Emissions Accounting in Coal Phaseout Finance

December 2022

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ACKNOWLEDGMENTS

The authors would like to acknowledge and thank the Advisory Council and their staff for the Framework for Sustainable Finance Integrity for their guidance in developing this issue brief. They would also like to acknowledge the team who supported this effort: Barbara Buchner, Bella Tonkonogy, Rob Kahn, Vikram Widge, Valerio Micale, Matthew Solomon (CPI), and Ralista Haroen (YSEALI Fellow). This publication has been supported by the European Climate Foundation. Responsibility for the information and views set out in this publication lies with the authors. The European Climate Foundation cannot be held responsible for any use which may be made of the information contained or expressed therein.

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ABOUT THE FRAMEWORK

The Framework for Sustainable Finance Integrity ("Framework") provides a universal set of sustainability guardrails across the financial system, contributing to a clear pathway for more coordinated action, encouraging ambition to deliver meaningful sustainability and net zero results, and reinforcing the multiplier effect these actions will have on the real economy. The Framework's Advisory Council, comprised of leading personnel and organizations from each segment of the public and private financial ecosystem across Asia, Africa, Europe, and the Americas, requested a deep dive into the topic of credible transition plans to better implement the Framework's recommendations.

ABOUT CLIMATE POLICY INITIATIVE

CPI is an analysis and advisory organization with deep expertise in finance and policy. Our mission is to help governments, businesses, and financial institutions drive economic growth while addressing climate change. CPI has six offices around the world in Brazil, India, Indonesia, the United Kingdom, and the United States.

DESCRIPTORS

SECTOR

Climate Finance

REGION

Global

KEYWORDS

Decarbonization and Net Zero Goals
Development Finance
Finance

RELATED CPI WORKS

Framework for Sustainable Finance Integrity
Public Financial Institutions' Climate Commitments
Private Financial Institutions' Commitment to Paris Alignment
Net Zero Finance Tracker
Global Landscape of Climate Finance

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RECOMMENDED CITATION

CPI, 2022. Emissions Accounting in Coal Phaseout Finance. [Nicole Pinko, Angela Ortega Pastor]. Climate Policy Initiative.

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1. INTRODUCTION & CONTEXT

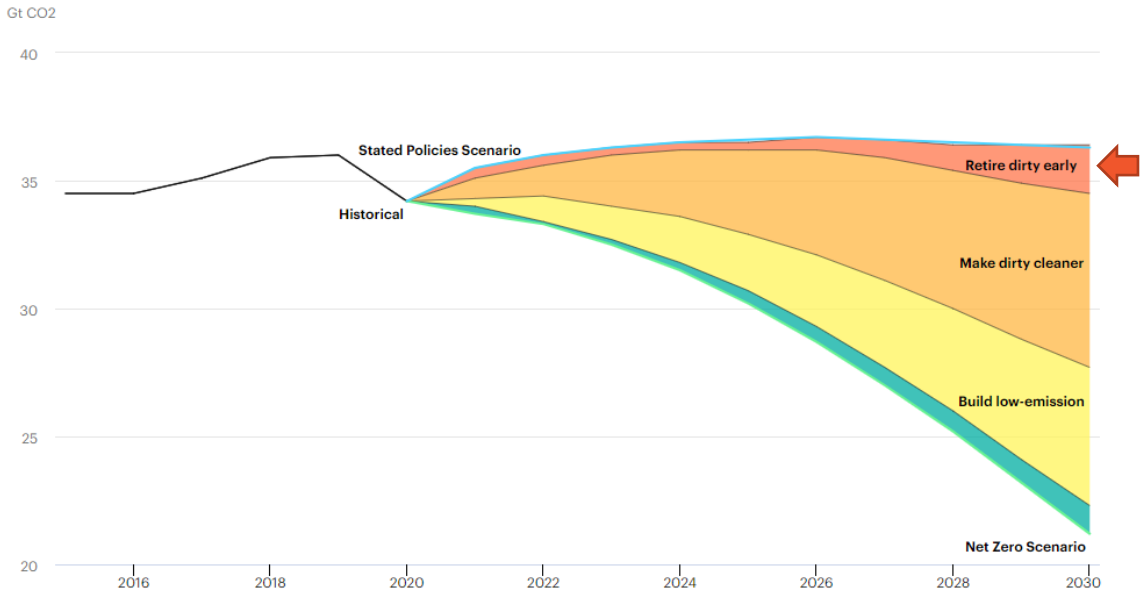
There is increasing awareness that existing, unabated coal plants need to be retired before the end of their lifecycle, and a growing demand for financing to meet those objectives. However, such financing creates a potential dilemma: adding emissions-intensive assets to the financing institution's portfolio during a time when financial institutions are increasing efforts to reduce the emissions covered in their portfolios. This brief outlines several approaches to deal with this dilemma.

To meet the global temperature goal of the Paris climate agreement, the retirement of existing, unabated coal-fired power plants will need to accelerate. According to the IEA, unabated coal power generation must end by 2030 in OECD countries and 2040 in developing economies, in addition to halting the financing of new coal plants that will lock in emissions for years to come (IEA, 2021; Macquarie et al., 2020). Rather than allowing unabated coal plants to function until the end of their lifecycles, plants can be retrofitted or retired early in a managed and just fashion that does not result in negative externalities, a key ambition of the Just Energy Transition Partnerships (JETP).

'Coal phaseout' is used here to describe the phaseout of unabated coal-fired power generation, through retirement or complete retrofitting of plants to produce clean energy, before the end of the plant's lifecycle (Buchner et al., 2022). Coal phaseout is a key tool in reducing global emissions trajectories to align with global temperature goals and assisting countries in meeting their nationally determined contributions.

It is also important to note that coal phaseout and just transition mechanisms do not produce separate sets of winners and losers. Coal producers may be able to turn those assets into different and more economically and socially viable revenue streams, such as renewable energy sites or component manufacturing, and hydrogen, or carbon capture and storage in the future. Workers, communities, and governments will also benefit from these switches due to consistent revenue streams, as well as funding toward mitigating any negative impacts on local communities. It also helps operators and governments avoid putting more funding into an asset that will become stranded in the future due to climate policies or market conditions that make it untenable to continue operations.

Figure 1 – The need to retire coal assets



Source: IEA, Emissions reductions by type of measure in Net Zero versus Stated Policies Scenarios, 2015-2030

In November 2022, Climate Policy Initiative (CPI), RMI, and Climate Bonds Initiative released the Guidelines for Financing a Credible Coal Transition, a framework for assessing the climate and social outcomes of coal transition mechanisms, designed to help financial institutions determine if financing a coal transition mechanism is likely to result in a credible, just, and managed phaseout of the coal operations. CPI defines coal transition mechanisms as financial mechanisms that support an accelerated, managed transition from coal to clean energy (Buchner et al., 2022).

These Guidelines, as well as several other publications on this growing topic, lay out the benefits of coal phaseout and reductions in real economy emissions, which are the emissions that exist outside the financial sector and impact the global temperature (GFANZ, 2022; PWC, 2022). As a complement, this brief outlines several approaches to accounting for portfolio emissions—and how they relate to portfolio targets—after investment in a coal transition mechanism.

Under current emissions' attribution methods, such as the Partnership for Carbon Accounting Financials (PCAF) and the GHG Protocols (2020), funding a project or transaction within a coal transition mechanism will result in an increase in portfolio emissions (PCAF, 2020). As described in Section 2, Current status of coal transition finance mechanisms, there are a variety of mechanisms that can potentially be used to finance a managed phaseout. Under these mechanisms, the coal plant emissions from the investment would be added to the portfolio emissions that

financial institutions are trying to reduce. This can result in increased portfolio emissions beyond the planned pathways and interim portfolio targets, which is particularly notable given the social and political attention currently being given to net zero targets, Paris-aligned investment pathways, and interim portfolio emissions targets. In the private sector, as of April 2022, 547 financial institutions representing USD 129 trillion in assets under management and advice have announced net zero targets (Solomon, 2022). On the public finance side, while only 20 of the largest 70 public financial institutions have made a net zero or Paris alignment target, 39 have set institutional climate strategies (Solomon, 2022).

A managed and just coal phaseout is critical to reducing real economy emissions. Unfortunately, the coal phaseout also results in a temporary increase in the portfolio emissions of the financiers, impacting the financial institutions' ability to meet interim portfolio emissions targets. In this brief, Section 1(above) lays out the need for coal phaseout, Section 2 describes the landscape of current coal transition mechanisms, as well as the JETP agreements where the mechanisms could potentially be used, and Section 3 outlines new approaches to emissions accounting for investments in coal transition mechanisms. Section 4 concludes with how these approaches can overcome potential barriers to transition investments within the public and private financial sectors.

2. CURRENT STATUS OF COAL PHASEOUT FINANCING MECHANISMS

Financial institutions are at a critical point when it comes to net zero aligned finance. Both public and private financial institutions are facing an increased focus on the long-term impact of their finance activities, and must better define the role they play in advancing equitable climate objectives. While just transition considerations and the early retirement of coal-fired power generation had previously been the exclusive realm of public finance, new financial agreements and vehicles increasingly use blended finance approaches to develop the private finance sector at scale.

Transition finance is focused on supporting firms in high-emitting and hard-to-abate sectors to decarbonize, rather than allocating capital to activities that already meet green standards. Demonstrating that the finance in question is contributing to decreasing emissions is critical to the credibility of transition finance instruments.

The three Just Energy Transition Partnerships (JETPs), which represent some of the largest pledges to phase out coal to date, are the clearest example of where the following mechanisms could potentially be used. Additional JETPs are expected to be announced in 2023, highlighting the need for new approaches to emissions accounting for coal phaseout investments.

- South Africa: The 2021 JETP earmarked USD 8.5 billion in public finance to accelerate the decarbonization of South Africa's economy between 2023 and 2027, thereby helping to achieve the goals set out in the country's updated Nationally Determined Contribution. The JETP early priorities for finance include the energy sector, particularly focusing on transmission upgrades, although the financial mechanisms for the undertaking are still being developed.
- Indonesia: The 2022 JETP takes a blended finance approach; The partnership intends to raise over USD 20 billion over the next 3-5 years, split evenly between public funding from governments and multilateral development banks (MDBs) and private investment coordinated by the Glasgow Financial Alliance for Net Zero (GFANZ), a global coalition of private sector net zero alliances. Each group has pledged USD 10 billion, with priority being placed on developing the private financing mechanisms for coal phaseout.

- Vietnam: The 2022 JETP takes a blended finance approach similar to the Indonesia JETP. The Parternship aims to raise USD 15.5 billion over the next 3-5 years from public institutions, including governments and MDBs, and private sources coordinated by GFANZ (Reuters & Lo, 2022). The goal of the agreement is for Vietnam's GHG emissions to peak five years earlier than planned, scale up renewable energy generation, and transitoin away from coal operations.

2.1 FINANCING MECHANISMS FOR COAL PHASEOUT

Financing mechanisms for coal phaseout are designed to align incentives among the various stakeholders that play a role in accelerating coal power phaseouts. These mechanisms can help shift costs, benefits, and risks across asset owners, lenders, energy off-takers, ratepayers, fuel suppliers, employees, and local communities (Bhat et al., 2023).

While managed coal power phaseout is a relatively new investment activity, a number of financial mechanisms can be deployed to address the specific sociopolitical and regulatory circumstances of coal phase out, as well as asset characteristics and financial institutions' risk-return considerations. Some are appropriate for all markets; others are best suited for developed economies, where taxpayers and ratepayers can bear some of the cost; still others are best suited for emerging markets and developing economies (EMDEs), where strategic concessional capital is required.

Managed phaseout transactions are likely to require a suite of financing mechanisms that leverage debt, equity, and grant financing mechanisms in a hybrid manner. Generally, as examined in a forthcoming RMI paper, financial institutions have three key levers to accelerate coal phaseouts: cost of debt, cost of equity, and future cashflows (Bhat et al., 2023).

- Financing mechanisms that address the **cost of debt**, such as refinancing mechanisms, provide asset owners with access to lower-cost debt that can be utilized to retire, transition, or retrofit assets. Low-cost capital for refinancing debt can come from governments and public financial institutions, investors, and even ratepayers.
- **Cost of equity** financing mechanisms, like managed transition vehicles or portfolio acquisitions, aim to lower the cost of capital.

- **Future cashflow** mechanisms aim to deliver alternative or additional revenue streams that can enhance the financial viability of a managed phaseout transaction over a shorter time span.

Financial Products and Services	Explanation	Current Status	Regional Suitability
Cost of Debt			
Credit enhancements such as ratepayer backed bond securitization	Ratepayers raise low-cost debt through an SPV with a government guarantee & repay via a bill surcharge	Used to close coal plant in Michigan Addressed impacts of retirement in New Mexico	Developed economies
Transition bonds	Exclusively finance new or existing eligible transition projects	Coal phaseout not currently eligible, but as of late 2021, 14 transition bonds issued, totaling USD 5b	All
Risk management instruments	Public finance loan guarantees to back coal retirement funding	Under exploration. The World Bank, IFC, and the African Development Bank are considering providing South Africa's Eskom with a coal retirement package via a loan guarantee.	EMDEs
Repurposing coal plants for renewable energy generation and storage	Investment to decommission coal plant and repurpose for long-term, profitable renewable energy sales	ADB-Prudential mechanism. World Bank's $497m loan to South Africa to decommission and repurpose Eskom's Komati plant including RE and storage; also under discussion in India	All
Cost of Equity			
Managed Transition Vehicles such as carbon retirement portfolio	Coal assets purchased by private or public financial institutions to retire early, with financial benefits provided via other mechanisms	Not yet put into practice	All, EMDEs in particular
Reverse auction	Operators agree to the lowest price to shut down plants in return for offsetting losses	Germany has successfully run multiple reverse auctions, closing approximately 3000 MW of coal power.	Developed economies; under consideration for select EMDEs
Future cashflows			
Carbon markets/ Carbon credits	Revenue from sale of carbon credits (for every validated ton of emissions abated) sold to private and public buyers in voluntary or compliance markets	IDB Invest 125m USD pilot in Chile with Engie Energia The Rockefeller Foundation-GEAPP Accelerated Coal Transition Solution Initiative Energy Transition Accelerator (ETA)	All, EMDEs in particular

Revenue enhancements such as power hedges for replacement generation	Public finance secures revenues to build managed phaseout alternatives	Piloted in the Clean Technology Fund coal retirement credit-linked loan for Engie Energia Chile's Calama wind farm.	All
Multiple Levers			
Ownership-based model	Public or private financial institutions use a "bad bank" (or "bad portfolio") model to finance high-emitting assets with purpose of closing or retiring early	CDPQ in Canada has created a 10bn USD envelope for ringfencing transition investments	All, EMDEs in particular
Concessional capital mechanisms such as Just Energy Transition Partnerships (JETP)	Partnership countries provide concessional debt instruments for carbon mitigation performance	Announced for South Africa, Indonesia, and Vietnam	EMDEs

Managed phaseout financing mechanisms are particularly crucial in emerging and developing economy contexts, where they can be used in JETP agreements, as asset owners may struggle to align their incentives to support coal phaseout outcomes, and face obstacles accessing capital markets and employing mechanisms that avoid relying on tax bases. In these contexts, where coal may remain competitive, public capital may need to be deployed in conjunction with refinancing, reinvestment, and transition financing mechanisms to achieve early decommissioning. To execute on the three JETP projects announced to date, instruments such as repurposing, managed transition vehicles, leveraging carbon markets, and ownership-based models are among the most promising instruments to deliver coal phaseout outcomes in the developing and emerging economy context.

Repurposing coal plants for renewable energy and storage is another mechanism to finance accelerated coal power plant retirement. A current example, called the Energy Transition Mechanism (ETM), is being piloted by the Asian Development Bank, in partnership with insurer Prudential and other financial firms (Reuters, 2021). It is attempting to achieving the dual objective of accelerating coal phaseouts while providing clean energy access, which requires a two-fold model: first, a coal retirement mechanism to acquire and retire existing and planned coal-fired plants ahead of schedule by lowering the cost of capital, and second, a sustainable energy transition mechanism to replace the retired coal plants with a combination of energy efficiency, renewable energy, and storage (ADB, 2021; Reuters, 2021). Similar discussions for repurposing aging coal plants with renewable energy and battery storage are taking place in India (Dr. Shrimali, 2022).

Managed Transition Vehicles are public or private funds that acquire coal power plants at a lower cost of equity, earn returns over shorter timespans, and retire assets ahead of schedule (Bhat et al., 2023). However, these vehicles require continued operations of coal assets until investors are repaid which can introduce misaligned incentives to accelerate phaseouts. Further, managed transition vehicles are only suitable in contexts where coal assets can be transferred, making publicly-owned coal plants ineligible.

Carbon Retirement Portfolio (CRP) mechanisms are a tool that places a cost on carbon and can serve to encourage reductions. In this model, the portfolio purchases coal generation assets with the mandate to retire them early. The previous owner is absolved of responsibilities associated with decommissioning and remediation, and the CRP investors benefit from government-provided financial support or other incentives like carbon credits to help offset the lost present value of retiring the plant early and fund support for affected communities. For investors, these mechanisms offer an opportunity to invest in emission reductions.

Carbon credits, a system where governments and public financial institutions provide carbon credits as a reward for avoided emissions, provide an incentive for asset owners to accelerate plant closure. Revenues from the sale of carbon credits, for every validated ton of emissions abated, are then sold to private and public buyers in voluntary carbon markets or compliance markets. An example of this mechanism in practice is the Inter-American Development Bank (IDB) Invest Pilot in Chile. IDB announced a USD 125 million deal with utility Engie Energia in Chile that, among other things, uses the value of carbon offsets generated by the early closure of the company's coal plants to reduce the cost of the debt.

Expanding the use of carbon credits in established voluntary carbon markets or Article 6 mechanisms can provide added liquidity (*Paris Agreement*, 2015; VCMI, 2021). This is the system proposed by the Energy Transition Accelerator (ETA), recently unveiled by John Kerry at COP27. The ETA, which could draw in private capital, is designed to enable the sale of high-integrity carbon-reduction credits from early retirement of coal-fired power plants and deployment of substitute renewables and other climate-friendly energy technologies. Financial instruments can be used to convert these future revenues into providing supplemental funding needed to achieve planned outcomes.

Ownership/Debt-based models that use a "bad bank" model rely on a separate fund to finance the decarbonization of high-emitting assets. In the case of coal phaseout, discussions include the creation of a new MDB to lead and finance coal phaseout on a global scale. Ideally, the bad bank would also buy coal assets from other public and private financial institutions to ensure a just and managed

phaseout, as opposed to business as usual with continued operations. Discussions for a bad bank so far have largely been country-specific and modeled after public funds with an explicit mandate to prioritize social safety.

3. EMISSIONS ACCOUNTING APPROACHES

As detailed in Section 2, there are a variety of coal transition mechanisms currently being discussed as potential solutions to the need to retire coal plants early. However, accounting rules for such financial mechanisms can be problematic based on current portfolio emissions accounting practices. Independently of the emissions reductions achieved in the real economy, financiers' portfolio emissions will rise as a result of transition financing, creating a potential conflict with interim portfolio emissions targets.

Portfolio emissions accounting is the measuring and disclosing of the greenhouse gas (GHG) emissions associated with the lending and investment activities of financial institutions, commonly calculated in line with the recommendations of the Partnership for Carbon Accounting Financials (PCAF) (PCAF, 2020). As mentioned in Section 1, a growing number of private and public financial institutions have made net zero or Paris-aligned commitments in recent years, effectively promising to reduce their portfolios' absolute emissions to 0 (or near 0) by 2050. As part of this effort, many financial institutions have developed interim portfolio targets to reduce their portfolio emissions in the short term, often based on varying guidance from relevant alliances and initiatives (Pinko et al., 2021).

The Net Zero Banking Alliance (NZBA), for example, requires banks to include their clients' scope 1, 2, and 3 emissions in their portfolio emissions, where significant and if data allows (UNEPFI, 2021). The Alliance also requires a 2030 or sooner interim target for portfolio emissions reductions based on an IPCC low-to-no overshoot scenario (UNEPFI, 2021). In the event that an NZBA-allied bank supports a coal transition mechanism, the bank would have to add the scope 1, 2, and 3 emissions from the coal plant to its portfolio emissions, which could be a significant increase. Being emissions-intensive, this coal investment would then make it more difficult, or impossible, for the bank to reach its short-term portfolio reduction targets. This setup creates a potential conflict between the real economy emissions reductions of coal phaseout and keeping portfolio emissions low and portfolio targets viable.

To ensure that portfolio emissions accounting is not considered an obstacle to coal transition finance, this section explores four options for emissions accounting that do not jeopardize interim portfolio targets for both public and private financial institutions.

Table 2: Four key approaches to emissions accounting & targets

Approach	Explanation	Outcome
Rebaselining	Increases the portfolio's disclosed emissions of the target's baseline year to account for added emissions, ensuring targets are still achievable after the investment	Targets are adjusted to account for the rise in emissions from the new coal-asset addition
Sectoral Targets	Financiers set different targets for different sectors to account for the different rates of decarbonization across industries	Allows for investment in transition finance, such as coal phaseout, without impacting the targets for the other portfolio sectors
"Bad Portfolio"	Financiers ringfence a portfolio to invest in transitioning high-emissions sectors, separate of portfolio emissions targets	Encourages investment in transition finance, including coal phaseout, as emissions are kept separate from accounting disclosures and targets
Net Present Value (NPV)	Using Net Present Value in accounting disclosures can highlight the current value of total emissions reductions	Allows net negative emissions to be considered in decision making and incentivizes near-term decarbonization

3.1 REBASELINE EMISSIONS APPROACH

Rebaselining was initially developed by the GHG Protocol to account for changes in emissions that come from the acquisition or divestment of high-emitting assets. The requirement to rebaseline already exists in the PCAF and GHG Protocol standards, Finance Sector Expert Group for Race to Zero recommendations, and GFANZ guidance. Evidence shows that currently it is rarely used; a recent review of 70 PCAF disclosures by 2ii found that none described a rebaselining policy (2DII et al., 2022). Rebaselining has advantages in distinguishing portfolio emissions reductions that also result in real economy emissions reductions, versus portfolio emissions reductions from divesting high-emitting assets.

The measurement tool is based on the need for meaningful comparisons of historical emissions, which can be masked by the acquisition or divestment of high-emitting assets. To create a meaningful comparison after a divestment or acquisition, the portfolio base year emissions should be recalculated for emissions disclosure and portfolio targets. The goal is to aggregate the historical emissions of the acquisition or investment (in the case of coal phaseout) with the institution's historic emissions back to the base year used for interim targets, retroactively recalculating the portfolio emissions from the date of acquisition or investment back to the base year. The new aggregated emissions data should reflect the changes to the portfolio emissions and make it easier to adjust targets to account for the emissions increase.

When applying rebaselining to portfolio emissions targets, the new targets should result in a greater volume of absolute emissions reduced in the real economy than the original target pathway. The ultimate goal of coal phaseout is to reduce real economy emissions; rebaselining portfolio targets allows for greater absolute emissions reductions in the real economy while also reducing portfolio emissions, even if absolute portfolio emissions remain higher than before the acquisition or investment.

To develop a rebaselined interim portfolio target, the emissions from the coal transition investment are still added to the base year through rebaselining, but its target pathway is evaluated separately to align with the planned retirement date (IEA, 2021). Once the coal phaseout pathway is set, the financial institution aggregates the coal phaseout pathway and target with the original target, developing a new portfolio target that combines the two.

3.2 SECTORAL TARGET APPROACH

There are inherent challenges associated with any portfolio-wide approach to emissions accounting and interim targets. Financial institutions are still estimating emissions for certain sectors due to data gaps, which complicates the accuracy and feasibility of interim targets. It also leaves very little room for investments in high-emitting sectors that may lead to substantial decarbonization and real economy emissions reductions, such as coal phaseout.

A sectoral approach to targets allows financial institutions to set ambitious targets for sectors that are easier to decarbonize, such as buildings and transportation, and more conservative targets for hard-to-abate sectors such as energy, steel, and concrete. Portfolio emissions that are added from investment in a to a hard-to-

abate sector, such as from a coal phaseout investment, are ringfenced to that sectoral target and have no impact on the targets made for other sectors.

More initiatives and alliances are considering a sectoral approach to interim targets, with some already requiring it for certain sectors, in addition to a high-level, long-term portfolio target. While sectoral target guidance should be comprehensively structured to avoid unintentional carveouts, it should also be designed to provide financial institutions more flexibility in their investments. A sectoral-led approach would allow financial institutions to create impactful investment strategies without sacrificing ambition on climate goals.

As a subset of a sectoral approach, and less mainstreamed than sectoral targets, a taxonomy approach that includes anticipated coal phaseout as a carbon reduction project could also be considered. Financial institutions could account for "climate solutions" as mitigation strategies in their portfolios. Similar to the baseline-based approaches used by compliance carbon markets and other carbon emissions projects like energy efficiency, impact metrics could be created for managed coal phaseout.

3.3 "BAD PORTFOLIO" APPROACH

A "bad portfolio" approach is similar to the "bad bank" approach discussed in Section 2, although on a smaller scale and within a single financial institution. The idea is to create a ringfenced portfolio for investments in high-emitting assets that is excluded from the main portfolio's emissions accounting and portfolio targets. While incentives and targets for bad portfolio decarbonization need to be implemented to avoid any risk of financing business as usual at coal plants, the approach allows significant flexibility in investment and engagement strategies. In the case of coal phaseout, an investment in a coal transition mechanism would come from this ringfenced portfolio and have no impact on the financial institutions portfolio emissions or ability to meet its interim targets.

This approach is already being implemented. The Canadian pension fund CDPQ recently created a ringfenced CAD 10 billion transition portfolio as part of its long-term climate strategy. The fund intends to invest in high-emitting sectors to help counterparties reduce emissions and transition to less carbon-intensive pathways. CDPQ's strategy in creating the portfolio is explicitly to reduce emissions in the real economy.

3.4 NET PRESENT VALUE ACCOUNTING APPROACH

Another approach that will require more development than rebaselining, sectoral targets, or "bad portfolios" is applying a net present value (NPV) calculation to emissions reductions. In finance, NPV is used to calculate the current value of future payments or income to analyze the profitability of a potential project. A key part of the calculation is the project's discount rate, which reflects the cost of capital or opportunity costs. When applied to emissions, NPV can highlight the current value of total emissions reduced in the real economy over time. This method would allow for net negative emissions to considered in the decision making (much like investors use discounted cash flows for investment decisions) and could also be the metric used for portfolio emissions reporting. Also, if a discount rate greater than zero is used, this approach would increase the relative value of near-term emissions reductions to incentivize near-term decarbonization.

For coal phaseout, this would be applied to the portfolio emissions that come from a coal transition mechanism investment. The overall real economy emissions reductions from an early coal plant retirement would be reflected by reducing the emissions that would be added to the financier's portfolio. Each coal plant would require its own discount rate to account for local and regional variables and impacts. As such, a standardized methodology would need to be developed for calculating site-specific discount rates, although a baseline discount rate of zero for future emission reductions could be applied to all projects.

4. CONCLUSION

While both public and private finance have a role in transition finance, public policy and public financial institutions must aggressively lead the way as they can play a key role in shaping the risk return profile of coal power phaseouts and ensuring that socioeconomic considerations are reflected in decision-making.

There are still significant challenges for financing coal transition outside of emissions accounting. Within coal operations, owners and operators may interpret coal phaseout finance and eventual coal retirement as an opportunity to expand operations to maximize profit in the short-term. This represents a moral hazard – when a company can take risks without having to suffer the consequences. The risks related to owning stranded assets or losing financing decrease because the coal operator has an expectation that the government or public financial institutions will provide a bailout. This creates little incentive to phase down operations voluntarily and increases the incentives to build more or expand operations for immediate profits.

As the transition to fully-renewable energy takes place, it is imperative to figure out how to incentivize operators of high-emitting assets that voluntarily phaseout operations and adopt climate policies, and to disincentivize laggards. This issue is likely to appear again regarding oil and natural gas before net zero emissions is actually achieved. The Guidelines for Financing a Credible Coal Transition attempts to address the issue of moral hazard and the optical challenges of providing financing to coal plant owners by setting a threshold for coal plant eligibility for coal transition mechanisms (Buchner et al., 2022).

Additionally, many public and private financial institutions face increasing social pressure to avoid financing coal operations, including divesting from coal assets. This contributes to the distance between financial institutions' portfolio emissions and real economy emissions, and subsequently from global temperature increases. A recent study by EDF has shown that financial divestment tactics rarely lead to emissions reductions, and in some cases lead to emissions increases (Malek et al., 2022).

Since the goal of coal transition mechanisms is to reduce emissions reductions in the real economy, further efforts are needed ensure that the coal operations are truly ramping down and retiring early, as opposed to being sold off piecemeal but still operating. The distance between the financial sector and the real economy means that high emitting operators can sell off portions of the business and claim company

emissions reductions, while the real economy emissions are unchanged or even increase.

Coal phaseout is a critical, and necessary, way to reduce global GHG emissions in the real economy, but the addition of high-emitting assets to portfolios can create conflicting goals with interim portfolio emissions targets. With the development of JETP projects in South Africa, Indonesia, and Vietnam, the growing interest in ADB's ETM and similar mechanisms, as well as initiatives to leverage carbon markets, more public and private financial institutions will be funding coal phaseout. Since these financing mechanisms can be politically, socially, and financially delicate, it is critical to mitigate the possible barriers to investment, particularly those regarding emissions accounting and targets.

This brief outlines four key approaches that address the conflicting goals of reducing portfolio emissions to meet interim targets and reducing real economy emissions. Rebaselining allows financiers to adjust their disclosed emissions and baseline target year. Sectoral targets and "bad portfolios" allow financiers to ringfence the emissions from coal phaseout investments, ensuring that other sectoral or portfolio targets are unaffected by the emissions from the coal investment. Applying NPV calculations to real economy emissions reductions highlights the current value of total emissions reductions and incentives near-term decarbonization.

Each of these emissions accounting approaches can be used with the coal mechanisms detailed in Section 2 or other potential JETP mechanisms, as appropriate for different financial institutions. While the lack of standardization for coal phaseout mechanisms may lead to a scattered implementation of the emissions accounting approaches, the expected rise in coal phaseout financing from both public and private institutions can provide a trial run for the different approaches. Determining which approaches are best for which mechanisms and types of financial institutions, as well as how the approaches interact with each other and provide comparable information, is a key next step.

As this is a working paper, we encourage feedback and comments on our findings. Please contact Nicole Pinko at Nicole.pinko@cpiglobal.org, and Angela Ortega Pastor at angela.pastor@cpiglobal.org. We look forward to hearing your thoughts.

5. REFERENCES

2DII, Koliaï, S., Pacheco, D., Vleeschhouwer, M., Vogt, A., & Thomä, J. (2022). *Tracking real world emission reductions*. https://2degrees-investing.org/wp-content/uploads/2022/10/2DII_Real_final.pdf

ADB. (2021). *Building a Scalable and Sustainable Energy Transition Mechanism (ETM) for Southeast Asia: Partnership Launch*. Asian Development Bank. https://www.adb.org/news/events/building-scalable-sustainable-energy-transition-mechanism-southeast-asia

Bhat, S., Mann, W., & Murray, A. (2023). *Financing Mechanisms to Accelerate Managed Coal Power Phaseouts*.

Buchner, B., Calhoun, K., First, J., Kidney, S., Matsuo, T., Obuekwe, C., Sen, V., Slater, E., Varadarajan, U., Wetmanska, Z., & Widge, V. (2022). *Guidelines for Financing for a Credible Coal Transition*. https://rmi.org/insight/guidelines-for-financing-credible-coal-transition/

Dr. Shrimali, G. (2022). *Financial benefits of repurposing Maharashtra's old coal plants*. https://climateriskhorizons.com/research/MH_Repurposing_web_final.pdf

GFANZ. (2022). *The Managed Phaseout of High-emitting Assets*. https://assets.bbhub.io/company/sites/63/2022/06/GFANZ_-Managed-Phaseout-of-High-emitting-Assets_June2022.pdf

IEA. (2021). *Net Zero by 2050*. https://www.iea.org/reports/net-zero-by-2050

Macquarie, R., Micale, V., Naran, B., Rosane, P., Wetherbee, C., & Falconer, A. (2020). *Paris Misaligned?* https://www.climatepolicyinitiative.org/publication/paris-misaligned/

Malek, G., Baxter, A., Watson, D., & Howell, A. (2022). *Transferred Emissions: How Risks in Oil and Gas M&A Could Hamper the Energy Transition*. Environmental Defense Fund (EDF). https://business.edf.org/files/Transferred-Emissions-How-Oil-Gas-MA-Hamper-Energy-Transition.pdf

Paris Agreement, (2015). https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf

PCAF. (2020). *The Global GHG Accounting and Reporting Standard for the Financial Industry*. https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf

Pinko, N., Ortega Pastor, A., Tonkonogy, B., & Choi, J. (2021). *Framework for Sustainable Finance Integrity*. https://www.climatepolicyinitiative.org/publication/framework-for-sustainable-finance-integrity/

PWC. (2022). *Navigating a just transition to net zero*. https://www.pwc.co.uk/issues/esg/Navigating-a-just-transition-to-net-zero.pdf?utm_campaign=sbpwc&utm_medium=site&utm_source=articletext

Reuters. (2021). ADB sets plan to retire coal-fired power plants in the Philippines, Indonesia. *Reuters*. https://www.reuters.com/business/sustainable-business/adb-sets-plan-retire-coal-fired-power-plants-philippines-indonesia-2021-11-03/

Reuters, & Lo, J. (2022). Rich nations mobilise $15.5bn for Vietnam's coal-to-clean transition. *Climate Change News*. https://www.climatechangenews.com/2022/12/14/rich-nations-mobilise-15-5bn-for-vietnams-coal-to-clean-transition/

Solomon, M. (2022). *Private Financial Institutions' Paris Alignment Commitments: 2022 Update*. https://www.climatepolicyinitiative.org/publication/private-financial-institutions-paris-alignment-commitments-2022-update/

UNEPFI. (2021). *Guidelines for Climate Target Setting for Banks*. https://www.unepfi.org/wordpress/wp-content/uploads/2021/04/UNEP-FI-Guidelines-for-Climate-Change-Target-Setting.pdf

VCMI. (2021). *Aligning Voluntary Carbon Markets with the 1.5˚C Paris Agreement Ambition*. https://vcmintegrity.org/wp-content/uploads/2021/07/VCMI-Consultation-Report.pdf

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