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# Emissions Accounting in Managed Coal Phaseout Finance

Consultation Brief

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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

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## RELATED CPI WORKS

Guidelines for Financing a Credible Coal Transition

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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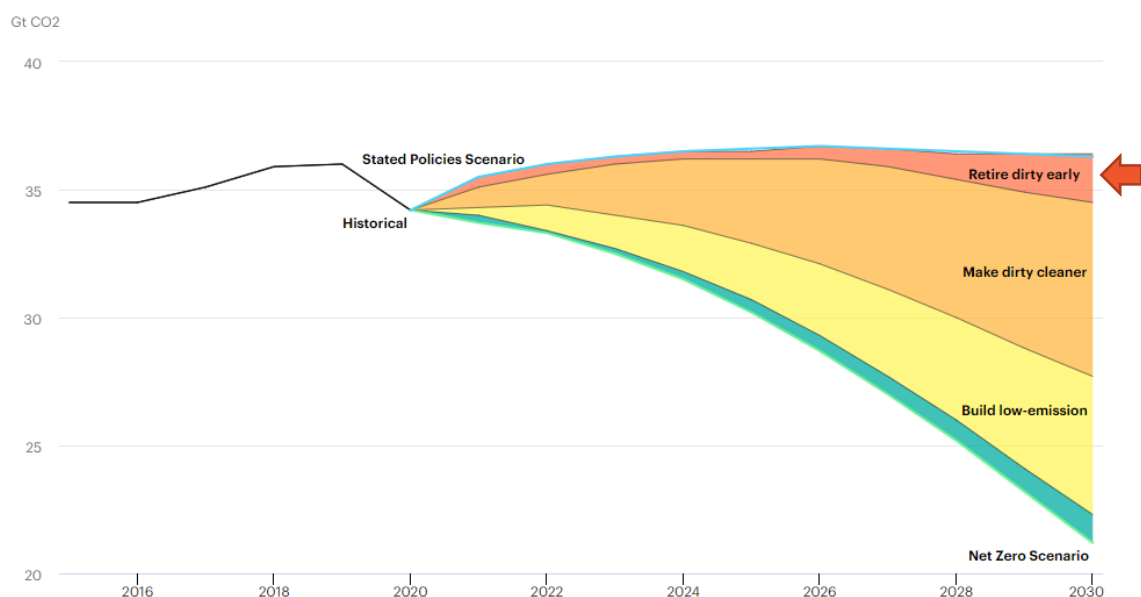
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# 1. INTRODUCTION AND CONTEXT

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, a key ambition of the Just Energy Transition Partnerships (JETP). 'Managed coal phaseout' is used in this brief to describe the managed 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).

**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

There is growing demand for financing to meet the objective of early retirement. Such financing, however, 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. 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, 20 of the largest 70 public financial institutions have made a net zero or Paris alignment target and 39 have set institutional climate strategies (Ortega Pastor et al., 2022).

This brief outlines several approaches to deal with this possible friction. In particular, the brief focuses on public finance institutions concerned about potential conflicts between their portfolio emissions targets, Paris alignment, and managed coal phaseout investments, though some of the thinking is applicable to private finance institutions as well.<sup>1</sup> There is a particularly strong case for the involvement of public finance institutions—including multilateral, bilateral and national development banks—in supporting the credible financing of managed coal phaseout as defined in the Guidelines, as these investments need to be executed carefully to reduce negative impacts on communities and are often uneconomical from a purely financial perspective.

Under current emissions' attribution methods, such as the Partnership for Carbon Accounting Financials (PCAF) and the GHG Protocol (2015), 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, Managed Coal Phaseout Finance Mechanisms, there are a variety of mechanisms that can potentially be used to finance managed coal 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 current social and political attention given to net zero targets, Paris-aligned investment pathways, and interim portfolio emissions targets.

In this brief, Section 1 (above) lays out the need for a managed 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 financial institutions.

This brief is part of a broader body of work that supports managed coal phaseout financing. In November 2022, Climate Policy Initiative (CPI), Rocky Mountain Institute

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<sup>1</sup> RMI recently published a paper examining the metrics and targets available to private finance institutions under a managed phaseout for GFANZ, [Managed Coal Phaseout: Metrics and Targets for Financial Institutions](#), highlighting the timeliness of this discussion.

(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. The Guidelines, as well as several other publications on this topic, also lay out the benefits of managed coal phaseout and reductions in real economy emissions, which are the emissions that exist outside the financial sector and impact the global temperature (Bhat et al., 2023; GFANZ, 2022b; Holzman & Kekki, 2023; PWC, 2022).

## 2. MANAGED COAL PHASEOUT FINANCING MECHANISMS

Understanding how coal phaseout finance mechanisms work is necessary to understand why and how emissions accounting approaches might need to be adapted to allow for public finance investments in this area. This Section describes some of the main proposed coal transition finance mechanisms.

### 2.1 FINANCING MECHANISMS FOR MANAGED COAL PHASEOUT

Financing mechanisms for managed coal phaseout are designed to align incentives among the various stakeholders that play a role in accelerating said phaseouts. As outlined in RMI's [Financing Mechanisms to Accelerate Managed Coal Power Phaseout](#), these mechanisms can help “shift costs, benefits, and risks across stakeholders,” such as asset owners, lenders, energy off-takers, coal suppliers, employees, and local communities (Bhat et al., 2023). Public finance institutions, in particular, play a key role in developing financial instruments that act as risk mitigation tools and are well suited for deployment in developing economies.

While managed coal phaseout is still a nascent area of finance, a number of financial mechanisms are under development to address the sociopolitical and regulatory circumstances of managed coal phaseout, as well as asset characteristics and financial institutions' risk-return considerations. Some of these mechanisms are appropriate for all markets; others may be more effectively deployed either in developed economies or emerging markets and developing economies (EMDEs). Regardless of the market or mechanism, strategic concessional capital is often required or may otherwise be beneficial.



### Box 1: RMI's Approach to Managed Coal Phaseout Financial Mechanisms

Managed coal 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 January 2023 RMI paper, financing mechanisms target three key levers that enhance the financial viability to accelerate managed 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, public financial institutions, or private investors.
- **Cost of equity** financing mechanisms, that also lower the cost of capital, like managed transition vehicles or portfolio acquisitions,
- **Future cashflow** mechanisms deliver alternative or additional revenues to enhance the viability of an accelerated managed coal phaseout. (Bhat et al., 2023)

This brief is focused on the financial mechanisms that are best suited to developing economies, have a strong public finance component, and could be used as part of the framework for financing the JETPs in South Africa, Indonesia, and Vietnam, amongst others (discussed in Box 2).

Table 1 is intended to be a brief overview of the primary financial mechanisms in discussion and whether they can feasibly be used in JETP development. The Geographic Deployment column is designated by where the instrument is most likely to be deployed successfully, based on past experience as well as current plans and discussions for deployment, though geographic deployment may not be applicable to all countries with a similar economic profile.

**Table 1: Financial products and regional suitability**

Financial Products and Services	Explanation	Current Status	Geographic Deployment
<b>Cost of Debt</b>			
Credit enhancements such as ratepayer backed bond securitization	Utilities raise low-cost debt through an SPV with a government guarantee & repay via a bill surcharge	Used multiple times in USA, including to close a coal plant in Michigan and in addressing impacts of retirement in New Mexico. (Bloomberg, 2022; DTE, 2022)	All, developed economies in particular
Transition bonds	Exclusively finance new or existing eligible transition projects	Coal phaseout not currently eligible under most transition bond requirements, but as of late 2021, 14 transition bonds issued, totaling USD 5b (Buchner et al., 2022)	All
Risk management instruments	Instruments that shoulder some of the credit risk associated with managed coal phaseouts and thus contribute to lowering the cost of capital. For example, 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. (European Commission, 2022; World Bank Group, 2022)	All, EMDEs in particular
<b>Cost of Equity</b>			
Managed Transition Vehicles (MTVs) such as carbon retirement portfolio	Coal assets purchased by private or public financial institutions to retire early, with financial benefits provided via other mechanisms	ACEN's MTV for the South Luzon plant in the Philippines. (Bhat et al., 2023)	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. (Scott et al., 2022)	Developed economies; under consideration for select EMDEs (World bank, 2022)
<b>Future cashflows</b>			
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	The Rockefeller Foundation-GEAPP Accelerated Coal Transition Solution Initiative Energy Transition Accelerator (ETA)	All, EMDEs in particular (World bank, 2022)
<b>Multiple Levers</b>			
Ownership-based model	Public or private financial institutions use a "bad bank" (or "bad	CDPQ in Canada has created a 10bn USD envelope for	All

	portfolio") model to finance high-emitting assets with purpose of closing or retiring early	ringfencing transition investments. (CDPQ, 2021)	
Concessional capital mechanisms such as Just Energy Transition Partnerships (JETP)	Partnership countries provide concessional debt instruments for managed coal phaseout and replacement, alongside selective commitments from private financiers.	Announced for South Africa, Indonesia, and Vietnam (see Box 1)	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's Energy Transition 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. (ADB, 2021; Reuters, 2021; World Bank, 2022)	All

Managed coal phaseout financing mechanisms are particularly crucial in emerging and developing economy contexts, as coal plants are often newer and in many cases coal power remains competitive. In these geographies, asset owners often face obstacles accessing capital markets and employing mechanisms that rely on robust tax bases such as ratepayer backed securitization bonds. As such, public capital, domestic and international, is often needed in conjunction with refinancing, reinvestment, and transition financing mechanisms to achieve early decommissioning. To execute on the three JETP arrangements 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 managed coal phaseout outcomes, and are explored in more detail in Annex I.

## Box 2: Just Energy Transition Partnerships

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 managed 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 managed coal phaseout.
- **Vietnam:** The 2022 JETP takes a blended finance approach similar to the Indonesia JETP. The Partnership 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 transition away from coal operations.

### 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 standards 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 many managed coal phaseout financing mechanisms, whether through cost of debt, cost of equity, or future cash flow approaches, 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 targets to reduce their portfolio emissions in the short term, often based on varying guidance from relevant alliances and initiatives (Pinko et al., 2021). Particularly, within the public sector, over half of the 70 largest public financial institutions have made commitments to implement an institutional climate strategy for future investments (Ortega Pastor et al., 2022).

Agence Francaise de Development (AFD) is the French public development bank that funds global projects that support the Sustainable Development Goals (SDGs). Like many other public financial institutions, AFD has focused on a Paris Alignment approach to its climate commitments, where each project is assessed as aligned or not aligned with a low carbon scenario, rather than a portfolio target. As part of its 2019-2022 Energy Transition Strategy, AFD decided to abstain from financing coal-fired power plants and to proactively support its partners in existing from fossil fuel investments (AFD, 2019). Much of this support occurs through financing energy transition policy programs at a national level and providing financial tools and capacity building, although future investments could include managed coal phaseout (AFD, 2022).

The Net Zero Banking Alliance (NZBA), as a private sector example, requires banks to include their clients' scope 1, 2, and 3 emissions in their portfolio emissions, where significant and if data allows (UNEPIFI, 2021). The Alliance also requires a 2030 or sooner interim target for portfolio emissions reductions based on an IPCC low-to-no overshoot scenario (UNEPIFI, 2021). In the event that an NZBA-allied bank supports a coal transition mechanism that brings the asset onto the bank's balance sheet, 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 managed coal phaseout and keeping portfolio emissions low and portfolio targets viable. Additionally, it is important to consider how off balance sheet financing can create emissions loopholes, such as within the ownership-based model that uses a bad bank mechanism, or capital markets underwriting that result in "facilitated emissions" (S&P Global, 2022). The NZBA intends for off-balance sheet activities to be included as part of 2030 target-setting as methodologies become available, which is particularly important for preventing scope 3 leakage between partnerships (UNEPIFI, 2022).

As financial institutions consider implementing the financial mechanisms in Section 2, it is critical to ensure that portfolio emissions accounting is not considered an obstacle to coal transition finance. This section explores four options specific to emissions accounting that would not jeopardize interim portfolio targets for financial institutions.

**Table 2: Four key approaches to emissions accounting and 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 managed coal phaseout, by ringfencing the investment within a sectoral portfolio, to avoid impacting targets for other portfolio sectors. While sectoral targets are most frequently used by private finance institutions, uptake by public financial institutions could shed light on sectors where public banks are particularly exposed.

Bad Portfolio	Financiers influence a portfolio to invest in transitioning high-emissions sectors, separate of portfolio emissions targets.	Encourages investment in transition finance, including managed 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 rebase 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 2DII 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 managed 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 a managed 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. In the event of a coal plant retirement, when the plant is

no longer emitting GHGs, the absolute emissions from both acquisition (applied to baseline year emissions) and retirement (applied to current emissions) would stay on the investee's emissions balance as evidence of emissions reduced.

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 managed coal phaseout pathway is set, the financial institution aggregates the managed 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 managed coal phaseout.

A sectoral approach to targets allows financial institutions to set ambitious targets for sectors that are easier to decarbonize, such as power and transportation, and more conservative targets for hard-to-abate sectors such as steel and concrete. Portfolio emissions that are added from investment in managed coal phaseout are ringfenced to that sectoral target and have no impact on the targets made for other sectors. In the case of managed coal phaseout, financial institutions could either set a target for coal, specifically, or set a target for the power sector that allows for investment in credible coal phaseout. There are additional opportunities in combining this approach with a “transition” sector portfolio, described in Section 3.3.

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.

More initiatives and alliances are using a sectoral approach to interim targets, with some requiring it for certain high-emitting sectors, in addition to a high-level, long-term portfolio target. There are benefits to the transparency and comparability of



sectoral targets, particularly across similar financial institutions. However, in public finance institutions these types of targets are still relatively rare, and the available data on public financial institution investments, particularly national development banks, is fairly limited. Sectoral targets, in addition to a Paris alignment approach, could identify sectors where public banks are exposed to high emissions in their investments, as well as help provide transparency and drive transition finance to the appropriate sectors.

### **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, existing financial institution.<sup>2</sup> 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 managed coal phaseout, an investment in a coal transition mechanism would come from this ringfenced portfolio and have no impact on the financial institution's 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

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<sup>2</sup> This approach is similar to RMI's ‘Financed Emissions for Phaseout’ sub-portfolio approach (Holzman & Kekki, 2023)

net negative emissions to be considered in 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.

This approach is gaining traction, with Ceres and RMI, among others, beginning to research the necessary calculations and methodologies to implement a NPV for emissions. While it is seen as a potential key approach that private financiers can use to assess the forward-looking impact of their managed coal phaseout financing, private investors are already beginning to use it in evaluating the impact of existing portfolios outside of managed coal phaseout. When applied to managed coal phaseout financing, there is a general agreement that determining the total emissions reduced would require robust guardrails to ensure emissions savings are not over estimated (Holzman & Kekki, 2023).

For managed 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 managed coal phaseout 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 managed coal phaseouts and ensuring that socioeconomic and just transition 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 managed 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. The risks related to owning stranded assets or losing financing decrease because the coal operator has an expectation that the government or public financial institution 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, while ramping up renewable energy to ensure a real transformation in parallel. 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.

Managed coal phaseout is a critical, and necessary, way to reduce global GHG emissions in the real economy and has been highlighted by GFANZ as key net-zero financing strategy, but the addition of high-emitting assets to portfolios can create conflicting goals with interim portfolio emissions targets (GFANZ, 2022a). 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 managed coal phaseouts. 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 potential approaches for financial institutions, particularly within the public sector, 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 managed 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 incentivizes near-term decarbonization.

Each of these emissions accounting approaches are intended to complement the broader [managed coal phaseout guidelines](#) from CPI, RMI, and CBI, and 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 managed coal phaseout mechanisms may lead to a scattered implementation of the emissions accounting approaches, the expected rise in managed 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](mailto:nicole.pinko@cpiglobal.org), and Angela Ortega Pastor at [angela.pastor@cpiglobal.org](mailto:angela.pastor@cpiglobal.org). We look forward to hearing your thoughts.

## 5. ANNEX I. FINANCING MECHANISMS FOR MANAGED COAL PHASEOUT IN DETAIL

**Below are the financial mechanisms that were identified to be most relevant to JETPs.**

They either have been, or are being discussed, as potential vehicles for managed coal phaseout in EMDEs, and could be a viable tool in the further development of JETP financial vehicles.

- **Repurposing coal plants for renewable energy and storage** is a method 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 achieve 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 less time, and retire the assets ahead of schedule” (Bhat et al., 2023). However, this vehicle requires coal assets to continue operations until investors are repaid, which can introduce misaligned incentives to accelerate phaseouts, discussed in Section 4 as a moral hazard. Further, managed transition vehicles are only suitable in contexts where coal assets can be transferred, making publicly-owned coal plants ineligible (Bhat et al., 2023).
- **Carbon Retirement Portfolio (CRP) are managed transition vehicles** that place 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 (IDB Invest, 2021).
- 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-based models** that use a “bad bank” model are similar to managed transition vehicles, but 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.

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