation and unpredictability of government policies over tax and royalty terms.³⁵ Project finance emerged in the early 2000s as an avenue to mitigate against these risks by establishing a separate legal entity to isolate cash flows and revenues as the main source of loan repayment, while maintaining asset ownership by the sovereign.³⁶ NOCs have since seized on this opportunity to raise capital for large-scale developments while satisfying government mandates to retain operational ownership over strategic assets, including not just fields themselves, but also processing facilities, pipelines, and shipping vessels.³⁷

One area that NOCs turn towards project-specific financing is in developing deepwater offshore assets. The construction of floating production storage and offloading (FPSO) units, for example, is a complex undertaking where NOCs engage with international banks to secure financing and with IOCs and service companies for technical assistance. In the **Petrobras** case, FPSO development has required considerable financing for each individual project; the FPSO Alexandre de Gusmao, for instance, was financed from twelve commercial banks for \$1.65 billion.³⁸ As with commercial lending above, this provides an opportunity to build-in methane-specific KPIs to financing instruments, especially given the lack of broad partnership options for NOCs based on the complexity of FPSO units. This extends to IOC partners in project finance as well, where partners can share methane abatement technologies to achieve reductions in joint operations. Petrobras's FPSO P-70 Atapu in the Santos Basin, for example, is jointly operated with **TotalEnergies**, which has set its own 80% methane emissions reduction target by 2030.³⁹ In this particular case, TotalEnergies shared methane detection technology with Petrobras to reduce methane emissions from its FPSO, thereby helping Petrobras reinforce its own emissions reduction commitments.⁴⁰

Insurance is another potential avenue for engagement with NOCs on methane targets, especially for NOCs that have few other linkages to financial markets. Companies like the **National Iranian Oil Company (NIOC)** have limited interactions with outside financiers, but the NOC must secure insurance contracts for its tanker deliveries via its subsidiary, the **National Iranian Tanker Company (NITC)**.⁴¹ To circumvent sanctions, importers in China and India have allowed NITC to deliver oil on an ex-ship basis, meaning that Iran would cover the cost, insurance, and freight (CIF) of its shipment.⁴² While NIOC has mostly relied on domestic

35 Razavi, Hossein. (1996). *Financing Energy Projects in Emerging Economies*. PennWell Books.

36 Kripa, Ermela and Halit Xhafa. (2013). Project Finance and Projects in the Energy Sector in Developing Countries. *European Academic Research* 1(2): 169-185. See also: Schaff, R.P. and D.J. Daehler. (1999). Innovative Project Financing for National Oil Companies Developing Countries. *Journal of Petroleum Technology* 51(1): 58–60.

37 Clews, Robert J. (2016). *Project Finance for the International Petroleum Industry*. Academic Press / Elsevier.

38 SBM Offshore. (2023, June). "[SBM Offshore completes US\\$1.615 billion financing of Alexandre de Gusmao.](#)" Press release.

39 TotalEnergies. (2024). *More Energy, Less Emissions: Sustainability & Climate 2024 Progress Report*.

40 TotalEnergies Brasil. (2023, December). "[TotalEnergies e Petrobras unem forças para acelerar a detecção e redução de emissões de metano.](#)" Press release. See also: Petrobras. (2024, April 30). *Climate Change Supplement 2024*.

41 Fritelli, John. (2024, March 18). *The Global Oil Tanker Market: An Overview as It Relates to Sanctions*. Congressional Research Service report.

42 Aizhu, Chen and Florence Tan. (2018, August 20). "China Imports with Iranian Oil Tankers and Insurance, Amid Sanctions: Sources." *Reuters*.; Staff. (2018, September 4). "India allows state refiners to use Iran tankers, insurance for oil imports." *Reuters*.

insurance for NITC deliveries because of U.S. and European sanctions, international insurers like the American Club and West of England have broken through to provide Iranian tankers proof of insurance.⁴³ This, of course, is in violation of international law; yet it speaks to the inevitability of international financial engagement, by even the most isolated and insular NOCs.

For NOCs pursuing large-scale projects, underwriting from outside insurance providers is typically a precondition of successful financing from commercial banks. Insurers are therefore in a unique position to require clients to commit to methane reductions in order to secure coverage. **Chubb**, for example, in 2023 announced methane-related underwriting criteria for oil and gas extraction projects worldwide, ranging from a minimum standard of programs in place for leak detection and repair, to elimination of non-emergency venting and reduced emissions from flaring, to a long-term “action plan” to manage methane emissions and put clear limits on methane intensity.⁴⁴

Yet insurance providers have been criticized for not going far enough to close loopholes in compliance with underwriting standards, especially by NOCs. In the case of Petrobras, climate advocacy group *Insure our Future* has estimated that Chubb provides 60% of the NOC’s general civil liability, but the lack of transparency in disclosure of insurance contracts makes it difficult for civil society groups to hold the NOC accountable.⁴⁵ The requirements around specific timetables for action plans also lack clarity, other than to “demonstrate progress” to the insurer on efforts made to report and measure methane emissions.⁴⁶ Insurance providers would do well to develop clear methane KPIs that NOCs must achieve to secure and retain coverage, along with standardized reporting guidelines on progress towards compliance in meeting underwriting criteria.

Summary

NOCs interact extensively with international financial markets through a variety of channels, whether via equity listings, bond issuance, commercial loans for general operations, project finance, or insurance contracts. While financial actors have begun incorporating methane reduction targets and timelines as conditions for continued engagement, deeper methane abatement will require greater precision on methane-specific KPIs and clear and consistent mechanisms for enforcement.

43 Mider, Zachary R and Zeke Faux. (2024, February 8). “The Oil Was From Iran. The Insurance Was From New York.” *Bloomberg*.

44 Chubb. (2023, March 22). “Chubb Announces New Climate and Conservation-Focused Underwriting Standards for Oil and Gas Extraction.” Press release. See also Lopez and Ratner (2023).

45 Insure our Future. (2022, January). *Fueling Climate Change: The Insurers Behind Brazil’s Offshore Oil Expansion*. See page 7.

46 Insure our Future. (2024, May 23). “Analysis: Chubb’s new conservation and methane standards remain inadequate but should exclude support for EACOP.” Press release.

LEVER 2: FINANCIAL STATECRAFT

Nearly all governments around the world borrow money to finance their activities; governments with NOCs are no exception.⁴⁷ While some NOCs are less exposed to financial markets than others, all NOC-managing governments participate in sovereign lending in one form or another. Yet there are varieties of choices that governments make across potential sources and types of borrowing. For governments that have made commitments to reduce methane in the oil sector, whether through the Global Methane Pledge or via their NOCs joining OGMP 2.0, the task of actual methane abatement will rely on successful financing. But which instruments will governments choose and how much will governments rely on outside funding?

Governments decide not only the amount they need but also their sources of funding, all while considering their political survival.⁴⁸ Domestic political factors play a significant role in government finance: governments actively shape their financing strategies in competitive international markets, rather than merely responding to market evaluations.⁴⁹ Political science and economics scholars call this dynamic “financial statecraft.”⁵⁰

Political drivers of government choices over financial instruments

In addition to options from the previous section—in particular, bond-based borrowing and commercial loans—governments also make choices across different types of multilateral development bank lending instruments and bilateral credit (e.g., through foreign aid or diplomatic guarantees). The specific set of choices that a government ultimately makes depends on both access to low-cost capital and the political costs and benefits that are inherent in each borrowing choice.

In general, governments with greater political institutional constraints on decision-making—such as popularly-elected legislatures, independent judiciaries, and bureaucracies with clear hierarchies of authority—tend to borrow from sovereign bond markets and official multilateral institutions.⁵¹ These options typically have lower costs of capital, but come with higher requirements for reporting and oversight. By contrast, governments with fewer political constraints build portfolios that are heavier on commercial borrowing and bilateral lending, with smaller shares of credit coming from bond markets and multilateral institutional lenders.

47 Goes, Iasmin and Stephen Kaplan. (2024). Crude credit: The political economy of natural resource booms and sovereign debt management. *World Development* 108(106645): 1-14.

48 Mosley, Layna and B. Peter Rosendorff. (2023). Government Choices of Debt Instruments. *International Studies Quarterly* 67(2), sqad030.

49 Campello, Daniella. (2015). *The Politics of Market Discipline in Latin America. Globalization and Democracy*. Cambridge University Press; Kaplan, Stephen and Thomsson, Kaj. (2017). The Political Economy of Sovereign Debt: Global Finance and Electoral Cycles. *Journal of Politics* 79(2): 605–23.

50 Bunte, Jonas. (2019). *Raise the Debt: How Developing Countries Choose their Creditors*. Oxford University Press; See also: Kaplan, Stephen. (2021). *Globalizing Patient Capital: The Political Economy of Chinese Finance in the Americas*. Cambridge University Press; Zeitz, Alexandra. (2021). Global Capital Cycles and Market Discipline: Perceptions of Developing-Country Borrowers. *British Journal of Political Science* 52(4): 1944–53.

51 Mosley and Rosendorff (2023).

Governments with NOCs typically have fewer political institutional constraints, all things considered.⁵² This is especially true when NOCs provide a sizable proportion of overall fiscal balances. Among NOC-managing governments, the proportion of government revenue from oil and gas is highest (>60%) for those with the least constraining political institutions: Angola, Azerbaijan, Iraq, Kuwait, the Republic of Congo, Saudi Arabia, and the UAE.⁵³ In these contexts, banks, bilateral lenders, and other private creditors will receive greater consideration from government leaders than IFIs and bondholders.

Yet sustainability-linked sovereign bonds can break this “advantage” and simultaneously offer political leaders a visible win. Brazil, for example, issued its \$2 billion GLOBAL 2031 ESG sustainable bond at a 6.5% yield—the lowest rate from a sovereign bond for Brazil in decades—implying an estimated “greenium” of 10 to 15 basis points.⁵⁴ In addition to the headline-grabbing stories that the bond would serve to protect against Amazon deforestation,⁵⁵ President Lula’s administration touted the low interest rates as a victory to bolster the country’s financial sector.⁵⁶ Minister of Finance Fernando Haddad heralded it as “the first time that Brazil has issued this type of bond—and it achieved 6.5% per year. This means an implicit spread of 180 points [against the US Treasury reference yield]. Why is this relevant? Because this spread is generally paid for investment grade countries. So it is relevant, because it means the international market is recognizing Brazil as an investment grade country.”⁵⁷

Governments also choose debt instruments based on the preferences of domestic political interests.⁵⁸ Bilateral loans from BRICS lenders tend to be preferred by industrial and labor interests, given that these are often provided for development projects that offer lucrative subcontracting opportunities for domestic industry and employment for domestic labor. By contrast, domestic financial interests prefer loans from IFIs that impose conditions to lower inflation and liberalize markets. Financial actors that back NOCs in Peru and Colombia, for instance, see bond issuance as a way to link government debt to the overall wellbeing of the financial system and by deepening domestic bond markets through positive spillovers from sovereign bonds to expanded issuance of corporate bonds.⁵⁹

52 This is in part a consequence of the political impacts of oil wealth, a phenomenon known as the “political resource curse,” whereby countries with greater fiscal reliance on oil revenues tend to have weaker governance and relatively non-democratic institutions. See, e.g., Ross, Michael. (2012). *The Oil Curse*. Princeton University Press. For risks facing governments that are fiscally over-reliant on NOCs, see Heller, Patrick R. P. (2017). Doubling down: National oil companies as instruments of risk and reward. *UNU-WIDER Working Paper* No. 2017/81.

53 See Gillies et al. (2021). A more conservative threshold for oil dependence is 30% of government revenue (following the IMF definition of resource-dependent), which adds countries such as Kazakhstan, Gabon, Algeria, Nigeria, Iran, Russia, and Qatar to this list.

54 Ministry of Finance of the Government of Brazil. (2023, September 5). “[Arcabouço Brasileiro para Títulos Soberanos Sustentáveis](#)” [Brazilian Framework for Sustainable Sovereign Bonds]. Press release. The “greenium” estimate is given by Pedro Frade Rodrigues, head of international debt capital markets at Itaú BBA, quoted in Rob Dwyer. (2023, November 23). “[Brazil draws big book for \\$2 billion inaugural green bond.](#)” *Euromoney*.

55 Rapoza, Kenneth. (2023, September 3). “[Brazil’s Lula Embraces ESG Just As World Starts To Hate It.](#)” *Forbes*.

56 Sustainable Finance Committee chaired by the National Treasury Secretariat Ministry of Finance of Brazil. (2023, October). [Relatório pré-emissão com a alocação indicativa de recursos](#) [Pre-issuance report with indicative allocation of resources].

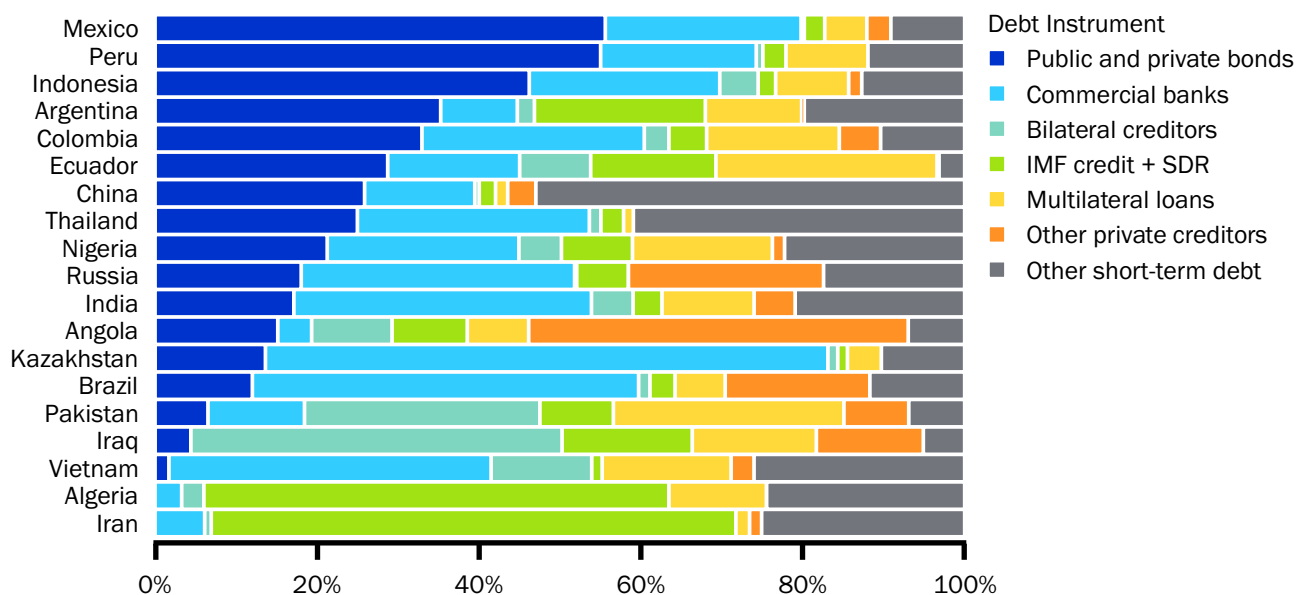
57 Quoted in: Presidência da República do Brasil. (2023, November 14). “[Brazil announces first issuance of sustainable bonds.](#)” Press Release.

58 Bunte (2019).

59 *Ibid.*, p. 136.

FIGURE 4

Choice of sovereign debt instruments (as % of total external debt) for selected NOC-managing governments



Countries are ordered by bond debt as a share of total external debt. Bond debt includes both public and publicly guaranteed debt from bonds that are either publicly issued or privately placed, and nonguaranteed long-term debt from bonds that are privately placed. Bilateral credit includes loans from governments and their agencies (including central banks), loans from autonomous bodies, and direct loans from official export credit agencies. IMF credit includes special drawing rights (SDR) allocations and members' drawings on the IMF other than amounts drawn against the country's reserve tranche position. Multilateral loans denote loans and credits from the World Bank, regional development banks, and other multilateral and intergovernmental agencies. Other private creditors denotes credits from manufacturers, exporters, and other suppliers of goods, and bank credits covered by a guarantee of an export credit agency. Short-term debt includes all debt having an original maturity of one year or less and interest in arrears on long-term debt. Data source: International Debt Statistics, hosted by the World Bank.

Bond issuance by NOC-managing governments tends to follow a pattern known as the “democratic advantage”: countries with stronger democratic institutions foster lower perceptions of sovereign risk, such that advanced-economy democracies fetch lower interest rates from bond investors and attract higher credit ratings from international rating agencies than emerging-market non-democracies.⁶⁰ As a result, beyond Norway, few if any NOC-managing governments can garner attractive rates from issuing bonds.

In Chile, for example, the political benefits from its SLB came not from cheaper access to capital, but rather the ability to raise international financing for policy goals popular with key constituencies. Chile was the first country to issue a sovereign sustainability-linked bond offering in 2022, capturing a 200 basis point spread for a 20-year maturity, similar to its yields on conventional sovereign bonds.⁶¹ Its sustainability targets include a pair of emissions and renewable targets—notably, a 2030 target of 95 MtCO₂e annual emissions, a 14% reduction from its 2019 emissions—and a target to increase female representation in

60 Ballard-Rosa, Cameron, Layna Mosley, and Rachel L. Wellhausen. (2021). Contingent Advantage? Sovereign Borrowing, Democratic Institutions, and Global Capital Cycles. *British Journal of Political Science* 51, 353– 373. On rating agencies, see Palacios and Carocati (2023).

61 Ministerio de Hacienda de Chile. (2023, June). *Chile's Sustainability-Linked Bond Report*. See p. 3.

corporate boards to 40%.⁶² Building on 2019 campaign promises, the gender target may have been a direct concession to women executives who had previously supported former President Bachelet, but whom President Piñera had hoped to bring into the conservative fold.⁶³ And the overall bond framework—which stretches back to Chile’s 2019 sovereign green bond—contributed to a \$3.8 billion boon in commercial debt issuance by year-end 2022, which further consolidated support from the financial sector towards Piñera’s center-right coalition.⁶⁴

Baked into financial statecraft is government awareness that different types of capital open up avenues of creditor influence over government decisions.⁶⁵ International financial institutions (IFIs) like the IMF and World Bank have long imposed constraints and conditions on sovereign lending.⁶⁶ Austerity measures such as increasing taxes, reducing public spending, and raising interest rates can be political suicide for some leaders, and therefore too high a price to pay for financial assistance from IFIs.⁶⁷



62 Ibid., p. 5 and p. 9.

63 See, e.g., remarks made in Ministerio de Ciencia, Tecnología, Conocimiento e Innovación (MinCiencia), (2021, July 1). “[Presidente Piñera anuncia compromisos sobre equidad de género en Foro Generación Igualdad de París.](#)” Press Release; Presidencia del Gobierno de Chile. (2018, May 23). “[Presidente Piñera anuncia medidas para promover la equidad de género.](#)” Press Release.

64 Madeira, Carlos and Andrés Pérez. (2023, October 16). The Role of Sovereign Green Bonds in Chile’s Development. *Georgetown Journal of International Affairs*.

65 Mosley and Rosendorff (2023).

66 Copelovitch, Mark (2010). *The International Monetary Fund in the Global Economy: Banks, Bonds, and Bailouts*. Cambridge University Press; Stone, Randall. (2011). *Controlling Institutions: International Organizations and the Global Economy*. Cambridge University Press; Clark, Richard and Lindsay Dolan. (2021). “Pleasing the Principal: U.S. Influence in World Bank Policymaking.” *American Journal of Political Science* 65(1): 36–51

67 Dreher, Axel, Jan-Egbert Sturm, and James Raymond Vreeland. (2015). Politics and IMF Conditionality. *Journal of Conflict Resolution* 59 (1): 120-148.

Turning to bilateral lenders such as China and Russia instead of the IMF can “free” governments from such concessions.⁶⁸ Yet even in these cases, borrowing governments find themselves subject to various diplomatic pressures, such as Chinese conditions to use borrowers’ national assets as guarantees and riders on employing Chinese labor and manufacturing.⁶⁹ In Ecuador, for instance, former President Correa lamented the country’s reliance on Chinese loans, calling them “a threat against our sovereignty” and that “negotiating with China is worse than negotiating with the IMF... they’re asking us for ridiculous guarantees.”⁷⁰ Similarly in Colombia, where an official at the Ministry of Finance and Public Credit remarked: “The Chinese have offered cheap finance but wanted the guarantee that they would get petroleum exports [from Ecopetrol]... But we do not work this way. Just because the loan is cheap, we do not agree to send them petroleum.”⁷¹

FIGURE 5

Political factors driving sovereign debt choices for NOC-managing governments in emerging markets

Emerging-market examples	Political institutional constraints	Export diversification	Key political constituencies	Preferred sovereign debt choices
Brazil, Argentina	Strong	High	Diverse	Bonds, IFIs, commercial banks
Mexico, Peru, Colombia, Indonesia	Mixed	High	Finance, industry	Bonds, commercial banks
Ecuador, Iraq, Nigeria	Mixed	Mid/Low	Labor, industry	Bilateral lending, bonds, IFIs
Kazakhstan, Vietnam	Limited	Mid/Low	Labor, industry	Bilateral lending (BRICS), commercial banks
Algeria, Iran	Limited	Low	Industry	IFIs (IMF credit + SDR)

Political institutional constraints refer to institutions that limit executive (president, premier, king, cabinet, council) power, such as autonomous legislative bodies, independent judiciaries, frequent elections, and durable constitutional restrictions on executive authority. Export diversification captures the extent of non-oil economic outflows and overall strength of the non-oil economy in global trade. Key political constituencies reflect the relative importance of labor groups, industrial actors, and financial actors in elections and the policy process.

For many domestic constituents in oil-producing states, there is still a premium placed on cultivating ties with IFIs given their global reach, deep pockets, reputable technical expertise, and value as a positive signal for domestic financial markets.⁷² In Brazil, for example, President Lula has marketed the country’s continued relationship with the World Bank as a driver of both progressive social programs like Bolsa Família and Farmácia Popular, as well as

68 Broz, J. Lawrence, Zhiwen Zhang, and Gaoyang Wang. (2020). Explaining foreign support for China’s global economic leadership. *International Organization* 74(3): 417-452.; Dreher, Axel, Andreas Fuchs, Roland Hodler, Bradley C. Parks, Paul A. Raschky, and Michael J. Tierney. (2021). Is favoritism a threat to Chinese aid effectiveness? A subnational analysis of Chinese development projects. *World Development* 139: 105291.

69 Bunte (2019).

70 Araújo, Heriberto, and Juan Pablo Cardenal. (2013). *China’s silent army: The pioneers, traders, fixers and workers who are remaking the world in Beijing’s image*. Penguin UK, p. 148.

71 Quoted in Bunte (2019), p. 120.

72 Dreher, Axel, Stefanie Walter. (2010). Does the IMF help or hurt? The effect of IMF programs on the likelihood and outcome of currency crises. *World Development*, 38: 1-18; Gehring, Kai, and Valentin Lang. (2020). Stigma or cushion? IMF programs and sovereign creditworthiness. *Journal of Development Economics* 146: 102507.

centrist economic programs that boost global supply chain integration for small and medium enterprises.⁷³

These considerations help explain why NOC-managing governments turn to different varieties of lending portfolios. Consider three South American cases, where Peru has traditionally opted for bilateral lending from Western countries, Colombia has pursued private commercial lending, and Ecuador has shown a growing preference for bilateral lending from BRICS countries, especially China.⁷⁴ And where bond issuance had grown in popularity for many Latin American countries in the 2000s and 2010s, rising demands for fiscal austerity from bondholders has caused governments to turn to commercial banks during times of crisis given fewer demands, if any, for changes in fiscal expenditures.⁷⁵

What is the lesson learned from sovereign lending theories? Governments are not just price takers, they choose lenders based on a range of political factors. Knowing that NOC-managing governments have certain tendencies towards different types of borrowing, driving down methane emissions will depend on tying-in methane KPIs across all types of lending instruments.

Methane abatement and international financial institutions

For governments that have political reasons to choose IFIs, but are hesitant to commit to long lists of concessions and austerity measures over time to access funds, lending institutions can design packages that unlock funds under new terms outside of existing arrangement frameworks.

The IMF's **Resilience and Sustainability Trust (RST)** program, launched in April 2022, is one such approach that has potential to overcome barriers that have beguiled previous IMF efforts to enact lasting change in oil-producing countries.⁷⁶ The RST program has roughly \$30 billion in loan support that is eligible to be distributed to 143 countries, 51 of which are oil and gas producers, with an explicit mandate from the IMF to use funds that go towards addressing the challenge of climate change.⁷⁷ As of August 2024, 20 programs have been approved with SDR 6.65 billion committed (~\$8.9 billion).⁷⁸ RST loans have a 20-year maturity—longer than traditional instruments like PRGT and GRA loans—with a lower interest rate in the range of 5 to 175 basis points below the Special Drawing Rights interest rate (SDRi) for GRA loans depending on country groupings and SDRi scenarios.⁷⁹ Unlike existing IMF frameworks that require semi-annual or annual performance evaluations to disburse funds, RST funds are unlocked only after a short-term (less than 4 years) set of conditions are met by the recipient government.⁸⁰

73 Presidência da República do Brasil. (2024, July 25). "In meeting with Lula, World Bank president backs Global Alliance Against Hunger." Press Release.

74 Bunte (2019).

75 Kaplan and Thomason (2017).

76 For example, decades of IMF Article IV consultations with conditions on enacting fossil fuel subsidy reform have led to minimal changes in subsidy levels. See, e.g., Mahdavi, P., Martinez-Alvarez, C. B., and Ross, M. L. (2022). "Why do governments tax or subsidize fossil fuels?" *The Journal of Politics* 84(4): 2123-2139.

77 International Monetary Fund. (2022). *Proposal To Establish A Resilience and Sustainability Trust*. IMF Policy Paper no. 2022/013.

78 Interview with anonymous IMF official, August 14, 2024. This figure includes two additional programs since the June 2024 official IMF update, see: International Monetary Fund. (2024). *Interim Review of The Resilience and Sustainability Trust and Review of Adequacy of Resources*. IMF Policy Paper No. 2024/031.

79 Ibid., Annex II. Table 2, p. 62.

80 Ibid., p. 75.

As of September 2024, methane abatement has been raised as a potential condition of lending in four countries, though was only imposed as a formal condition in the context of Mauritania. There, where state-owned SMH manages oil and gas operations, lending is conditional on RSF Reform Measure 10, “to eliminate routine flaring and gas discharges and reduce methane emissions by February 2025.”⁸¹ In Senegal, by contrast, methane abatement had been discussed but remained outside of program conditionality, with only a footnote specifying that “Senegal has agreed to adopt... higher standards in the oil and gas industry to ban the flaring of natural gas and dispersion of methane.”⁸² Likewise in Cote D’Ivoire and Cameroon, methane abatement is not part of program conditionality, but is only mentioned in passing when reviewing country efforts to comply with Paris Agreement targets.⁸³

This kind of “policy-based lending” is a new role for the IMF given its history of financial rescues tied to fiscal reforms and austerity measures. This is no accident, but a deliberate shift in the institution’s mission, at least according to IMF head Kristalina Georgieva: “The role of the fund inevitably has to change because the world around us is changing.”⁸⁴ The RST is one pillar of this strategic move, armed with a clear climate-related remit that is a far cry from the policy-agnostic positions the IMF has kept in the past.⁸⁵ As a new program, however, the metrics for success are still not well specified, which the Mauritania case illustrates given the lack of defined abatement targets or monitoring, reporting, and verification requirements. This is a general point which has been levied against IMF conditionality programs writ large in the institution’s own stocktaking of existing lending programs.⁸⁶ While this is a valid critique of the RST as well, it provides an opening to build in methane-related key performance indicators to evaluate recipient countries’ progress towards hitting their goals.⁸⁷

A recent proposal from John Hicklin at the Center for Global Development, and formerly of the IMF, is to adopt a loan condition that sees lenders enact penalties on methane emissions from oil and gas.⁸⁸ The IMF would assist lending governments in adopting a fee on excess methane emissions from the energy sector, and in parallel governments would supply a rebate for producers reducing their emissions. This follows from the IMF’s guidance in 2019 for lending countries to adopt methane taxes, albeit based on estimated emissions using

81 International Monetary Fund. (2023). *Islamic Republic of Mauritania: First Reviews Under the Arrangements under the Extended Credit Facility and the Extended Fund Facility, Requests for Modification of Performance Criteria and a Waiver of Nonobservance of Performance Criterion, and Request for an Arrangement Under the Resilience and Sustainability Facility*-Press Release; Staff Report; and Statement by the Executive Director for the Islamic Republic of Mauritania. IMF Country Report No. 23/444. See page 96.

82 International Monetary Fund. (2023). *Senegal: Requests for an Extended Arrangement Under the Extended Fund Facility, an Arrangement Under the Extended Credit Facility, and an Arrangement Under the Resilience and Sustainability Facility*-Press Release; Staff Report; and Statement by the Executive Director for Senegal. IMF Country Report No. 23/250. See page 22.

83 International Monetary Fund. (2024). *Côte d’Ivoire: Request for an Arrangement Under the Resilience and Sustainability Facility*-Press Release; Staff Report; and Statement by the Executive Director for Côte d’Ivoire. IMF Country Report No. 24/92. See page 56.; International Monetary Fund. (2024). *Cameroon: Request for an Arrangement under the Resilience and Sustainability Facility*-Press Release; Staff Report; and Statement by the Executive Director for Cameroon. IMF Country Report No. 24/53. See page 6.

84 Smith, Colby, James Politi, Aime Williams, and James Kyngé. (2023, October 9). “A reboot of the World Bank and IMF tests US influence.” *The Financial Times*.

85 Ibid.

86 International Monetary Fund. (2019). *2018 Review of Program Design and Conditionality*. IMF Policy Paper 2019/012.

87 Hicklin, John. (2024, March). *The IMF’s Resilience and Sustainability Trust: How Conditionality Can Help Countries Build Resilience*. CGD Policy Paper 324.

88 Ibid. See also: Hicklin, John, Kathryn McPhail, and Etienne Romsom. (2022, February). *A Practical Proposal on Methane for 2022: From Climate Pledges to Action*. CGD Note.

default leakage rates rather than using actual data.⁸⁹ By contrast, the methane penalties proposal has the added benefit of being precisely monitored with support from international third-party actors, such as the International Methane Emissions Observatory or the Environmental Defense Fund, while also generating revenue for states in the form of incentives for NOCs to reduce methane emissions.⁹⁰

Yet, implementing a fee/rebate system may be politically challenging for producing governments—especially those with powerful NOCs that would push back on such a proposal. A step in the right direction would be to make it standard practice to raise the issue of methane abatement in Article IV consultations with the IMF. This would not necessarily be pushing any new policy or tax. Rather, the IMF would be forcing the issue through regularized updates on how countries are making progress on their own climate commitments, such as Nationally Determined Contributions (NDCs) or signatories to the Global Methane Pledge. Much like the methane penalties proposal, the IMF would not be tracking methane emissions on its own, but rather drawing on statistics from third-party monitors and subsequently reporting on whether countries are on track to reduce their emissions.

Where the IMF provides financial support for general government balance of payments problems, the **World Bank** has offered project-specific financing and technical assistance on methane abatement programs as well as playing a coordinating role through the Global Flaring and Methane Reduction Partnership (GFMR). The framework builds on an initial trust of \$250 million from a diverse group of donor countries and IOCs—with a pipeline towards billions of additional dollars in private investment stewarded and vetted by the World Bank—that would fund and provide assistance to NOCs for methane abatement and flaring reduction projects.⁹¹ The lunch is not free, so to speak, in that support from the GFMR is conditioned on membership in and emissions reporting through OGMP 2.0, pledging a sub-0.2% methane emissions intensity target by 2030, as well as committing to zero routine flaring by 2030.⁹²

Part of the attractiveness of the GFMR is that *all* NOC-managing governments already engage with the World Bank on sovereign financing, as they also do with the IMF. Some have relationships with the Bank that date back to the 1950s, providing a trusted avenue for financing and assistance that may be lacking for governments not as exposed on commercial financial markets.⁹³ Yet there may still be some trepidation in fully committing to the partnership for NOCs in so-called non-aligned countries, especially where deep IFI engagement—beyond simply joining and pledging targets—comes with political costs to leaders of associating with the Washington Consensus.⁹⁴ This likely explains why the GFMR's predecessor, the Global Gas Flaring Reduction Partnership (GGFR), has not seen success in reducing flaring in Iran, Libya, and Russia, and only limited success in Venezuela and Algeria.⁹⁵

89 International Monetary Fund. (2019). *Fiscal Policies for Paris Climate Strategies: From Principle to Practice*. IMF Policy Paper 19/010.

90 Hicklin (2024).

91 See, e.g. Cahill (2024).

92 The World Bank. (2023, December) "[GGFR to evolve to the Global Flaring & Methane Reduction Partnership](#)." Briefing.

93 The World Bank. "[Member Countries](#)." Accessed August 2024.

94 Rodrik, Dani. (2011). *The Globalization Paradox: Democracy and the Future of the World Economy*. W.W. Norton Press.

95 The World Bank. (2024, June). [Global Gas Flaring Tracker Report](#).

Bilateral diplomacy towards NOC methane targets

Government-to-government engagement can be a more politically palatable route for leaders that are wary of solely relying on IFIs and international financial markets. This can come in the form of direct bilateral lending, as described earlier, or more indirectly through bilateral diplomatic efforts. The incentives behind such engagement are typically rooted in political and economic interdependence, whether through high levels of foreign direct investment, international trade, or geopolitical alliances.⁹⁶

While there is minimal evidence of sovereign bilateral lending explicitly tied to methane, bilateral diplomacy has been a key driver of methane commitments by NOC-managing governments. As an example, the U.S. Department of State made breakthroughs in December 2023 in Angola, Kazakhstan, and Turkmenistan joining the Global Methane Pledge.⁹⁷ Here, the State Department can incentivize action on methane not through investments and financing, but rather with bilateral assistance in project preparation, implementation, and even with identifying spaces of alignment between NOCs, competing ministries and regulatory agencies, and political leadership.⁹⁸

State Department engagement with Kazakhstan in particular—in addition to investor engagement with the NOC, **KazMunaiGaz**—contributed to the Tokayev government’s commitment to developing nationwide standards on banning routine methane venting and requiring methane leak detection and repair across the oil and gas sector by 2030.⁹⁹ With an estimated \$1.4 billion in potential costs for methane mitigation in Kazakhstan, the agreement with the U.S. would not only bring technology transfer and data sharing on leak detection for KazMunaiGaz; but it would also provide the Kazakh government with financial support from the U.S. EXIM bank and the backing of the U.S. government “to mobilize investments to



96 See, e.g., Schneider, Christina J., and Jennifer L. Tobin. (2020). The political economy of bilateral bailouts. *International Organization* 74(1): 1-29.

97 Office of the Spokesperson of the Department of State of the United States of America. (2023, December 4). *Highlights from 2023 Global Methane Pledge Ministerial*. Fact Sheet.

98 Interview with anonymous U.S. State Department official, June 28, 2024.

99 Office of the Spokesperson of the Department of State of the United States of America. (2023, December 2). *U.S.-Kazakhstan Joint Statement on Accelerating Methane Mitigation to Achieve the Global Methane Pledge*. Media Note.

support achieving full methane mitigation potential in Kazakhstan’s oil and gas sector.”¹⁰⁰ One State Department official involved in the negotiations noted the importance of the U.S. providing detailed “project work plans for KMG to take forward” on methane diagnostics, showcasing both the value of technical assistance in bilateral diplomacy beyond the clear fiscal benefits to the recipient country.¹⁰¹

NOC-managing governments can also be leading such diplomatic efforts with their peers in other countries with NOCs. This follows from a long history of “information sharing” at OPEC gatherings, where larger producers have pushed the adoption of new norms and strategies for other members.¹⁰² The COP meetings have played this role in more recent times. At COP28, for example, the Oil and Gas Decarbonization Charter (OGDC) commitment by 30 NOCs and 20 IOCs to eliminate methane emissions by 2030 was spearheaded by the UAE government through Sultan al-Jaber, president of COP28 and director of **ADNOC**.¹⁰³ Behind the scenes, however, was a concerted effort by al-Jaber to enlist a group of government officials representing reluctant NOCs to commit to methane reductions.¹⁰⁴ The “carrots” in this case were conditions that ADNOC would assist with technical transfer and that the UAE would find financial backers for funding methane abatement efforts; by contrast, “sticks” in the form of reduced UAE funding in other (non-oil) channels would result if governments did not ultimately sign on.¹⁰⁵

Summary

Where not all NOCs engage with financial markets, governments around the world share the universal need for financing sovereign expenditures. As a result, actors in international financial markets have numerous avenues to exert influence on NOC-managing governments towards methane abatement. But financiers must also realize the importance of financial statecraft: governments have different options, driven both by market conditions like access to and cost of capital, combined with political factors that affect leader support. Accounting for these factors can help construct attractive financing options for different types of sovereign lenders, while maintaining the need for tying financing to methane abatement.

100 Ibid.

101 Interview with anonymous U.S. State Department official, June 28, 2024.

102 Mahdavi, Paasha. (2020). *Power Grab: Political survival through extractive resource nationalization*. Cambridge University Press.

103 Twenty-Eighth Conference of the Parties of the UNFCCC. (2023, December 2). [“Oil & Gas Decarbonization Charter launched to accelerate climate action.”](#) Press release.

104 Interview with anonymous executive at a major oil services firm, June 19, 2024.

105 Ibid.

LEVER 3: TRADE POLICY

As all major NOCs export their oil and gas, trading partners can exert leverage in the form of import policies, tariffs, and restrictions. This is an especially critical lever for NOCs that are less engaged with financial markets or whose governments have limited interactions with international sovereign lending. The effectiveness of trade policy relies on “sticks”: NOCs and their governments are incentivized to comply by reducing their emissions, or otherwise face higher import costs or risk losing market share in critical economies.

Demand-side pressure using supply-side policy in importers

SOEs are often derided as the greatest beneficiaries of “offshoring” emissions by firms in jurisdictions with stringent climate policies. As the argument goes, firms that reduce their production or increase their costs to comply with domestic emissions standards see their market share snatched up by SOEs with few regulatory obligations exporting products into these consumer jurisdictions.¹⁰⁶ Governments aiming to reduce such offshoring, as well as countering other forms of “carbon leakage” (firms migrating to low-stringency jurisdictions), have designed carbon border adjustment mechanisms that impose tariffs on imported products that do not meet the higher emissions standards of the domestic market.¹⁰⁷

The “teeth” of these supply-side trade policies comes from a type of asymmetrical economic interdependence, where producing countries are overly reliant on specific markets for exports relative to consumer country reliance on specific importers.¹⁰⁸ Given the fungibility of global oil and gas markets—especially with the increase in LNG trade—this gives importing countries an advantage in terms of political leverage over targeted foreign policy targeted at exporting states.¹⁰⁹ For example, Algeria exports 78% of its gas to the EU (namely, France, Italy, and Spain), while the EU only imports 14% of its gas from Algeria.¹¹⁰ As a result, trade dependence can be a form of exposure for NOCs to the demands of consumer markets, which could apply pressure on methane-related disclosures, mitigation, and improved MMRV as conditions of continued access to lucrative markets.

106 Garsousi, Grégoire and Tomasz Kozłuki. (2017). Foreign Direct Investment and the Pollution Haven Hypothesis: Evidence from Listed Firms. *OECD Economics Department Working Papers* No. 1379.

107 Böhringer, Christoph, Carolyn Fischer, Knut Einar Rosendahl, and Thomas Fox Rutherford. (2022). Potential impacts and challenges of border carbon adjustments. *Nature Climate Change* 12(1):22–29.

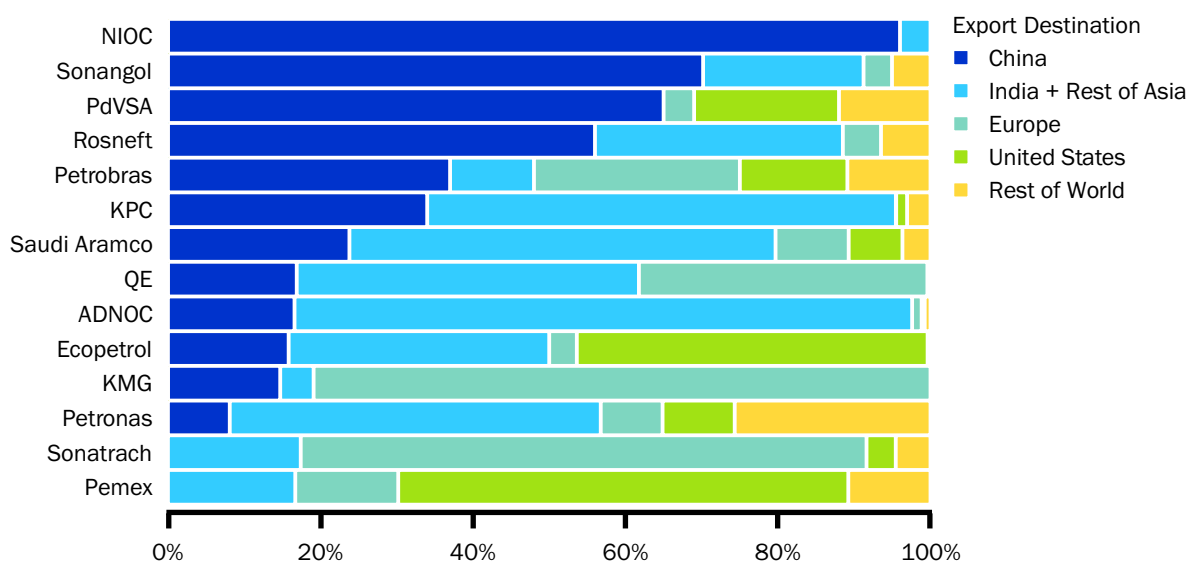
108 Barbieri, Katherine. (1996). Economic interdependence: A path to peace or a source of interstate conflict? *Journal of Peace Research* 33(1), 29-49. This typically results from the lack of export diversification in extractive economies, which tend to see their export-oriented industries dominated by the oil sector—part of a pattern of economic maladies referred to as the “resource curse”—as compared to their trading partners which have more diversified economies. On the lack of export diversification in oil producers, see: Ross, Michael L. (2019). What do we know about export diversification in oil-producing countries? *The Extractive Industries and Society* 6(3): 792-806.

109 Richardson, Neil R., and Charles W. Kegley Jr. (1980). Trade dependence and foreign policy compliance: A longitudinal analysis. *International Studies Quarterly* 24(2): 191-222.

110 Data from UN Comtrade for 2021, based on export of petroleum gas in dollars.

FIGURE 6

Export destinations (as % of total exports) for select NOCs in 2022-2023



NOCs are inversely ordered by percentage of exports to Chinese markets as a share of total exports, ranging from Sonatrach (no exports to China) to NIOC (96% exports went to China). Data sources: Annual reports (Aramco, Ecopetrol, KazMunaiGaz, Pemex, Petrobras, Petronas, Rosneft); EITI filings (Sonangol); Observatory of Economic Complexity (ADNOC, Kuwait Petroleum Company, Qatar Energies, Sonatrach); and Reuters reports (NIOC, PdVSA).

Methane import rules

Governments around the world are enacting, or in the proposal stages of, trade policies that incorporate methane-related standards on imported oil and gas.¹¹¹ Leading examples include the EU’s regulations on imported oil and gas and Japan’s Coalition for LNG Emission Abatement towards Net-zero (CLEAN), with proposals being considered by the government of South Korea to reduce emissions from imported fossil fuels.¹¹²

The EU’s regulations aim to apply the same methane standards to importers that EU-based companies must comply with—namely, to measure, monitor, report and verify methane emissions, and to reduce operational emissions to comply with “maximum methane intensity values” on produced and transported oil and gas.¹¹³ The legislation calls for the EU Commission to develop “methane performance profiles” for each supplying country and producer, “containing the methane emissions data related to crude oil, natural gas and coal placed on the Union market.”¹¹⁴ This would apply to each NOC exporting oil and gas to the EU, requiring the NOC not only to supply detailed MMRV data but also its actions on voluntary or regulatory measures to reduce emissions to satisfy the emissions intensity limits.

It is notable that the regulations enjoy broad popular support within the EU—largely in part due to their anticipated impacts on the Russian oil and gas industry’s capacity to finance the

111 IEA. (2023). *Global Methane Tracker 2023*, section: “[The case for methane policy and regulation](#).”

112 Regarding the case of Korea, see: Jinsun Roh, Gyunyu Kim, Axel Lemus. (2024, July). *EU Methane Import Standard: Policy Implications for South Korea*. Solutions for Our Climate report.

113 Regulation (EU) 2024/1787 of the European Parliament and of the Council of 13 June 2024 on the reduction of methane emissions in the energy sector and amending Regulation (EU) 2019/942.

114 Ibid., Section (69).

invasion of Ukraine—suggesting that other importing governments may pursue similar policies under the guise of energy security and economic independence.¹¹⁵ Yet there remain concerns about the specificity of the “intensity values” and the pathways through which the EU will enforce compliance.¹¹⁶ Critics have also noted the problems in comparability of intensity standards. A one-size-fits-all approach, such as the 0.2% intensity target used by OCGI and OGMP 2.0, could provide perverse incentives for large-volume producers with naturally-low methane intensities such as Saudi Arabia and the UAE to minimize their efforts towards overall methane abatement.¹¹⁷ And there is also the issue that intensity standards set on producers only will likely underestimate emissions from the full supply chain, a particular problem for LNG imports.¹¹⁸

Still, there is promise for the effectiveness of the EU rule if consensus is reached on appropriate metrics and measurement tools to enforce compliance. One study concluded that the regulation by itself has “potential to reduce more than 30% of global methane emissions from the oil and gas sector,” equivalent to capturing 90 billion cubic meters of gas that would otherwise be leaked or vented into the atmosphere.¹¹⁹ Though this estimated reduction is likely an overestimate, a sizeable portion of whatever abatement is achieved would come from efforts by NOCs that have historically supplied EU markets—namely, Sonatrach, Rosneft, and Gazprom, and to a lesser extent SOCAR and Libya NOC—that have few other regulatory incentives or exposure to conventional financial levers that would drive methane abatement.

The EU rule followed their 2022 announcement in a Joint Declaration, alongside the US, UK, Canada, Norway, and Singapore, to reduce emissions on domestic and imported fossil fuels.¹²⁰ Specifically, the declaration included a pledge to put “in place measures to require or strongly incentivize reductions in greenhouse gas emissions associated with fossil energy imports.”¹²¹

In addition to the EU, Japan has made progress on its pledge through the **Coalition for LNG Emission Abatement toward Net-zero (CLEAN)** and a potential Methane Import Performance Standard (MIPS).¹²² The CLEAN partnership, which is led by three Japanese government agencies alongside Korea, the US, the EC, and Australia, provides a forum for importers to formally request LNG producers to provide methane leakage mitigation plans during the

115 Berguist, Parrish and Paasha Mahdavi. (2023). [Examining the effect of cost information and framing on support for methane regulations in Europe](#). *Environmental Research Letters* 18(094046).

116 Cahill, Ben and Hatley Post. (2024, May 3). *EU Methane Rules: Impact for Global LNG Exporters*. CSIS Briefing.

117 This is based on wide variance in capacity to achieve the OGCI target, which is documented in Chen, Z. et al. (2023). [Satellite quantification of methane emissions and oil-gas methane intensities from individual countries in the Middle East and North Africa: implications for climate action](#). *Atmos. Chem. Phys.*, 23, 5945–5967. See also a report by Centre for Science and Environment. (2023) [Methane: Is all the talk accompanied by a walk?](#) CSE India Fact Sheet.

118 Olczak, Maria, Andris Piebalgs, and Jonathan Stern. (2024, June). [Analysing the EU Methane Regulation: what is changing, for whom and by when?](#) The Oxford Institute for Energy Studies. *Energy Insight* 153. See also Cahill and Post (2024).

119 Tzompa Sosa, Zitely and Lesley Feldman. (2023, October). [Strong EU methane regulations for imported gas can slash methane pollution globally](#). Clean Air Task Force Policy Brief.

120 Office of the Spokesperson of the Department of State of the United States of America. (2022, November 11). [Joint Declaration from Energy Importers and Exporters on Reducing Greenhouse Gas Emissions from Fossil Fuels](#). Media Note.

121 Ibid.

122 On the initial impetus for import standards in Japan, see Mina Berkow (2022, December 4) [How Japan and other energy importers can spur global methane action](#). EDF blog.

procurement process.¹²³ Twenty Japanese companies, including Tokyo Gas and Mitsubishi, are involved in the CLEAN partnership, though disclosure by producers remains voluntary.¹²⁴ One proposal to make these plans mandatory is a MIPS policy that would build on Japan's existing Carbon Levy,¹²⁵ with a standard equivalent to the OGMP 0.2% methane intensity target and penalties on producers exceeding this threshold. One study finds the projected impacts to be substantial were Japan to adopt a MIPS: a 23% reduction in methane emissions by 2032 compared to a 2023 reference case, with only minimal costs borne by producers at roughly \$0.37/barrel and \$0.04/MMBtu for oil and gas, respectively.¹²⁶

In parallel with these import standards, incentive programs spearheaded by the EU Commission are anticipated to reduce compliance costs for suppliers from low- to middle-income economies.¹²⁷ The “You Collect, We Buy” scheme is a first attempt towards these incentives, targeting NOCs by setting up a mechanism that effectively guarantees demand for captured methane that would otherwise be emitted through venting or flaring.¹²⁸ The pilot country is Algeria, where **Sonatrach** supplies roughly one-sixth of all EU imported gas, through the TransMed and Medgaz pipelines and via Algerian LNG. The scheme is not off to a good start, however, as there has been no implementation of methane abatement efforts to date. This is in part due to clashes between Sonatrach and the energy ministry and regulatory agency (ALNAFT), which have limited Sonatrach's autonomy and capacity to engage directly with foreign investors on financing projects to capture vented gas.¹²⁹ Further, there appears to be tepid interest by government leadership in redirecting capital investment towards Sonatrach and away from increased social expenditures and fuel subsidies in anticipation of September 2024 presidential elections, the first since mass protests against President Tebboune in February 2021 led to dissolution of the cabinet and half of the legislature.¹³⁰

While the choice of pilot may have hampered the rollout of the scheme,¹³¹ expansion to other markets like Turkmenistan may put the program back on track and attract other NOCs.¹³² Key to its success will be continued collaboration in the form of bilateral diplomatic support from the U.S. State Department to further incentivize not just NOCs themselves but also host governments in pursuit of their own diplomatic goals.¹³³ And collaboration with the World Bank, alongside commercial financiers and IOCs, will ensure the program's success in

123 Japan Organization for Metals and Energy Security. (2023, July 20). [Coalition for LNG Emission Abatement toward Net-zero - Sharing LNG project-level methane reduction measures](#). JOGMEC News Release.

124 Yamamoto, N. and D. Chiba. (2024, October 4). [Japan, South Korea LNG buyers seek transparency on methane emissions](#). Nikkei Asia.

125 Cabinet of Japan. Basic Plan for the “GX: Green Transformation Policy.” Approved February 10, 2023.

126 Rystad Energy and Clean Air Task Force. (2024, April 11). [Impact of a Japan methane import performance standard](#). Impact assessment - final report.

127 Piebalgs, Andris and Maria Olczak. (2023, January) [The EU can reduce global methane emissions by jointly purchasing gas](#). EU / RSC Policy Brief.

128 European Commission - Statement. (2023, December 2). [Statement by President von der Leyen for the Super Pollutants Summit at COP28](#). See also: International Energy Agency. (2024, March). [“You Collect, We Buy” Scheme](#). IEA policy description.

129 Henneberg, Sabina and Noam Raydan. (2024, July 4). [How the EU's Plan to Replace Russian Gas Exposes Challenges in Algeria's Energy Sector](#). *Manara Magazine*.

130 Ibid. See also: Zine Labidine Ghebouli. (2024, March 15). [The Road Ahead of Algeria's Elections: A Changing Status Quo? Arab Reform Initiative](#).

131 Cahill, Ben. (2024, July). [National Oil Companies and Methane Reductions: How to Meet 2030 goals](#). CSIS Report.

132 Winkle, Henry. (2024). EU policies to reduce methane emissions in the energy sector. *Turkmen Energy 5* (Summer): p. 22.

133 The White House. (2022, November 7). [Joint Readout of U.S.-EU Task Force Meeting on Energy Security](#). Press release.

garnering higher levels of financial support to incentivize even the most financially-isolated NOC-managing governments towards deeper methane abatement.

Border adjustment mechanisms

The EU's carbon border adjustment mechanism (CBAM), entered into force in late 2023, is perhaps the most well-known example of trade policy tied to existing carbon markets. The CBAM imposes supplemental tariffs on imported carbon-intensive products such as aluminum, cement, steel, and fertilizer to match the price on carbon imposed on European products.¹³⁴ The concept that anchors the border adjustment is comparability: how much carbon *would have been* emitted in producing a ton of cement, for example, if it were produced in the EU. Following arguments that the EU Commission should extend the category of affected goods to oil and gas—in order to specifically reduce flaring by petroleum exporters¹³⁵—the EU CBAM will apply to all sectors beginning in 2030.¹³⁶ Others have gone further to lobby the EU to include methane emissions under the umbrella of the CBAM after 2030.¹³⁷

Yet there is concern that methane would not and cannot ultimately be included under the CBAM given its exclusion in the EU-ETS, stemming from the very same measurement problems in quantifying point-source methane emissions across the full supply chain that challenge the efficacy of the EU's methane rules on imported oil and gas.¹³⁸ From a border adjustment framework in particular, there will be difficulty in quantifying emission factors for imported oil and gas that are comparable to EU-produced oil and gas. Prior work on emission factor implementations by the US versus Russia have shown the challenges in comparability for embodied methane emissions from the oil and gas sector, which raise doubts about the ability of a CBAM-style policy to actually reduce methane emissions on imported oil and gas.¹³⁹ With that said, ongoing evolution in satellite-based methane measurement could eventually provide the needed data to properly assess methane intensity on a global basis.

Summary

Trade policy can serve as an effective tool to encourage climate action by NOCs exporting to key markets. But much of its success in specifically reducing methane emissions is based on theory, and not practice, as there is limited empirical evidence that supply-side policies have been effective in driving down emissions from exporters. Still, the potential for trade policy looms large, given its reach to NOCs that are not engaged with financial markets or whose governments have limited interactions with international sovereign lending. Success will depend not only on developing clear and comparable methane-related metrics to enforce regulations, but also maintaining broad political support in consuming markets.

134 European Commission Directorate-General for Taxation and Customs Union. [Guidance Document on CBAM Implementation for Importers of Goods into the EU](#). Version: 30 May 2024.

135 Davis, Mark and John-Henry Charles. (2021, September 23). [How the EU's CBAM will impact energy imports from countries that flare gas](#). *FlareIntel*.

136 Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023: Establishing a carbon border adjustment mechanism, L 130/52. Section (67).

137 Environmental Defense Fund. (2023, October 10). [Joint Letter to Methane Regulation Negotiators](#). See also: Wetselaar, Maarten. (2021, September 16). [EU methane rules must cover the entire gas supply chain, including imports](#). *Euractiv*.

138 Kleinberg, Robert. (2024, March 20). [Why Methane Won't Be Included in the European Carbon Border Adjustment Mechanism](#). Columbia University Center on Global Energy Policy blog.

139 Kleinberg, Robert. (2023, January 15). [Methane Emissions from the Fossil Fuel Industries of the Russian Federation](#). Columbia University Center on Global Energy Policy report.



LEVER 4: CIVIL SOCIETY

While NOCs are, in theory, state institutions and therefore indirectly exposed to civic engagement, in practice there is often a much more limited civic space for engagement or even criticism of NOCs by public constituencies. Pressure by non-governmental organizations and civil society actors, whether domestic or international, has not had a track record of success in altering NOC behavior.¹⁴⁰ Yet the potential power that civil society can wield must be tapped into to buttress pressure coming from international financial actors, sovereign lenders, and importing governments.¹⁴¹

Theories of change

As it pertains to NOCs, the term “civil society organizations” comprises a range of actors, including domestic think tanks, academics, community-based organizations, and other advocacy groups, along with international NGOs, foundations, and multistakeholder initiatives. The goals of civil society organizations engaging with NOCs—e.g., through frameworks of natural resource governance—reflect a dichotomy of two different theories of change. One underpins accountability and transparency, while the other emphasizes technical support and assistance, with the key variable being the “theory of mind” of the target and its inner will and motivations to change.¹⁴²

140 Interview with anonymous NGO director, 8 April 2024.

141 Nxumalo, Phesheya and Robert Pitman. (2024, January 29). [Civic Space is Crucial for Resource Governance and the Energy Transition—But It’s Endangered](#). Natural Resources Governance Institute blog post.

142 Extractive Industries Transparency Initiative. (2019). [The EITI Standard 2019: The global standard for the good governance of oil, gas and mineral resources](#). EITI International Secretariat. See also, for example, the mission statements from leading NGOs in the oil and gas governance space: Natural Resource Governance Institute. “[About Us](#)”; International Institute for Sustainable Development. “[Mission and Goals](#)”; Publish What You Pay. “[Our Strategy](#)”; New Producers Group. “[What we do](#).”

Transparency efforts are informed by a theory of change that sees information not as the end itself, but rather the means to arm the public with evidence to demand changes from government and NOC officials so as to provide the “political will” for reform. Technical support efforts, by contrast, are driven by a theory of change that sees NOCs as having the will to change, but lack the capacity to do so. Both theories find empirical support from governance reforms to decrease corruption,¹⁴³ restore worker rights,¹⁴⁴ improve gender rights,¹⁴⁵ and reduce violent conflict and human rights violations in extractive communities.^{146,147} By extension, civil society organizations could pursue both types of frameworks to pressure NOCs to reduce methane emissions.

Limited examples of civil society success

In practice, however, NOCs are largely immune from civil society pressure when it comes to environmental and climate issues. In non-democratic countries, this is no different from the limited impact of civil society on any state actor or agency given the lack of accountability mechanisms through elections and independent legislatures and judiciaries.¹⁴⁸ But even in democracies, where civil society plays a large role in the policy process, governments shield NOCs from public pressure given their economic importance and instead divert pressure towards regulators and oversight agencies that are unsuccessful (or unwilling) in changing NOC behavior.¹⁴⁹ That said, there are at least three notable exceptions to this pattern that illustrate how such engagement can be successful, particularly on reducing operational emissions in the oil and gas sector.

In Ghana, domestic civil society actors blocked the **Ghana National Petroleum Corporation (GNPC)** from receiving an “emergency loan” from parliament for \$1.65 billion to develop an offshore oil and gas asset that had been controlled by Aker, a private Norwegian company. Ghanaian think tanks, journalists, and researchers—banded together under the “Alliance of CSOs”—pushed back on GNPC’s ambitions by arguing that the deal lacked sufficient transparency and contained an “excessive valuation of a risky asset.”¹⁵⁰ Supported by international non-profits like the Natural Resources Governance Institute, the Alliance pressured members of parliament and went on an international media blitz to argue this project was against the national interest in economic terms, rather than framing it as a

143 Gillies, Alexandra. (2019). *Crude intentions: How oil corruption contaminates the world*. Oxford University Press; Gillies, Alexandra. (2010). Reputational concerns and the emergence of oil sector transparency as an international norm. *International Studies Quarterly* 54(1), 103-126.

144 Van Alstine, James and Nathan Andrews. (2016). Corporations, civil society, and disclosure: a case study of the extractive industries transparency initiative. In Van de Graaf, T., B. K. Sovacool, A. Ghosh, F. Kern, M. T. Klare (eds.), *The Palgrave Handbook of the International Political Economy of Energy*, 95-114.

145 Perks, Rachel and Katrin Schulz. (2020). Gender in oil, gas and mining: An overview of the global state-of-play. *The Extractive Industries and Society*, 7(2), 380-388.

146 Olsen, T., Rehbein, K., Snelson-Powell, A., & Westermann-Behaylo, M. (2022). Human rights in the oil and gas industry: When are policies and practices enough to prevent abuse?. *Business & Society* 61(6), 1512-1557.

147 It should be noted that empirical results have been mixed on the overall value-add of transparency measures, with some studies finding only limited improvements in governance as a result of transparency programs in oil and gas countries, such as the EITI. See, e.g., Sovacool, B. K., Walter, G., Van de Graaf, T., & Andrews, N. (2016). Energy governance, transnational rules, and the resource curse: Exploring the effectiveness of the Extractive Industries Transparency Initiative (EITI). *World Development* 83, 179-192; see also Kolstad, I., & Wiig, A. (2009). Is transparency the key to reducing corruption in resource-rich countries? *World development*, 37(3), 521-532.

148 Öge, Kerem. (2017). Transparent autocracies: The Extractive Industries Transparency Initiative (EITI) and civil society in authoritarian states. *The Extractive Industries and Society* 4(4): 816-824.

149 See, e.g., Eghosa Osa Ekhaton (2016). Public Regulation of the Oil and Gas Industry in Nigeria: An Evaluation. *Annual Survey of International and Comparative Law* 21: 43-92.

150 Graham, Y. (2021, September 23). [Re: Parliament must investigate the GNPC transaction with Aker Energy Ghana](#). *Alliance of CSOs Working on Extractives, Anti-Corruption and Good Governance* letter to Parliament.

climate issue given Ghana’s minimal emissions footprint.¹⁵¹ Advocates were not only successful in blocking this specific project from being funded,¹⁵² but their efforts seeded the launch of the National Energy Transition Committee, the Ghanaian government’s first detailed effort towards emissions reductions across the electricity and petroleum sector.¹⁵³

In Nigeria, domestic and international civil society groups have been successful in providing technical assistance to government agencies to access and analyze precise data on incomplete flaring and on methane leaks from pipelines and processing infrastructure operated or managed by **NNPC** and its partners. The National Oil Spill Detection and Response Agency (NOSDRA), which serves as one of the country’s environmental regulators, developed the Nigerian Gas Flare Tracker in collaboration with local think-tanks to analyze VIIRS data curated by the Colorado School of Mines.¹⁵⁴ Groups with GIS data scientists such as the **Africa Policy Research Institute (APRI)** have aided NOSDRA in managing the Tracker and preparing a public dashboard for easy access to satellite-based data that local groups like the Niger-Delta-based Stakeholder Democracy Network (SDN) can use to engage with the industry.¹⁵⁵ One of NOSDRA’s Directors, Margaret Adesida, lauded the collaborative efforts to create “data that is driving the way we address the issues, the way we engage the companies, and it has put a lot of pressure on oil and gas industry... to install newer and more accurate meters on production facilities” to monitor incomplete flaring and leaks.¹⁵⁶ In this case, technical assistance from domestic civil society led to higher transparency which fostered greater capacity of public groups to pressure the NOC and companies that work with the NOC to reduce their operational emissions.

In Iraq, collaborative efforts by civil society and international organizations have sparked efforts to accurately report and account for emissions from the oil and gas sector. The non-profit **Enabling Peace in Iraq Centre (EPIC)**, for example, has advocated for flaring reduction through increased transparency and tighter enforcement of flaring regulations by the Iraqi Ministry of Environment.¹⁵⁷ Using crowdsourced data from the SkyTruth project and the Colorado School of Mines, EPIC has pinpointed flaring activity at producing sites around the country and provided clear evidence of limited reductions in nationwide flaring volumes.¹⁵⁸ Given the significant ramp-up in domestic associated gas production in Iraq, EPIC’s efforts aim to assist the government in hitting its stated goal of eliminating all routine flaring by 2028 and utilizing all associated gas currently being flared. While it remains too early to evaluate the efficacy of these efforts, the mere existence of civil society monitoring groups is a welcome step forward for an oil sector led by a NOC that has historically provided little disclosure on emissions, let alone general operational activities.¹⁵⁹

151 Staff. (2021, August 12). [Ghana plans to buy back oil licences no one wants](#). *The Economist*.

152 Boakye, Benjamin. (2023). [Civic Advocates save Ghana Millions of Dollars as Aker’s AGM relinquishes its 80% interest in the South Deepwater Tano Block](#). Africa Centre for Energy Policy report.

153 Interview with an anonymous NGO official involved with the case, 2 April 2024. For information on the Committee, see: Ministry of Energy of the Republic of Ghana. (2023, September). [Ghana’s National Energy Transition Framework \(2022-2070\)](#). Note that Ghana has had a ban on flaring since the Petroleum (Exploration and Production) Act 2016 (Act 919), but the minimal enforcement prior to 2023 accounted for part of the country’s 8.9% annual increase in energy-sector GHG emissions.

154 Nigerian Gas Flare Tracker. [“About the Data.”](#)

155 Ibrahim Mahmoud, Mahmoud. (2024, March 20). [Methane Mitigation and Reduction in Nigeria’s Oil and Gas Sector](#). APRI Policy Paper.

156 Remarks at [Practical Action on Methane Emissions: How the IMF and Others Can Help](#). Center for Global Development event, November 21 2023.

157 Enabling Peace in Iraq Center. (2024, July). Issue Brief: The Flaring of Natural Gas in Iraq.

158 Ibid.

159 Natural Resources Governance Institute. 2017 Resource Governance Index: Iraq (oil and gas). Country Profile.

Power of civil society must be tapped going forward

Though the track record of public pressure campaigns on altering NOC behavior has been limited, the immense potential of civil society means that it is a lever that should not be abandoned.¹⁶⁰ This will be especially true of NOCs that operate in democratic emerging markets, where mass publics still have a say on the future of the oil industry in the energy transition. Across NOCs in Mexico, Colombia, Brazil, and Indonesia, for example, public pressure is mounting on government leaders that have promised stronger climate policies, with civil society questioning the role of the NOC in the energy transition.¹⁶¹ Commitments to methane abatement by the NOC could be one avenue to maintain a strong role in the transition; civil society groups that continue to apply pressure on elected leaders could ensure that NOCs see political value in committing to methane abatement.

¹⁶⁰ Gillies et al. (2021).

¹⁶¹ Graham, Thomas. (2024, July 12). [Mexico's love affair with Pemex: will its bid to save the fallen oil giant block the shift to clean energy?](#) *The Guardian*.



CONCLUSION

NOCs and the governments that manage them face competing political pressures and challenges that influence their decisions over choices in how to finance their activities. Understanding the political drivers of these choices in each context is essential for the success of methane abatement efforts, which have been stalled not just by technical challenges but also by political roadblocks. Indeed, this is what has stymied climate progress across the globe. “The interaction between politics, economics and power relationships,” the IPCC has emphasized, “is central to explaining why broad commitments do not always translate to urgent action.”¹⁶²

This report has identified four levers to break through the roadblocks that stand in the way of methane abatement efforts: instruments of sustainable finance, financial statecraft, trade policy, and civil society. By drawing on these levers, international actors, governments, and financiers can work together with national oil companies and their host governments to achieve deep and lasting methane reductions. With these levers in mind, this report proposes the following specific recommendations for sustained methane abatement by NOCs:

Deepen collaboration for improved measurement of methane emissions. Existing instruments for sustainable finance are not perfectly suited for methane abatement, given that verifying progress on targets is hampered by poor measurement of methane emissions. This is an ideal opportunity for NOCs, governments, financiers, and international institutions to collaborate with nonprofits and international agencies working to sharpen remote sensing tools for methane monitoring, measurement, reporting, and verification (MMRV). With new tools such as EDF’s MethaneSAT, for example, producing governments and international actors can work together with domestic and foreign civil society to improve assessments of national methane emissions and verification of NOC estimates, unlocking new opportunities for sustainable financing.

Identify political wins for methane abatement in producing countries. Successfully reducing methane emissions in oil and gas producing countries is as much about politics as it is about obtaining financing and optimizing project economics. International actors engaging with NOC-managing countries on methane abatement should explore solutions that not only measure and mitigate emissions, but do so while improving governments’ political standings with core constituencies. For example, governments reliant on political support from the finance and manufacturing sectors will see greater political benefits from engaging with IFIs and public and private bond markets on methane abatement financing, as domestic coalitions benefit from positive spillovers in the form of lower inflation and liberalized markets from IFI conditions, and expanded opportunities for corporate bond issuance.

162 M. Pathak, R. Slade, P.R. Shukla, J. Skea, R. Pichs-Madruga, D. Ürge-Vorsatz. (2022). Technical Summary. In: *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla, J. Skea, R. Slade, A. Al Khouradajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press. See p. 55.

Craft creative solutions for sovereign lending to finance methane abatement. Using existing mechanisms for sovereign debt financing, lenders and civil society stakeholders should incorporate methane abatement targets as conditions or incentives to unlock new tranches of funding for NOCs and their host governments. One such example of this “policy-based lending” is the IMF’s Resilience and Sustainability Trust, which has approximately \$30 billion in loan support available for distribution to 143 countries, including 51 oil and gas producers, with a clear mandate from the IMF to direct these funds towards addressing climate change challenges. At a minimum, sovereign lenders should incorporate methane reporting in regular consultations, such as Article IV Consultations and World Bank Country Program Evaluations. To ensure success, such approaches must be coupled with detailed methane tracking tools so that measurements and progress on targets, if applicable, can be effectively evaluated.

Experiment with trade policy in importing countries to drive methane abatement from exporting countries. The effectiveness of trade policy for reducing methane emissions remains largely theoretical, as it is still too early to evaluate the impact of such supply-side policies on curbing emissions from exporters. Still, experimentation with different approaches—whether via carbon border adjustment mechanisms, import standards on piped gas and LNG, or commercialization of methane leaks in exporting countries—can unlock significant gains in methane abatement. This is especially key for reaching NOCs that do not engage with financial markets or whose governments have minimal ties to international sovereign lending. Achieving success will require not only the development of clear, comparable methane metrics and monitoring tools to enforce regulations but also sustained political support in consuming markets.

Given its global reach, the financial sector can incorporate methane emissions reductions into specific instruments and agreements, both as a powerful tool to mitigate climate change as well as a driver of political benefits in their own right. Working in tandem with sovereign lenders, diplomatic agencies, and civil society, financial actors can design instruments that incentivize NOCs to pursue methane abatement activities that serve their countries’ unique economic and political goals. Putting politics first, rather than simply seeing methane abatement through technocratic and economic lenses, will ultimately increase the likelihood of making progress on reducing methane emissions from NOCs.

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