

Toolbox of Financial Incentives to Leave Fossil Fuels in the Ground

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CONTEXT

Leaving fossil fuels in the ground is a climate imperative

As of 2023, the remaining carbon budget to limit global warming to 1.5°C was 380 Gigatons (Gt) of CO2 emissions, while developed fossil fuel reserves could potentially contribute 915 Gt if fully extracted and burned.¹ To prevent dangerous levels of global warming, a significant portion of the world's fossil fuel reserves must be left in the ground. The most effective approach to ending fossil fuel dependency is addressing both demand and supply simultaneously.² Given the substantial financial stakes, innovative financial incentives may help governments leave fossil fuels in the ground ("LINGO Incentives"). Several initiatives are already hinting towards that objective. First, in 2015, Oilwatch proposed the creation of an Annex Zero: an addition to the UNFCCC for nations and territories that make a formal commitment to non-extraction of fossil fuels.³ These efforts should be rewarded with international support such as technology transfers, financial aid, and political recognition, while promoting decentralized and renewable energy systems. The Bridgetown Process,⁴ led by Barbados Prime Minister Mia Mottley, proposes reforms to global finance to support vulnerable countries in tackling climate change. It focuses on debt relief, better access to climate finance, and improving financial institutions to enable more effective climate action and development.

3 Oilwatch (2015) It is time to create ANNEX 0. Proposal for COP21, Paris, December 2015.





¹ Trout (2023) Sky's Limit Data Update: Shut Down 60% of Existing Fossil Fuel Extraction to Keep 1.5°C in Reach. Oil Change International. Briefing, August 2023.

² See e.g. Green & Denniss (2018) <u>Cutting with both arms of the scissors: the economic and political case</u> for restrictive supply-side climate policies. Climatic Change 150, 73–87.

⁴ GFC (2023) The Bridgetown Initiative to reform the international financial architecture, Blog, February 2023



The Dubai Mandate & NDC Updates

The first global stocktake (GST) under the Paris Agreement concluded at COP 28 in Dubai with a call on parties to *"transition away from fossil fuels in energy systems, in a just, orderly and equitable manner"*. This marks a historic milestone.

But as UN climate chief Simon Stiell said, this pledge is a *"lifeline, not a finish line"*. Governments will submit their third generation of Nationally Determined Contributions (NDCs) in 2025, marking the first update since the landmark agreement to transition away from fossil fuels. These new NDCs should align with the COP28 commitment, including steps towards a phase-out of fossil fuel extraction and burning to meet the Paris Agreement goals.

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WHO IS THE TOOLBOX For?

This toolbox offers a comprehensive collection of financial mechanisms designed to support the transition away from fossil fuels by providing countries with the necessary incentives to leave fossil fuel reserves untapped. We call these mechanisms Leave-it-in-the-ground/LINGO Incentive Deals (LIDs).

The toolbox serves as a vital resource for various stakeholders:

- 1. Public Administration: For countries with fossil fuels in the ground, this toolbox provides strategies to seek financial incentives that facilitate a sustainable transition toward cleaner energy sources, while addressing social development goals.
- 2. Financial Institutions and Donor Countries: Public and private financial entities can leverage this toolbox to explore innovative climate finance instruments that contribute towards implementing the move away from fossil fuels, enhancing their portfolios with solutions that align with global sustainability targets.
- 3. Research and Civil Society: The toolbox offers insights and mechanisms to tackle the complex challenges of financing supply constraints, empowering civil society to advocate for policies that promote sustainable practices and limit fossil fuel dependence.

LINGO INCENTIVES TOOLBOX



1 Just Energy Transition Partnerships (JETPs)

JETPs are financial collaborations between Global North and Global South nations. JETP processes are currently underway in South Africa, Vietnam, Indonesia and Senegal. Originally designed to support the transition away from coal, Senegal's JETP now extends to gas-dependent countries, though the government has assured that extraction of its fossil gas resources will not be targeted by the initiative. The contributing nations, forming the International Partnership Group, actively seek to leverage their investments by engaging with multilateral development banks, the private sector, sovereign wealth funds, and philanthropic foundations.⁵

The first JETP, announced at COP26 in 2021, was an \$8.5 billion package from the EU, US, UK, Germany, and France to support South Africa's energy transition. Three years later, the Just Energy Transition Investment Plan includes \$329.7 million, with 4% in grants and the majority as concessional loans.⁶ As of now, coal plant closures in South Africa have been delayed due to the country's unreliable electricity supply, resulting in rolling blackouts known as "load-shedding".

to support South Africa's energy transition

More information: https://www.leave-it-in-the-ground.org/resources/jetps-lingo-incentives/

- 5 The Rockefeller Foundation (2024) <u>Scaling the JETP Model Prospects and Pathways for Action</u> Report, February (2024)
- 6 Lehmann-Grube, Valodia, Taylor & Phalatse (2024) <u>What happened to the Just Energy Transition grant funding?</u> Research News, March 2024

2 Coal Asset Transition (CAT) Mechanisms

A CAT Mechanism provides an additional revenue stream that compensates existing coal-fired power plant owners for the income forgone from early plant closure, improving the economics of such early retirement. Since COP26, several initiatives have been launched to foster coal asset retirement and conversion including the Coal Asset Transition Accelerator (CATA) by the European Climate Foundation, the Coal Transition Accelerator, by Malaysia and France, and the Coal to Clean Credit Initiative by the Rockefeller Foundation.⁷

The Asian Development Bank's Energy Transition Mechanism (ETM) program is facilitating the early retirement of the Cirebon-1 coal-fired power plant in Indonesia, moving its closure from 2042 to 2035. This initiative, formalized through a nonbinding framework agreement signed at COP28, aims to reduce greenhouse gas emissions by over 15 years and demonstrates how coal plants can transition to clean energy affordably and justly.⁸

CAT Mechanisms compensate coal plant owners for early closures The Energy Transition Act in New Mexico, US has facilitated the early decommissioning of the San Juan coal plant, enabling its replacement with renewable energies. A \$361 million securitization bond will finance 650 MW of solar energy, 300 MW of energy storage, and 24 MW of demand response. Additionally, the bond allocates \$19.8 million to state transition funds to assist displaced workers and local communities, along with \$20 million for severance packages and job training for affected employees.⁹

More information: https://www.leave-it-in-the-ground.org/resources/cat-mechanisms-lingo-incentives/



7 The Rockefeller Foundation & GEAPP (2023) Design the World's First 'Coal-To-Clean' Credit Program in Emerging Economies, Press Release, June (2023)

- 8 ADB (2023) New Agreement Aims to Retire Indonesia 660-MW Coal Plant Almost 7 Years Early, Press Release, September (2023)
- 9 RMI (2021) Financing the Coal Transition, Report, November 2021





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Debt-for-Nature/Climate-Swaps

Debt-for-climate swaps offer a way to reduce debt while committing debtor countries to climate-focused spending and policies. These swaps address both climate and debt issues without the economic and reputational costs of traditional debt restructuring.¹⁰ The approach is inspired by the concept of debt-for-nature swaps. Since 1987, there have been 140 such agreements, involving both governments and private lenders, with billions of dollars allocated to support environmental conservation efforts.¹¹

In 2021 Belize restructured Belizean government debt held by TNC, USDFC, and commercial creditors holding a total of \$553 million in sovereign bonds. Through a "blue bond" issued to the market, a TNC subsidiary provided a "blue loan" to finance a bond-for-cash exchange at 55 cents per dollar. In return, Belize agreed to use part of the debt relief to establish a \$23.4 million endowment for marine conservation, spend \$4.2 million annually on marine protection, and expand its protected ocean area from 16% to 30% by 2026.¹²

More information: https://www.leave-it-in-the-ground.org/resources/ debt4climate-lingo-incentives/

Debt-for-climate swaps reduce debt while committing funds to climate action

4 Climate Bailout

A climate bailout is a tool where central banks offer fossil fuel companies a way out of their outdated business model by taking on their potentially stranded assets against a commitment to invest the money received in additional renewable energy projects. The process involves designated financial institutions, like multilateral development banks, purchasing stranded assets and bundling them into "Climate Bailout Bonds" to be resold to central banks. Central banks take these bonds onto their balance sheets, providing financial stability and even potential returns if fossil resources are repurposed for non-energy uses.¹³

The biggest benefits for central banks include additional financial stability from avoiding a bursting carbon bubble, price stability as a result of insulating the economy from fossil fuel price shocks, and de-risking the energy transition, which enables the "externality" of climate chaos to be avoided.

More information: https://www.leave-it-in-the-ground.org/projects/climatebailout/

Central banks can stabilize prices, the financial system and accelerate climate action by swapping stranded fossil fuel assets for additional renewables

- 10 IIED (2024) Debt swaps could release \$100 billion for climate action, Press Release, April 2024
- 11 World Economic Forum (2024) Climate finance: What are debt-for-nature swaps and how can they help countries?, Article, August 2024
- 12 TNC (2022) Belize Debt Conversion for Marine Conservation, Case Study, May 2022

¹³ Kroll & Kühne (2024) "Climate Bailout": a new tool for central banks to limit the financial risk resulting from climate change, Original Paper, March 2024

5 Special Drawing Rights (SDRs)

The International Monetary Fund (IMF) has the ability to create Special Drawing Rights (SDRs), an international reserve asset exchangeable among member countries. This could be leveraged to finance climate initiatives. Member states would issue new SDRs and allocate the majority to a dedicated climate fund. This fund would convert SDRs into national currencies through central banks to support climate projects, such as renewable energy installations or financial incentives for leaving fossil fuels in the ground, all while avoiding inflation and additional debt.¹⁴

To enhance affordable financing, proposals from the African Development Bank and the Bridgetown Initiative recommend transferring SDRs as grants to development banks to boost concessional loans and implementing regular SDR reallocations to maintain a steady flow of global reserve liquidity.¹⁵

More information: https://www.leave-it-in-the-ground.org/resources/sdrs-lingo-incentives/

The IMF's SDRs can be converted into national currencies, providing substantial additional resources

14 World Future Council (2012) Breaking the Climate Finance Funding Deadlock Financing climate protection with the help of Special Drawing Rights. Report, December 2012

15 F20 (2023) Funding climate action in the Global South with re-channelled SDRs, Policy Brief, August 2023



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6 Philanthropy Buying Out Coal, Oil & Gas

Simply buying fossil fuel deposits for the purpose of nonextraction overcomes various dilemmas faced by climate coalitions such as over-extraction, excessive consumption, and underinvestment in green technologies by non-participating countries.¹⁶ Modeling efforts suggest that buying deposits, especially those costly to exploit, can prevent price fluctuations that would otherwise incentivize nonparticipants to consume or extract more. Several practical challenges still need to be overcome, such as contract incompleteness, bargaining failures, incentives for non-participants to search for new deposits, and geopolitical challenges.

Philanthropists have offered funding in the hundreds of millions for leaving fossil fuels in the ground



EQX Biome, a U.S.-based carbon credits company, made a proposal to the Democratic Republic of Congo (DRC) to purchase 27 oil blocks to prevent drilling and instead turn them into conservation areas. This would generate revenue through REDD+ carbon credits. EQX Biome committed to a \$400 million investment in conservation, projected to yield \$6 billion over 20 years.¹⁷ Similarly, Flowcarbon and RedemptionDAO are bidding on oil and gas exploration blocks in the DRC with the goal of leaving it in the ground by generating revenue through carbon credits. They plan to raise \$50 million through crowdfunding and partnerships to issue "avoided emissions" credits. However, the lack of a standardized method for trading these credits may delay the implementation of their plan.¹⁸ In 2022, Australian billionaire Mike Cannon-Brookes offered to buy AGL Energy, Australia's largest energy company. His primary goal was to close AGL's coal-fired power plants by 2030 and shift to renewable energy.¹⁹

More information: https://www.leave-it-in-the-ground.org/resources/ philanthropic-buy-out-lingo-incentives/



- 16 Harstad (2012) Buy Coal! A Case for Supply-Side Environmental Policy, Original Paper, February 2012
- 17 The Guardian (2023) US firm to bid to turn DRC oil permits in Virunga park into conservation projects, Press Article, March 2023
- 18 Financial Times (2022) DR Congo opens oil and gas auction round to carbon credit and crypto groups, Press Article, August 2022
- 19 The Guardian (2022) Mike Cannon-Brookes and Brookfield in bid to take over AGL and shut down coal plants earlier, Press Article, February 2022

7 Green, Transition and Sustainability-linked Bonds

Governments and their national fossil fuel companies could leverage Green, Transition or Sustainability-linked Bonds by committing to a harvest-mode approach,²⁰ reducing fossil fuel extraction by around 8% per year. This strategy would require them to refrain from starting new projects, aligning their debt obligations with climate goals without needing to undertake costly new initiatives. By meeting these targets, companies could benefit from lower borrowing costs and unlock additional funding, effectively incentivizing them to leave fossil fuels in the ground while enhancing their financial performance.²¹

Uruguay, with the help of the Inter-American Development Bank, issued its first sustainability-linked bond in 2022, tying

the bond's pricing to environmental goals from its Paris Agreement commitments. If Uruguay meets these targets, the bond's yield will decrease. The bond attracted strong demand, with \$3.96 billion in orders against \$1.5 billion issued. In October 2024, the Japanese credit rating agency R&I raised Uruguay's sovereign debt rating to BBB+ with a stable outlook, the highest in the country's history.²²

More information: https://www.leave-it-in-the-ground.org/resources/climate-bonds-lingo-incentives/

Bonds can align debt with climate goals while lowering borrowing costs

- 20 Naqla Initiative (2023), <u>Harvest Mode</u>. Definition, Dictionary for Climate and Energy Transition.
- 21 CBI (2024) Sustainability-Linked Bonds: Building a High-Quality Market, Report, March 2024
- 22 IDB (2022) Uruguay Issues Global Sustainability-Linked Bond, with IDB Support, Press Release, October 2022





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8 The Great Carbon Arbitrage & Blended Finance

Significant economic and social benefits can be reaped by phasing out coal in favor of renewable energy. The IMF estimates a global net gain of around \$85 trillion. While challenges such as weak property rights and bargaining issues exist, these large net benefits should drive efforts to secure global climate finance agreements. One promising approach is the emerging market green bond fund, jointly implemented by the International Finance Corporation (IFC) and Amundi. In this public-private partnership, the IFC provided a first-loss tranche, de-risking the senior tranches enough to secure investment-grade ratings and leverage private investments toward climate-friendly assets.²³ Quantifying and developing further mechanisms, blended finance and others, to capture the benefits of the great carbon arbitrage can allow financing LINGO Incentive Deals (LIDs) and other measures to end coal, oil and gas dependence.

More information: https://www.leave-it-in-the-ground.org/resources/thegreat-carbon-arbitrage/

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Phasing out coal for renewable energy could yield a global net gain of

\$85 trillion

23 IMF (2022) The Great Carbon Arbitrage, Working Paper, June 2022

24 EDF (2021) Plugging orphan wells across the United States, Blog Post, October 2021

- 25 DEP (2023) Plugging Pennsylvania's Abandoned Oil and Gas Wells, Article, January 2023
- 26 Onyx Transition (2024) How it works, Blog Post

9 Climate Finance for Plugging Marginal, Orphan and Leaking Oil & Gas Wells

Leaking wells contribute significantly to methane emissions. In recent years, governments (especially in the U.S. and Canada) have started to allocate funds to deal with orphaned wells. For example, in the U.S., the Bipartisan Infrastructure Law (passed in 2021) dedicated \$4.7 billion to this effort.²⁴ In some cases, private companies engage in plugging wells as part of climate finance mechanisms. The sites are identified based on their methane leakage and environmental risk. Government agencies, often supported by environmental organizations, use satellite data, infrared cameras, and well databases. Contractors, funded through climate finance programs, then seal these wells by injecting cement. Methane reductions are measured using sensors. Plugging a well costs \$110,000 or more for a single site closure. In terms of climate impact, a single well can emit around 300 tons of CO2e per year for a 25 years lifespan translating to a nominal price of 9-10 USD per ton. As of early 2023, over 3,000 wells had been plugged across Pennsylvania.²⁵

Onyx Transition seeks to close down profitable, active, and highly emissions-intensive oil assets to produce high-quality carbon credits. Its methodology is currently under review by Gold Standard. These credits are then to be invested in carbon removal and climate restoration initiatives.²⁶

More information: https://www.leave-it-in-the-ground.org/resources/ plugging-wells-lingo-incentives/

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Plugging orphaned wells reduces methane emissions, much worse than CO2 in the near-term

10 Performance Payments for Leaving Fossil Fuels in the Ground

Contracts to forgo oil and gas extraction for a specified time (e.g. 10 years) can be signed between responsible governments and international creditors in exchange for debt forgiveness and annual payments. This approach could prevent up to 400 Gigatonnes of CO2 emissions at a cost of \$2 to \$10 per tonne and offer an alternative to fossil fuel-based economic development.²⁷

This allows avoiding extraction and emissions for a specified period of time, without the country having to give up ownership of the resource or definitely closing the option of extracting the resource in the future.

More information: https://www.leave-it-in-the-ground.org/resources/ performance-payments-lingo-incentives/

Contracts structured like oil and gas deals could provide annual payments, but without giving up resource ownership

1 Proper Mineral Wealth Accounting

Treating non-renewable minerals as a shared inheritance rather than "windfall revenues" constitutes a paradigm shift in managing mineral resources, including oil, gas and coal. Taking intergenerational equity into account and emphasizing the maintenance of capital is essential to ensure that future generations inherit the same wealth as the current generation. The precautionary principle and polluter pays principle as well as a protection of environmental and community interests spring from this approach.²⁸ Proceeds from mineral extraction should be invested with the long term in mind, alongside improved government accounting practices, promoting sustainable management that benefits all stakeholders and prevents corruption. The IMF is working on integrating the accounting of resource depletion into government finance standards.²⁹

When aiming to conserve mineral wealth, burning fossil fuels can also be considered as the worst possible option, because it not only loses the resource, but additionally creates huge external damages with it.

More information: https://www.leave-it-in-the-ground.org/resources/ mineral-wealth-accounting-lingo-incentives/

Treating non-renewable minerals as "family silver" promotes their sustainable management and intergenerational equity

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²⁷ West (2020) Compensating Indebted Countries for Keeping Fossil Fuels in the Ground, Boell Foundation. Background Paper, December 2020

²⁸ Basu (2020) Minerals are a shared inheritance: Accounting for the resource curse, including a case study of iron mining in Goa, Background Paper, June 2020

²⁹ GOA Foundation (2021) IMF & other international standard setters examining government accounting for mineral wealth, Press Notes and Blog, December 2021

12 Ecuador's Yasuní ITT Initiative & Internal Alternatives

In 2007, Ecuador proposed to protect an oil block called Ishpingo-Tiputini-Tambococha (ITT) in its Yasuní National Park from oil drilling in exchange for \$3.6 billion in international funds. It raised \$116 million in pledges and contributions, but failed to secure the full amount and the initiative was abandoned in 2013. It was a revolutionary and pioneering mechanism ahead of its time in a nation heavily reliant on oil exports. Its failure should not discourage future innovations. The Yasuní Initiative should serve as a lesson to learn from its mistakes and envision new financial incentives to forego fossil fuel extraction.

Since 2016, the ITT block has been undergoing extraction which has caused environmental damage, including oil spills and road construction in the biodiverse area of the Yasuní National Park. In the meantime a national referendum in 2023 stopped oil extraction in ITT. Ecuadorian economists have proposed different fiscal and tax measures to raise bigger amounts than what the ITT block could contribute.³⁰ This points to the interesting possibility that people of a country may also want to leave their oil in the ground without external financial incentives and generate financial alternatives internally.

More information: hhtps://www.leave-it-in-the-ground.org/resources/internal-alternatives-lingo-incentives/

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Many lessons can be learned from Ecuador's groundbreaking initiative that had raised \$116 million for a rainforest oil block



30 Yasunido (2024) Propuestas económicas para dejar de explotar el yasuní ITT, Informes, August 2024

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13 Public Coal Phase-Out Deal

Germany's coal commission was established in 2018 to create a consensus on phasing out coal, balancing economic, social, and energy security concerns. The commission proposed a coal phase-out by 2038, requiring 69-93 billion euros in funding, with 40 billion euros allocated by the federal government to support coal-dependent regions through retraining, early retirement, and infrastructure investments.

The commission's key recommendations aimed to increase renewable energy to 65% of gross electricity consumption by 2030 and 80% by 2050, modernize energy infrastructure in coal regions, relocate 5,000 federal employees to these areas by 2028, and compensate power plant operators for shutdowns. The plan also addressed potential energy price increases by lowering transmission grid charges and proposed mechanisms to maintain affordability for consumers.

While challenges remain, the commission's success lies in achieving broad stakeholder agreement, with only one dissenting vote, and has since inspired similar initiatives globally, such as in South Korea.³¹

More information: https://www.leave-it-in-the-ground.org/resources/ public-coal-phase-out-lingo-incentives/

Germany's coal commission allocated €40 billion to coal regions, setting a model for coal phase-out strategies

14 Fossil Fuel Subsidy Reform

Fossil fuel subsidies persist despite international efforts to eliminate them, peaking at US\$1.5 trillion in 2022. These subsidies often fail to benefit the poorest, instead promoting wasteful energy consumption, pollution, and delaying climate goals. Reforming them is crucial to cut emissions, redirect funds to green investments, and enhance fiscal efficiency, though political and economic barriers remain significant.

To tackle the issue effectively, time-bound roadmaps, closing loopholes, and providing tailored support for each nation are required. UNEP has worked with countries like Ghana, Kenya, Mauritius, and Mozambique to reform energy taxes and channel revenues into sustainable projects, with a 2016 study in Kenya illustrating how increased fuel taxes could fund green investments while compensating poorer households to maintain social equity.³²

More information: https://www.leave-it-in-the-ground.org/resources/fossilfuel-subsidy-reform-lingo-incentives/

Ending \$1.5 trillion in fossil fuel subsidies can act as a powerful financial incentive

32 Skovgaard, J., van Asselt, H., Beaton, C. et al. (2024) Revitalizing international fossil fuel subsidy phase-out commitments through roadmaps, closing loopholes, and support. April 2024

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³¹ Agora Energiewende (2019) German Coal Commission: Equity in Coal Phase-Out Report, March 2019

15 Article 6.8 (Non-Market Approaches)

Article 6.8 of the Paris Agreement promotes cooperative, non-market approaches (NMAs) to implement NDCs. NMAs include various categories, such as regulations and voluntary agreements, each affecting market dynamics differently. Notable examples include Bolivia's Climate Justice Entity and Joint Mitigation and Adaptation Mechanism for Sustainable Forest Management. Recent pilot projects like the Adaptation Benefits Mechanism (ABM) and Local Climate Adaptive Living Facility (LoCAL) show promise in enhancing adaptation finance for developing countries, with ABM focusing on results-based funding and LoCAL offering grants for local climate actions.³³

Since LINGO Incentive Deals (LIDs) are outside the scope of carbon markets, they fall under Article 6.8 and constitute a way to operationalize the move away from fossil fuels through non-market approaches.

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More information: https://www.leave-it-in-the-ground.org/resources/
article-6-8-lingo-incentives/
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Article 6.8's non-market approaches offer funding paths that reduce dependency on fossil fuel-driven revenue



16 Reverse Auctions

A reverse auction for LINGO Incentive Deals (LIDs) would involve a regulatory body inviting right-holders to bid for financial resources in exchange for agreeing not to extract specific fossil fuel reserves. Participants would submit bids reflecting the minimum payment they require to forgo their extraction rights, with the lowest bid winning the contract. This competitive process ensures cost efficiency by minimizing expenses while incentivizing the non-extraction of reserves deemed less economically valuable. Additionally, the framework could be adapted to incorporate socio-environmental values, prioritizing reserves that overlap with biodiversity hotspots or other significant ecological areas, thereby generating collateral benefits alongside climate change mitigation efforts.³⁴

More information: https://www.leave-it-in-the-ground.org/resources/ reverse-auctioning-lingo-incentives/

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A reverse auction allows to leave the biggest possible amount of fossil fuels in the ground for a given financial incentive



33 Anderson, R. (2023). Non-market mechanisms under article 6.8 of the Paris Agreement: a transnational perspective, Article, March 2023

34 Lorenzo Pellegrini, Murat Arsel, Martí Orta-Martínez, Carlos F. Mena, Gorka Muñoa (2020) Institutional mechanisms to keep unburnable fossil fuel reserves in the soil, Policy Perspective, November 2020

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Toolbox of Financial Incentives to Leave Fossil Fuels in the Ground

