Financing the Managed Phaseout of Coal-Fired Power Plants in Asia Pacific

PUBLIC CONSULTATION

Guide to support the financing of the early retirement of coal-fired power plants as part of a just net-zero transition

June 2023

Asia-Pacific Network of the Glasgow Financial Alliance for Net Zero

GFANZ
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Contents

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Important Notice

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Members of the eight financial sector-specific net-zero alliances comprising GFANZ have individually made commitments consistent with the high standards of their respective alliances and are not automatically expected to adopt the principles and frameworks communicated within this report, although we expect all members to increase their ambition over time, so long as it is consistent with members' fiduciary and contractual duties and applicable laws and regulations, including securities, banking and antitrust laws.

Introduction

The early retirement of high-emitting assets will be a key element of decarbonization on the road to net zero. Managed phaseout (MPO) refers to strategies to finance or enable such early retirement. This report aims to bring together and build on emerging frameworks for, and recent experience of, the MPO of coal-fired power plants (CFPPs), to begin to provide practical guidance for net zero-committed financial institutions considering whether to support the financing of coal phaseout transactions in the near term.

This guidance is therefore also highly relevant to companies that own and operate CFPPs, as well as those that oversee power systems such as state-owned energy companies, regulators and governments, all of whom will need to understand the expectations of net-zero financial institutions that may choose to provide some of the necessary financing. It should be of interest also to public policymakers and public and private sector entities globally who are seeking to hasten coal phaseout.

Audience: The draft guidance in the report is intended to empower **net-zero-committed private financial institutions** to set clear expectations for relevant stakeholders, including the owners and operators of CFPPs, ahead of providing financing in support of plans for accelerated coal phaseout. This will better enable financial institutions to work alongside governments, multilateral development banks (MDBs) and other public and private sector parties, in supporting those **coal phaseout transactions that are credible, financially viable, and inclusive**. Private financial institutions are increasingly using transition planning aligned with the GFANZ Net-Zero Transition Plan (NZTP) framework to implement their own individual net-zero commitments, and will rely on governments, state-owned enterprises and corporates to undertake similarly ambitious transition planning. As such, we hope that a broad set of stakeholders — regional and global, public and private — will engage with this guidance in APAC and beyond, with a view to improving it ahead of COP28.

Purpose: Recognizing the nascent state of MPO transactions globally and in the region, this report does not prescribe a specific course of action but **offers a principles-based approach, which we expect will evolve over time as lessons are learned and energy transitions, public policy, and other factors such as economics and technology, develop**. The near-term objective **is to establish an ambitious but practical foundation to support catalytic and pioneering coal phaseout transactions involving both public and private finance**. Financial institutions would find it more feasible to participate in such transactions if global organizations, such as the Group of Twenty (G20), agreed on a common framework for MPO, with specific thresholds for an appropriate level of ambition, as part of a wider articulation of a globally applicable approach to transition finance.

This report builds on recent work by GFANZ and partners, and advances tools and frameworks published in 2022 and 2023, including:

- The GFANZ report (November 2022) "Recommendations and Guidance on Net Zero Transition Plans for Financial Institutions," which outlines four net-zero aligned financing strategies, of which MPO is one. The report also lays out a framework for credible transition planning by financial institutions (and a related publication provides guidance to help real economy firms develop net-zero transition plans).
- The GFANZ report (June 2022) "Managed Phaseout of High-emitting Assets," which sets out a preliminary and high-level approach to support

the identification of assets where MPO could be appropriate, along with an overview of potential financial mechanisms and initial guidance on features of a credible asset-level phaseout plan.

- The working paper (November 2022) by Climate Bonds Initiative, Climate Policy Initiative, and RMI on "Guidelines for Financing a Credible Coal Transition,"[1] which introduces a framework to help funders and coal plant owners assess the climate and social outcomes of financial mechanisms that support MPO of CFPPs.
- Two working papers (January 2023) by RMI and commissioned by GFANZ on "Managed Coal Phaseout: Metrics and Targets for Financial Institutions,"[2] which suggests metrics to potentially remove barriers and accelerate financial institution involvement by demonstrating that their financing of MPO of CFPPs leads to real-economy decarbonization and "Financing Mechanisms to Accelerate Managed Coal Power Phaseout,"[3] which sets out how, where, and when financial institutions can use different financing mechanisms in MPOs of CFPPs.
- The ASEAN Taxonomy for Sustainable Finance Version 2 (March 2023), which builds on Version 1 and accommodates coal power phaseouts.

This report also considers and seeks to complement the development within the region of various initiatives where MPO of CFPPs is a focus or critical element, specifically:

- the Asian Development Bank's (ADB) Energy Transition Mechanism (ETM), which seeks to leverage a market-based approach to retire coal power assets on an earlier schedule than if they remained with their current owners, through partnership with member countries
- country-led platforms for energy transition, and in particular the Indonesia and Vietnam Just Energy Transition Partnerships (JETPs), where MPO is one of the key means by which — alongside investment in grid, battery storage, and renewables — energy sector decarbonization can be delivered.

In offering draft guidance for net-zero-committed financial institutions to support and participate in financing MPO strategies, the intention is to support existing regional initiatives as well as those in a wider set of countries across the region.

[1] CBI, CPI and RMI. Guidelines for Financing a Credible Coal Transition, 2022

[2] RMI. Managed Coal Phaseout: Metrics and Targets for Financial Institutions, 2023

[3] RMI. Financing Mechanisms to Accelerate Managed Coal Power Phaseout, 2023

How to participate in this consultation

This Consultation Report will support the production of a final report ahead of COP28. The contents are by no means exhaustive nor final, and we strongly encourage and welcome feedback.

The release of this Consultation Report initiates a 9-week public consultation, running until August 4, 2023. To provide feedback, please respond to the survey available here. Feedback from all stakeholders will be considered in delivering the final report.

Executive Summary

It is well established that accelerating the transition away from unabated coal power is crucial to meet Paris Agreement commitments to combat climate change. To avoid the most severe consequences that climate change will bring, greenhouse gas (GHG) emissions need to be significantly reduced and almost halved by 2030 to limit global warming to 1.5 degrees C above pre-industrial levels.[4] Coal power generation is the largest source of carbon dioxide emissions globally[5] — indeed, if existing coal power assets continue to operate as planned, they alone will generate enough emissions to exhaust two-thirds of the remaining carbon budget associated with limiting warming to 1.5 degrees C.[6] The IEA net-zero emissions scenario involves a 55% reduction in emissions associated with coal by 2030 and a full phase-out of unabated coal in power generation by 2040.

Globally there is increasing momentum behind the transition away from coal and it is important that APAC countries are part of the charge. Countries with ambitious plans for transition can seize the economic opportunities associated with the net-zero future, including developing local comparative advantages in new technologies and net zero-aligned activities. As the world transitions to net zero, countries showing leadership are more likely to attract foreign direct investment, to be embedded in global supply chains, and to readily access net-zero committed finance. The main technologies needed to transition are tried and tested, and renewables — particularly wind and solar — are now the cheapest source of power in most markets.[7] Global support for transition in low- and middle-income countries in APAC makes sense given the low cost per tonne of avoided emissions.

Yet APAC countries face certain challenges in transitioning, which need to be overcome urgently. Although coal power usage globally most likely peaked in 2022,[8] it is expected to continue to rise in Asia for several more years due to existing high dependencies on coal, reinforced by domestic energy policies, and rising electricity demand driven by economic development and fast-growing populations and income levels. APAC CFPPs are relatively young and typically insulated in some form from market forces, such as through state-owned enterprise ownership, limited open power markets, and fiscal and energy policies including subsidies and power purchase agreements (PPAs) with considerable remaining time to run. Additionally, there are near-term costs associated with investing in the transition to renewables; these costs include addressing accelerated coal phaseout, investing in the grid and battery storage infrastructure needed for systems with increased variable renewables, and delivering a pipeline of renewables projects that scales sufficiently to bring down costs. Some APAC countries face a high cost of capital — reflecting perceived risks and returns — that may also slow transition.

Public policy on coal phaseout is strengthening globally and regionally, but there is significant need for higher ambition. 190 countries globally and around 40 countries in APAC have now made carbon neutrality and net zero commitments, yet work remains to translate these into sufficiently ambitious

[4] IPCC. Press Release: Urgent climate action can secure a liveable future for all, 2023

[5] IEA. CO2 emissions in 2022, 2023

[6] IEA. Coal in net zero transitions, 2022. Plant-by-plant assessment of current CFPP fleet assuming remaining technical lifetime of 50 years (without any CCUS or cofiring) and recent levels of operation results in 330 Gt CO2 emissions that could be emitted from 2022 to 2100 – equal to two-thirds of 500 Gt CO2 remaining cumulative emissions budget consistent with a 50% chance of limiting average global temperature warming to below 1.5 °C

[7] BloombergNEF. Levelized Cost of Electricity 2H 2022, 2023. New onshore wind or solar are the cheapest source of power in markets representing 96% of global electricity generation.

[8] IEA. Coal in 2022: Analysis and forecast to 2025, 2023

Nationally Determined Contributions (NDCs) and related policy.[9] Through the Glasgow Pact, almost 200 countries committed to accelerating efforts towards the phasedown of unabated coal power and phaseout of inefficient fossil fuel subsidies, and 98 countries had committed ahead of COP27 to no new coal or had no planned coal projects. Nonetheless, ~95% of planned coal project capacity as of early 2023 was in APAC.[10] To have the highest confidence that early closure of a CFPP will result in decarbonization that is not later wholly or partially reversed (i.e., result in 'emissions leakage'), there would need to be both a commitment to (1) no new coal and (2) a coal phaseout date, both of which are ideally aligned with a science-based pathway (such as the IEA Net Zero Scenario). However, the reality is that few jurisdictions within APAC have made such commitments as of today. This guidance sets out other elements of government-level, entity-level or asset-level plans that in combination may still give a high degree of confidence on the decarbonisation impact of coal phaseout transactions.

Financing conditions for coal are tightening. Major economies, including China, and MDBs and Development Financial Institutions (DFIs) have announced the end of cross-border coal financing, and around 200 globally significant financial institutions have formal policies restricting investment in coal.[11] However, where individually developed coal policies designed to support net-zero transition also exclude financing to those countries and entities which have credible plans to accelerate the phaseout of coal, the policies could inadvertently hinder phaseout efforts and the delivery of climate goals. It is crucial that financial institutions can engage in and support credible, financially viable and inclusive MPO plans for coal assets, and that their net-zero targets and plans accommodate this. This report aims to set out guardrails that can provide confidence to participating financial institutions that such plans are sufficiently science-aligned and time-limited, deliver real world emissions reductions, address broader socio-economic impacts, and support efforts toward interim emission reductions. The report also provides the basis for net zero alliances, standard setters and official sector financial authorities to ensure their frameworks capture MPO and set out specific guardrails they would expect to see.

The phaseout of coal power is a systemwide challenge requiring a systemwide approach — which we need to start developing now. There are approximately 5,000 CFPP units in APAC, and it will take time to develop and implement the means to accelerate phaseout of such a large number of assets. Significant public and private capital in APAC is invested in existing coal assets which may be sheltered from market forces, or in a very few cases remain competitive in the near term against clean power alternatives. The need to pursue — and finance — phaseout while securing affordable access to reliable energy supply, often in the face of increasing demand, requires careful planning. In particular, to reduce coal dependencies and accelerate investment in renewable energy and related modern, smart (and often cross-border) grid infrastructure, while limiting impacts on affected workers and communities.

[9] Also see World Resources Institute. The State of Nationally Determined Contributions, 2022. Findings show even if countries achieved their NDCs, they would reduce GHG emissions by just 7% from 2019 levels by 2030, in contrast to the 43% associated with limiting temperature rise to 1.5 degrees C

[10] Global Energy Monitor. Global Coal Plant Tracker, 2023

[11] IEEFA. 200 and counting: Global financial institutions are exiting coal, 2023

Alongside public policy, there is a recognized role — and pressing need — for innovative financing mechanisms to support accelerated phaseout. The combination of clean power deployment and accelerated fossil power phaseout is expected to bring economic benefits that far outweigh the costs of transition. But given the upfront investment requirement, near-term financing solutions are needed to make this possible. Financing may be used to acquire coal assets for early phaseout, or to incentivise and enable existing CFPP owners to significantly shorten the plants' operating lives.

Concessionary forms of finance will often be necessary to leverage private finance. Public and private capital may need to be combined to deliver (i) some degree of cost/burden sharing to address stranded assets; (ii) refinancing that lowers the cost of capital; and (iii) alternative revenue streams (e.g. from renewables projects pursued to provide replacement energy and also relevant carbon credits). Additional finance and grants are likely needed to address just transition considerations. Philanthropic, public, and MDB/DFI capital will need to play a role: concessional/grant funding needs for low and middle income countries (excluding China) to accelerate the phaseout of coal may be $25 billion-$50 billion *per year* (alongside private finance), according to the Energy Transitions Commission.[12]

MPO as a key financing strategy for the net zero transition

Guidance developed by GFANZ on net zero transition planning (NZTP) for financial institutions and companies recognized MPO as one of four key financing strategies through which financial institutions can finance the transition to net zero.

The strategies are:

1. **Climate solutions:** Financing or enabling entities and activities that develop and scale climate solutions.
2. **Aligned:** Financing or enabling entities that are already aligned to a 1.5 degrees C pathway.
3. **Aligning:** Financing or enabling entities committed to transitioning in line with 1.5 degrees C-aligned pathways.
4. **Managed phaseout (MPO):** Financing or enabling the accelerated managed phaseout (e.g. via early retirement) of high-emitting physical assets.

Other strategic options for transitioning CFPPs, as part of one of the other three financing strategies noted above, may also play a role, but are not the focus of this report. For example, the IEA's *Coal in Net Zero Transition* report outlines the potential role for retrofitting CFPPs to allow for flexible operations (i.e., shift to a lower-utilization peak / balancing role), energy efficiency or carbon capture measures, or repurposing to co-fire with low-carbon fuels. These might, in certain circumstances, be considered as 'Aligning' strategies and could be undertaken alongside MPO.[13] More guidance for these alternative approaches, including definitions and metrics, may be required for consideration as part of credible transition financing.

[12] Energy Transition Commission. Financing the Transition: How to make the money flow for a net-zero economy, 2023

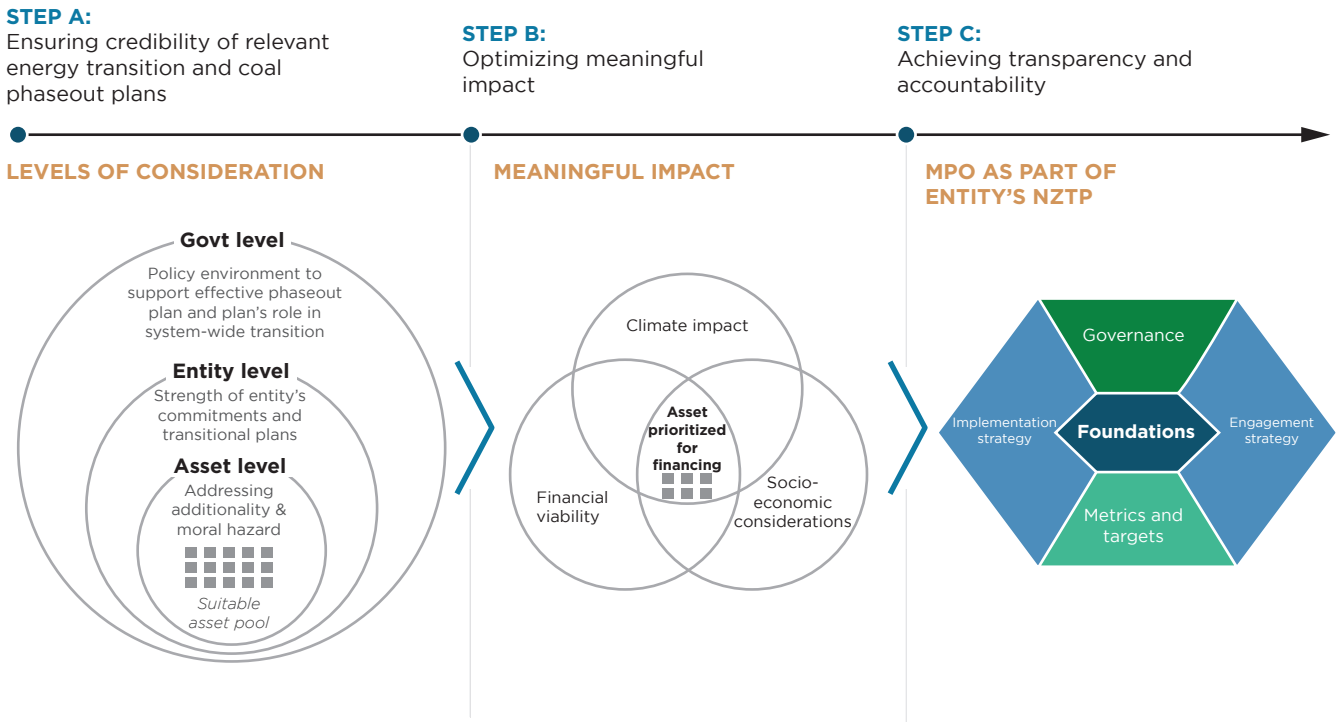
[13] IEA. Coal in net zero transitions, 2022

Recommendations to support financing the MPO of CFPPs

Given MPO transactions are important but extremely difficult to get right, a three-step process is proposed (**Figure 1**), in which financial institutions apply ten recommendations to assess an entity-produced coal phaseout plan. The steps are:

- Ensuring the credibility of relevant energy transition and coal phaseout plans at the governmental, entity and asset levels;
- Optimizing 'meaningful' impact across climate impact, financial viability and socio-economic considerations; and
- Achieving transparency and accountability for coal phaseout plans in line with the GFANZ NZTP framework.

Figure 1: Proposed three-step process for consideration of coal phaseout plans



Step A: Ensuring credibility of relevant energy transition and coal phaseout commitments and plans

Given the challenges associated with delivering successful MPO transactions, financial institutions will be informed by various levels of energy transition and coal phaseout commitments and plans in deciding whether to provide financing. Taken together, sufficiently ambitious and credible commitments and planning at the government, entity and asset levels can help to address the risks of 'emissions leakage' (i.e., that closure of a CFPP occurs but is offset by increased operation of other CFPPs or new CFPPs) or moral hazard (i.e., that a phaseout transaction perversely encourages more coal power generation in order to later benefit from a potential coal phaseout plan).

- **Government-level considerations**
  - **Recommendation 1 (Government climate commitments):** Financial institutions should assess the nature, strength and stability[14] of the energy sector transition commitment of the government of the country in which the CFPP is located. Specifically, including the degree of alignment and convergence with 1.5 degrees C science-based pathways (i.e. national-level no new coal policies or specific coal phaseout date commitments).
  - **Recommendation 2 (Government energy transition planning):** Financial institutions should assess the extent to which there is an existing or emerging plan (including but not limited to commitment through country platforms or alignment with science-based pathways) for the energy / power system that addresses how coal phaseout will be delivered alongside necessary investment in grid infrastructure and renewables, in the country in which the CFPP is located.
- **Entity-level[15] considerations**
  - **Recommendation 3 (Entity coal transition plan):** Financial institutions should assess the relevant (both seller and buyer where applicable) entity's overall transition plan — including but not limited to the specific CFPP — to gain confidence that a coal phaseout plan will be implemented and effectively mitigate emissions (i.e., an entity-level commitment to no new coal, or credible third-party-verified transition plan).
- **Asset-level considerations**
  - **Recommendation 4 (Reducing moral hazard):** Financial institutions should assess conditions and commitments made in relation to a CFPP subject to an MPO plan (such as whether a plant was commissioned prior to international or national commitments to phase out coal i.e., 2021 Glasgow Climate Pact) to gain confidence that the risk of moral hazard is significantly contained.
  - **Recommendation 5 (Accelerating phaseout):** Financial institutions should assess whether the need for financing is genuine to accelerate early CFPP closure (e.g., if a CFPP has positive fair value).

Step B: Optimizing 'meaningful' impact across climate impact, financial viability and socio-economic considerations

- **Climate impact**
  - **Recommendation 6 (Climate impact):** Financial institutions should prioritize MPO plans that support alignment with a science-based pathway, with proposed emissions reductions as ambitious as possible, with independent verification, and in line with timeframes set out by internationally recognized bodies.
- **Socio-economic considerations**
  - **Recommendation 7 (Accessible, affordable clean energy):** Financial institutions should assess what measures are in place to support access to secure, reliable and affordable clean energy replacements, such as having feasibility and cost assessments of clean energy replacements, and with actions underway to deliver them.

[14] For example, the broader the political support for climate/energy transition policies, the more enduring and stable the commitment is likely to be.

[15] Where the CFPP continues to be owned and operated by its pre-MPO owner, that owner is the relevant entity. Some MPO transactions will involve a transfer of ownership and in such cases, the relevant entity may be the new owner(s).

  - **Recommendation 8 (Mitigating adverse socio-economic impacts):** Financial institutions should assess what measures are in place to mitigate adverse socio-economic impacts, such as (i) having environmental and social risk and impact assessments; (ii) social dialogue and stakeholder engagement; (iii) worker and community transition plans; (iv) environmental restoration and land repurposing plans; and (v) adverse impact fund (or similar).

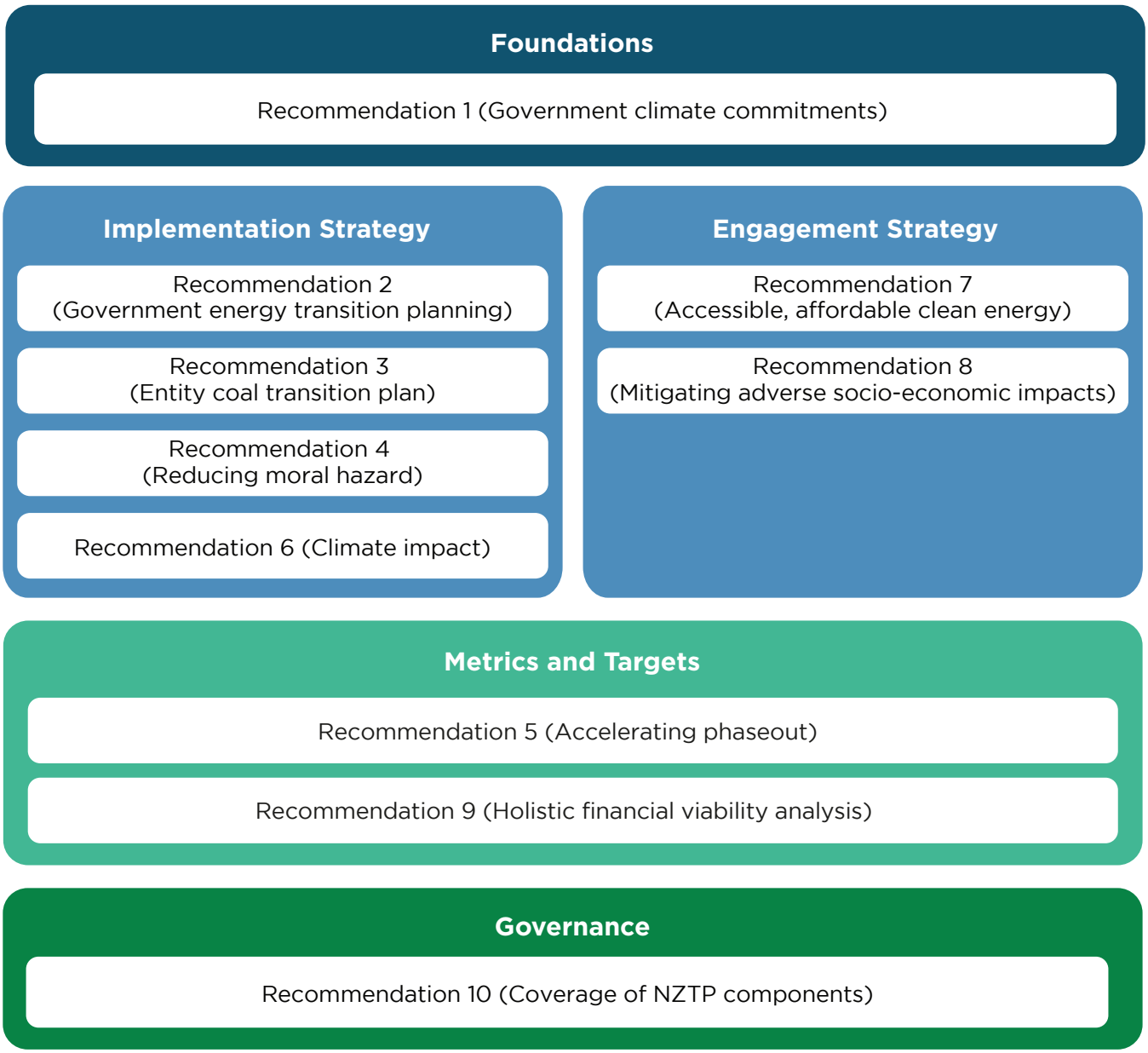
- **Financial viability**
  - **Recommendation 9 (Holistic financial viability analysis):** Financial institutions should perform holistic financial viability analysis of a coal phaseout plan to ensure that it is likely to be viable, including capturing the financial impact of socio-economic support measures and associated costs.

Step C: Achieving transparency and accountability for coal phaseout plans in line with the GFANZ NZTP framework

- **Recommendation 10 (Coverage of NZTP components):** Financial institutions should set expectations that the entity's CFPP phaseout plan covers the key components in the GFANZ NZTP framework.

These ten recommendations have been mapped to the key components of the GFANZ NZTP framework in Figure 2, to show how an entity-produced CFPP phaseout plan could capture them.

Figure 2: Coal phaseout recommendations mapped to GFANZ NZTP framework



Consultation Questions

Part 1: APAC Considerations

1. Are the most relevant considerations and contexts when considering energy transition and coal phaseout for APAC countries captured? Is anything material missing?

2. Given existing policy frameworks in APAC, what additional frameworks or enabling mechanisms are needed to incentivize and scale early phaseout transactions? How can the final GFANZ APAC Coal MPO Guidance best support these needs?

3. Is there a role for regulators / official sector authorities when developing MPO guidance? Where might regulators agree or disagree with the proposed guidance?

Part 2: Recommendations for financial institutions

4. Achieving climate goals require both a 'high bar' to mitigate leakage and moral hazard risks, and measures to support urgent action. To avoid precluding MPOs based on current country-level policy: What is the best way to balance the realities of where APAC is today with more stringent policies that are likely in the future? How can we encourage financial institutions to take action on MPO today while government-level commitments are still evolving?

5. While this report is focused on coal phaseout plans, is it useful to capture the potential for emissions reduction from retrofits ahead of retirement? How might this be integrated into the guidance?

6. Alongside approaches to evaluate expected emissions reduction from a coal phaseout plan, is there value in simpler guardrails relating to the maximum operating life of a CFPP (both in total and from now)? What analysis could the guidance draw on to support use of such guardrails?

7. In relation to assessing socio-economic considerations in a coal phaseout plan, are there additional areas the Final Report should aim to cover or guidance / references financial institutions could draw on?

8. Does the three-step process capture the right stages and considerations for financing for a coal phaseout plan from a financial institution's perspective?

9. Do the ten recommendations cover the most important considerations for determining whether to participate in the financing of an MPO project? What other areas should a coal phaseout plan include to support assessment of the plan's:

   a) Climate impact

   b) Financial viability

   c) Socio-economic considerations

   d) Accountability

10. Does the guidance, when taken together, strike the right balance between facilitating early transactions that could help accelerate peak coal emissions in APAC, and ensuring that each transaction has sufficiently positive impact?

11. This report refers to additional guidance, benchmarks and thresholds that could inform assessments on aspects such as the credibility and impact of coal phaseout plans. Is there additional existing guidance that could be provided? What are the merits/issues of the different options set out?

12. What are the relative roles for private sector, policymakers and standard setters to develop more granular guidelines (e.g., thresholds and conditions) on financing MPOs at this time? Would regulatory standards for MPO help incentivize FIs participation in transitions?

Part 3: Financing mechanisms

13. Are there other ways financing mechanisms for a coal phaseout plan can lower the cost of capital? Which elements are likely to be most impactful at reducing risk / crowding in private finance?

14. What are the most important alternative revenue streams for APAC coal phaseout plans? What other alternative revenue streams are possible from coal closure? What real examples of these provide the most instructive case studies?

15. Early retirement may pose particular challenges with respect to writing down the value of CFPP assets or associated financing. What additional considerations could be useful in the final guidance with respect to write downs? How important is this to consider in structuring transactions?

16. Are the proposed safeguards for financing mechanisms the right ones? Are they sufficient?

Part 4: Enabling financial institutions to take action

17. GFANZ seeks input on how internal financial institution policies and conditions may impact financing of coal phaseout plans, while at all times remaining cautious of identifying any non-public, commercially sensitive information. In particular, the following would be helpful:

    a. Specific wording around coal transactions (e.g., what types of coal transactions are allowed or not);

    b. Treatment of financed emissions for MPO (e.g., carve-outs or use of additional metrics outlined in the *RMI Managed Coal Phaseout: Metrics & Targets for FIs*);

    c. How financed emissions from MPO exposures are treated in the broader context of net-zero target setting.

18. Given the potential for widely used financed emissions targets to disincentivize financing of coal phaseout plans, should coal phaseout plans be treated separately? Can this be achieved through greater transparency or do MPO transactions need to be fully carved out from financed emission targets? Does the need to finance coal phaseout justify amendments to financial institutions' emissions reduction targets?

What to expect in the full report

The working group will continue to engage in the following areas through the consultation period to input into the final report:

- Tracking the **latest developments** in terms of work by other institutions on relevant aspects of MPO (e.g., work on carbon credits)
- Analyzing **potential unintended effects of internal financial institution policies** and considering **enhancements to better support** participation in MPOs
- **Engaging with policymakers** on the forward-looking enabling environment in support of coal phaseout
- Reviewing the guidance in light of **MPO transactions** such as in JETPs, ADB's ETMs, and national level ETM programs, and incorporating their needs and challenges
- Drafting **case studies** to illustrate the recommendations and financing mechanisms

Part 1: Context and APAC landscape

The Net-Zero Backdrop

To avoid the most severe climate change outcomes requires substantial GHG emissions reductions

The Paris Agreement signified a global effort committed to combating climate change, by limiting global warming to well below 2 degrees C and pursuing efforts to limit warming to 1.5 degrees C.[16] Global warming has already reached ~1.1 degrees C above pre-industrial levels, and each incremental overshoot of the 1.5 degrees C is expected to bring more severe consequences — from more intense flooding and heat waves, to expanded biodiversity loss and food insecurity.[17] The Intergovernmental Panel on Climate Change (IPCC) concludes that while warming can still be limited to 1.5 degrees C, this would require immediate and substantial efforts to cut emissions almost in half by 2030 as compared with 2019 levels.[18]

This will require an early and significant shift away from coal power generation

Globally, coal remains the largest source of power generation and continues to represent the largest single source of carbon dioxide (CO2) emissions.[19] Reducing dependency on coal for power will play a critical role in global efforts to bear down on emissions. The current global energy crisis, and in particular reduced availability of fossil gas, has seen some countries increase their use of coal despite climate and energy transition targets. Emissions from burning coal reached a record high in 2022.[20]

The world cannot continue to use coal as it has done if we are to meet global carbon budgets

The IEA notes that existing coal power assets operating as normal would generate enough emissions to exhaust two-thirds of the remaining 'carbon budget' associated with limiting warming to 1.5 degrees C.[21] Early and significant reductions in coal-related emissions are part of every credible pathway that avoids severe impacts from climate change. The IEA net-zero emissions scenario calls for a 55% cut by 2030 and full phaseout of unabated coal in power generation by 2040.

APAC has high coal dependency...

Coal dependency in APAC is high and transitions are likely to be particularly challenging, given the heavy investment in coal power and the need to secure affordable power supply amid growing demand (see **Box 1** about the energy transition in APAC). While coal power usage globally is close to peaking, it is expected to continue to rise in Asia, with the IEA forecasting growth from 2022 to 2025 of 5% in China, 7% in India and 14% in Southeast Asia to meet rising demand for electricity. Much of the APAC region is still developing economically, so access to affordable and resilient power will be crucial. Many APAC regions also have significant economic dependencies on coal mining.

[16] UNFCCC. The Paris Agreement

[17] IPCC. Special Report on Global Warming of 1.5 °C, 2018

[18] IPCC. Synthesis Report (SYR) of the IPCC Sixth Assessment Report (AR6), 2023

[19] IEA. CO2 emissions in 2022, 2023

[20] BloombergNEF. New Energy Outlook, 2022

[21] IEA. Coal in net zero transitions, 2022. Plant-by-plant assessment of current CFPP fleet assuming remaining technical lifetime of 50 years (without any CCUS or cofiring) and recent levels of operation results in 330 Gt CO2 emissions that could be emitted from 2022 to 2100 – equal to two-thirds of 500 Gt CO2 remaining cumulative emissions budget consistent with a 50% chance of limiting average global temperature warming to below 1.5 °C

...making early retirement of coal power generation critical for decarbonization

APAC accounts for around half of global GHG emissions, of which the largest contributor is power generation at ~40% of APAC's GHG emissions.[22]

Around half of all power generated in APAC comes from coal: around 5,000 CFPP units, where subcritical plants make up the largest at ~45% share of capacity. For APAC overall, CFPPs collectively emit 7.2 GtCO2 annually — around 20% of 36.8 GtCO2 in annual global energy-related CO2 emissions.[23]

Box 1: Coal in Asia-Pacific's Net Zero Transition

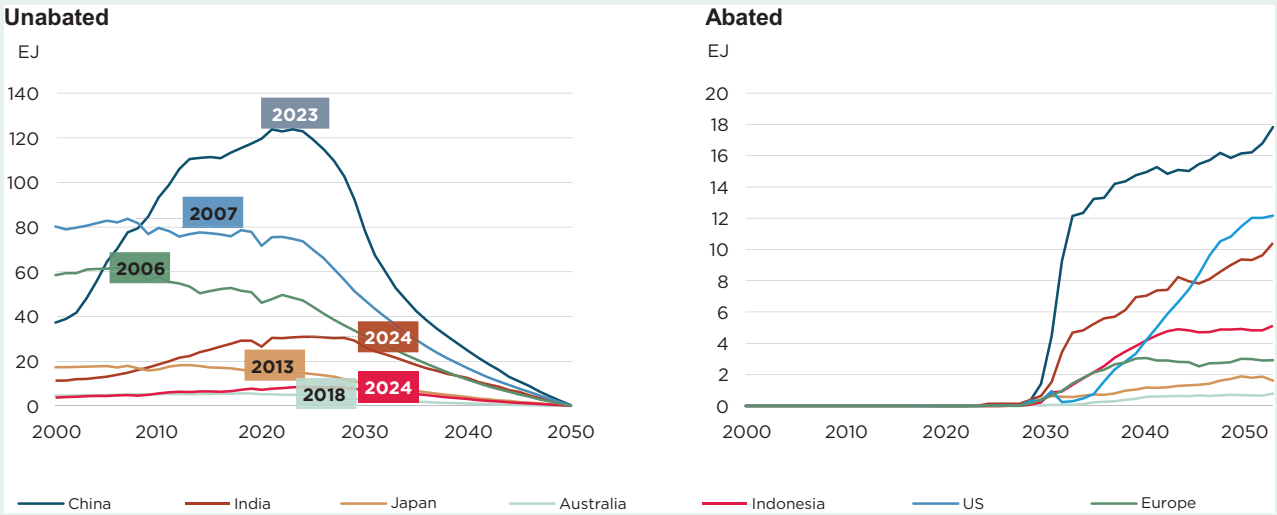
According to BNEF, a significant share of APAC's coal fleet must be retired early to meet net-zero goals, with the bulk of capacity replaced by wind and solar.

BloombergNEF's New Energy Outlook (NEO) explores energy transition scenarios globally, providing country-level detail for nine key countries including China, India, Indonesia, Japan, and Australia.[24]

While unabated fossil fuel use has peaked globally, it continues to grow in APAC.

The NEO indicates that unabated fossil fuel use has already peaked and is on the decline in Europe, the U.S., Japan and Australia **(Figure 3)**, but has been growing in much of Asia with new facilities still coming online. Given coal power emissions are still rising in APAC, bringing forward the point at which they peak and lowering the level at which they peak will be key. Making this transition will be better for climate, growth, energy security, health and affordability in the region. In the BloombergNEF Net Zero Scenario, unabated fossil fuels in all countries need to peak within the next two years: 2023 in China, and 2024 in India and Indonesia. From their respective peaks, unabated fossil fuel consumption falls on average per year by 8% in China, 14% in India and 8% in Indonesia.

Figure 3: Fossil fuel use and peak years for energy use by geography in the BNEF Net Zero Scenario



Note: Does not include use of fossil fuels as feedstock. In the 'Unabated' chart, highlighted years show peak year of unabated fossil fuel consumption. Abated fossil fuel use is energy use where CO2 emissions from fuel combustion are captured with CCS.

[22] Our World in Data. CO2 and Greenhouse Gas Emissions database

[23] Our World in Data. CO2 and Greenhouse Gas Emissions database; Global Energy Monitor. Global Coal Plant Tracker, 2023

[24] BloombergNEF. New Energy Outlook, 2022

The scale of coal power retirement to achieve net-zero targets is significant
Globally, some 111GW of coal capacity needs to be retired each year to 2030 if emissions in the power sector are to fall by 57% by 2030 in the Net Zero Scenario. The rate slows to a still-significant 66GW annually thereafter. Some of this capacity may be retrofitted with carbon capture and storage (CCS), although this will depend on age and technical feasibility. In China, an average 46GW of capacity needs to be closed every year through 2030, and then another 40GW each year from 2031 to 2050. In this scenario, India needs to close 10GW each year to 2030, a quarter of its current fleet.

Limited role for switching to gas or carbon capture retrofits Asia sees no significant coal-to-gas switch in the BloombergNEF Net Zero Scenario due to the relatively higher costs of gas compared with coal in the region. Instead, it is more economic to switch existing and new plants to abated fossil fuels with CCS. But even then, the potential for abated fossil fuel use is limited: the mitigation impact from using CCS on total emissions reductions is generally lower than 11% across countries. Indonesia is a notable exception, with CCS accounting for 27% of its CO2 mitigation in the Net Zero Scenario.

Deployment of clean power drives emissions reductions…
The NEO suggests the majority of carbon emissions reductions to reach net zero will come from switching to clean sources of power supply and electrifying end-use processes. Cleaning up the power system is most impactful in countries that heavily rely on coal today, such as China (61% share of coal in electricity generation in 2021), India (78%) and Australia (53%). Switching to clean power accounts for at least two-thirds of their total emissions abatement over the next 28 years (see **Figure 4**)

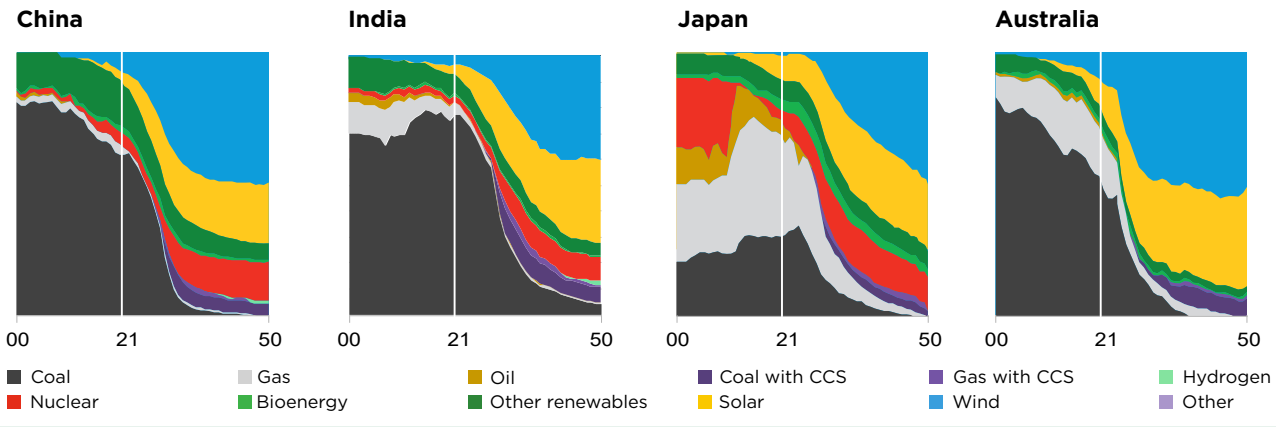
This is supported by the technological advancements in clean power technology. Cheap solar and wind dominate countries' annual build out and installed power capacity in 2050 in the Net Zero Scenario. They provide between 64% to 79% of all capacity, depending on the country, and are accompanied by storage (2% to 11%) and low-carbon dispatchable capacity, such as coal and gas with CCS, nuclear and hydrogen plants (8% to 25%).[25]

The NEO Net Zero Scenario also finds regional differences in clean power generation. Where wind speeds are low or generation profiles are highly seasonal, such as in Southeast Asia, solar tends to perform better. In Indonesia, the projected share of wind in total generation in 2050 is 18%, in India it is 40%; while in Australia and India solar make up 38% and 32% generation share, respectively.

Other renewables, such as hydro, biomass, geothermal and solar thermal, also provide a complement to wind and solar in the transition to zero emissions. However, they tend to be limited by local resource potential, environmental concerns, and by their costs in the case of biomass, geothermal and solar thermal. Globally, they are projected to meet 7% of demand in 2050.

[25] IESR. Enabling High Share of Renewable Energy in Indonesia's Power System by 2030, 2022. As an example of how countries can enable high shares of renewable generation. Enabling high share of renewable energy in Indonesia's power system by 2030: Alternative electricity development plan compatible with 1.5 degrees C Paris Agreement. Jakarta: Institute for Essential Services Reform.

Figure 4: Electricity generation by source in the BNEF NEO Net Zero Scenario 2000-2050



Source: BloombergNEF

APAC is also acutely vulnerable to climate change, reinforcing the importance and urgency of coal phaseout

The APAC region, home to 60% of the world's population, is also acutely vulnerable to the physical effects of climate change. The region includes 13 of the 30 most exposed nations to climate hazards. These include food shortages and supply chain disruptions associated with extreme weather, rising sea levels, and heat stress. The World Bank estimates that up to 7.5 million people, in the absence of meaningful policy action, could be pushed into poverty by 2030 due to the climate crisis.[26] Under the IPCC's RCP 4.5 scenario, East Asia and the Pacific could lose up to 5% of GDP by 2050 due to climate change. This figure is starker — 15% — for South Asia.[27] APAC countries need to urgently bear down on emissions to shield themselves from these risks. The phaseout of coal power is a crucial part of this reduction strategy.

Major APAC nations are committed to net zero, and public policy is moving in the right direction, but more clarity and ambition is needed

As of August 2022, 39 of the 49 Asia-Pacific member states addressed in the 2022 ESCAP, UNEP and UNICEF joint assessment report had made carbon neutrality and net-zero pledges, and had started developing frameworks to implement their commitments.[28] Globally, public policy supporting the reduction of coal use for power generation has strengthened in recent years. The Powering Past Coal Alliance (PPCA), launched at COP23 in 2017, is a coalition of 48 national governments, 49 subnational governments and 71 global organizations working to advance the transition from unabated coal power generation to clean energy. It encourages all members to endorse the PPCA Declaration,[29] including a high-level commitment to phase out coal by 2030 in the OECD and EU, and by no later than 2040 in the rest of the world.

[26] World Bank. Climate change and development in the Asia Pacific Region, 2022

[27] WEF. How hard could climate change hit the global economy, and where would suffer the most?, 2022

[28] UNESCAP. 2022 Review of Climate Ambition in Asia and the Pacific: Raising NDC targets with enhanced nature-based solutions, 2022

[29] Powering Past Coal Alliance, PPCA Declaration, 2017

At COP26, the Glasgow Climate Pact was adopted by nearly 200 nations that agreed, for the first time, to phase down unabated coal power.[30] Some 45 countries plus the European Union, and including major APAC coal producers and users Indonesia, the Philippines, South Korea and Vietnam, committed to "rapidly scale up technologies and policies in this decade to achieve a transition away from unabated coal power generation in the 2030s (or as soon as possible thereafter) for major economies and in the 2040s (or as soon as possible thereafter) globally".[31]

More recently, G7 countries have reaffirmed their commitment to the goal of achieving fully or predominantly decarbonized power sectors by 2035 having previously committed to taking "concrete and timely steps towards the goal of an eventual phase-out of domestic unabated coal power generation" and "supporting an accelerated global unabated coal phase-out". [3233] Just Energy Transition Partnerships (JETPs) for Indonesia and Vietnam were announced in November and December 2022 respectively to deliver a systems-level approach to implementing increased ambition on financing the energy transition, addressing accelerated MPO of coal-fired power and investing in enabling grid infrastructure and scaling up of renewables (see **Box 2**).

Coal is becoming increasingly difficult to finance

The G20 pledged to "put an end to the provision of international public finance for new unabated coal power generation abroad by the end of 2021."[34] MDBs and DFIs have limited coal finance with 99% of the internationally available development finance committed to reducing or ending coal finance support as of November 2021.[35] Financial institutions representing approximately 40% of global private finance have committed to net zero through the eight sector-specific alliances that are part of GFANZ. Analysis by the Institute for Energy Economics and Financial Analysis (IEEFA) shows that ~200 globally significant financial institutions have formal policies restricting investment in thermal coal mining and/or coal-fired power projects.[36] Another recent report suggests coal power financing by the world's 60 largest banks has fallen by a third from $44.5 billion in 2018 to $29.5 billion in 2022.[37]

Financial institutions are deciding whether to provide new financial services and investments for unabated coal-fired power, and many are advocating for the phaseout of existing capacity. Financial institutions are increasingly demanding credible transition plans from utilities and other power producers as to how they will shift their generation mix away from coal and other fossil fuel assets.

[30] UNFCCC. Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its second session, held in Glasgow from 31 October to 12 November 2021. Addendum

[31] UN Climate Change Conference UK 2021. Global Coal to Clean Power Transition Statement, 2021

[32] G7 Climate, Energy and Environmental Ministers' Communiqué, 2022

[33] G7 Climate, Energy and Environment Ministers' Communiqué, 2023

[34] G20 Rome Leaders Declaration, 2021

[35] BU Global Policy Development Center. Who Funds Overseas Gas Projects? Comparing Development Finance from China and Major Multilateral Development Banks, 2022

[36] IEEFA. 200 and counting: Global financial institutions are exiting coal, 2023

[37] Banking on Climate Chaos. Fossil fuel finance report, 2023

Box 2: Indonesia and Vietnam JETPs

Just Energy Transition Partnerships (JETPs) for Indonesia and Vietnam were announced in November and December 2022 respectively, and the accompanying joint statement[38] and political declaration[39] set out the increased ambition on energy transition supported by the JETPs. These country-led efforts, which convene relevant stakeholders and technical experts locally and globally, are designed to deliver a systems-level approach to addressing accelerated managed phaseout of coal-fired power alongside investment in enabling grid infrastructure and scaling up of renewables.

To meet the ambitions of the JETP, the Indonesian and Vietnamese governments will conduct national-level transition planning aligned with the increased ambition agreed in the JETPs, with input from international partners. As confirmed by the joint statement and political declaration, this planning will address how to accelerate the phaseout of coal-fired power overtime, and the statement and declaration confirm the intent to review coal policy and assets, and to pause planned on- and off-grid coal power projects and seek alternative energy sources.[40]

The country-led energy transition planning undertaken, and the process of developing relevant projects and structuring their financing, receives input from international partners, including technical bodies, MDBs and other international partners. This multi-stakeholder approach can help to address some of the challenges around designing and implementing coal phaseout transactions, providing confidence to both public and private financial institutions.

Renewables are increasingly cost-competitive globally

Analysis from BloombergNEF finds renewable power from wind and solar now represents the cheapest source of new power generation in markets representing 96% of global electricity generation. Solar and wind are also cheaper to build than running existing coal or gas plants in countries representing 60% of global electricity generation (see **Figure 5**).[41] For China, India, and Australia, renewable energy is already cheaper than fossil fuel, according to a study by Wood Mackenzie.[42]

Meanwhile, a roadmap by the International Renewable Energy Agency (IRENA) shows that for most ASEAN countries, renewable energy will supply electricity at or below the cost of non-renewable energy by 2025.[43] Research has also shown that costs of renewable technology fall as deployment increases due to learning benefits and economies of scale in project preparation, construction, operation and maintenance.[44] Intermittency issues with some renewables (solar, wind) are being addressed through battery and other storage, allowing for high renewable shares of overall power generation.

Such a low-cost, clean power system can supply broad energy access to consumers and industry at lower cost and less volatile energy prices and fiscal impact. This supports manufacturing and other economic activity, while improving a country's economic competitiveness and comparative advantage in clean power and related technologies. Indeed, the scale of net-zero commitments globally will make low emission production ever more essential to sell into global supply chains. Unlike fossil fuel power sources that require ongoing procurement of fuels, renewable power sources and supporting grid and storage infrastructure have relatively low operation and maintenance costs, with the bulk of cost in the upfront investment, presenting an opportunity to finance this investment.

[38] Joint Statement by the Government of the Republic of Indonesia and IPG members on the Indonesia JETP, 2022

[39] Political Declaration on establishing the Just Energy Transition Partnership with Viet Nam, 2022

[40] Also see IESR. Enabling High Share of Renewable Energy in Indonesia's Power System by 2030, 2022.

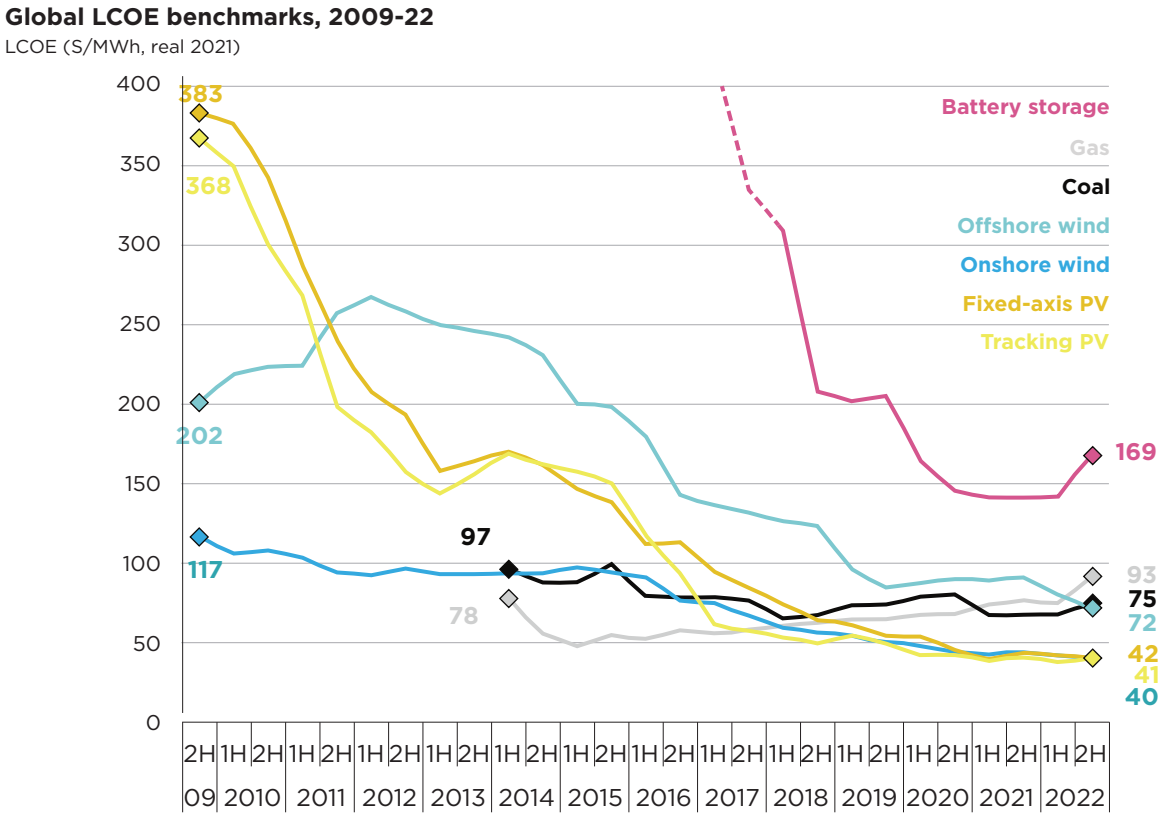
[41] BloombergNEF. Levelized Cost of Electricity 2H 2022, 2023.

[42] Wood Mackenzie. Renewable power in Asia Pacific gains competitiveness amidst cost inflation,2022

[43] IRENA & ACE. Renewable Energy Outlook for ASEAN, 2016

[44] University of Oxford. Empirically grounded technology forecasts and the energy transition, 2021

Figure 5: Global LCOE benchmarks by source



Source: BloombergNEF. Note: The global benchmarks are country-weighted LCOE averages using the latest annual capacity additions and country LCOE benchmarks. Offshore wind includes the offshore transmission costs. Coal- and gas-fired power include a carbon price in regions where policies are already active. Gas is combined-cycle gas turbine. LCOEs do not include subsidies or tax-credits. LCOEs shown by financing date.

Despite encouraging policy and technological developments, the economics of power sector transition remain challenging

Many APAC countries rely heavily for their energy supply on CFPPs, which are often relatively young, and plant owners have invested significant capital in them. As of January 2023, APAC's CFPPs have an average age of ~14 years, compared to 46 years (Europe) and 45 years (U.S.).[45] Across the largest six markets[46], there exists a 10-15 year gap to IEA's 2050 net-zero scenario recommendation to phase out coal by 2030 in OECD countries and by 2040 in non-OECD countries.

The early retirement of CFPPs may imply write-downs and investment losses that increase the costs of switching. There are also upfront investment costs associated with transitioning to renewable power sources, such as grid connectivity and upgrades to manage intermittency issues. Policy and financial incentives will be required to phase out coal and enable clean power deployment.

[45] Global Energy Monitor. Global Coal Plant Tracker, 2023

[46] Global Energy Monitor. Global Coal Plant Tracker, 2023. Largest six markets by operating CFPP capacity are China, India, Japan, Indonesia, S Korea, Vietnam

Furthermore, the flipside of a high capital expenditure, low operating expenditure power system is that the cost of capital can have a significant impact on the overall investment cost. Measures to address the cost of capital, particularly in emerging markets and developing economies (EMDEs), can have a significant impact on cost competitiveness of deploying clean power and related infrastructure.

Much of the CFPP fleet in APAC is insulated from competitive pressures by long-term contracts — this will need to be addressed in MPO transactions

A large proportion (>90%) of APAC CFPPs operate in highly regulated markets and are insulated in some form from market forces: for example, they are state owned, have long-term power purchase agreements (PPAs), or benefit from energy subsidies.

Long-term contracts with take-or-pay (capacity payment) clauses can make it very challenging to reduce reliance on existing coal power plants because their continued operation is to a large extent contractually agreed. This can act to inhibit deployment of cheaper, clean alternatives.

Additionally, many APAC countries do not set a technology dispatch order based on the short-run marginal cost of generation. This is one of the reasons why a market like Australia has seen far faster coal-power reduction than Indonesia.

As such, MPO transactions may include buying out or renegotiating long-term or preferential contracts, or purchasing assets relating to the CFPP fleet, as well as putting in place retraining schemes and other support for workers. While these costs may be offset by lower power generation costs, a combination of public policy, particularly with respect to power market design, alongside supportive financing mechanisms will be needed so the cost savings from renewable rollout can be realized and finance the initial investment outlay and related costs of transition.

Energy transition creates socioeconomic challenges

APAC is home to four of the top eight coal-producing countries globally (China, Indonesia, India, Australia). China's coal mining sector employs about 3.2 million people as of 2018, and India and Indonesia generate about 416,000 and 240,000 direct jobs, respectively. While the employment level is modest, the industry produces a significant amount of indirect jobs across economic sectors and largely influences local labor markets.[47,48,49] It will be important to support the development of renewable energy, as evidence suggests replacing coal with renewables can create jobs and improve education, productivity, and technology access for EMDEs.[50]

Rising populations and economic growth are driving power demand

Many APAC countries have fast-growing populations and income levels which, alongside electrification of economies in support of the transition, will result in high growth in power demand. The IEA estimates growth of 35% by 2030 and 100%-130% by 2050.[51] A lack of cross-border power connectivity in the APAC region also makes self-sufficiency in power generation necessary.

Indeed, there remains a significant pipeline of CFPP to be built, with APAC accounting for 93% of global pipeline (announced, pre-permit, permitted, under construction), which would increase current APAC capacity by 32% (as of Jan 2023).

There are limited public funds to support MPO, so mobilizing private finance is crucial

In EMDEs, more constrained fiscal positions, less developed capital markets and a generally higher cost of financing means these markets are unable to bear transition costs alone. APAC countries typically have high levels of state ownership of power assets and related infrastructure. This may require a clear and stable policy environment for the power sector and expectations for coal phaseout to attract private finance.

Recent IMF analysis estimates the present value of financing needed to end coal globally and replace it with renewables at $29 trillion (around $20 per tonne of CO2 avoided) — with nearly half of this in Asia — but with much larger social benefits (over $104 trillion). As such, payments to support coal phaseout can represent good value with respect to the low cost per tonne of emissions that would be avoided.[52]

Insufficient capital / financial mechanisms to support the early retirement of coal can lead to 'offloading' or 'brown-spinning' where, in order to meet net-zero targets, owners sell CFPPs to remove the related emissions from their balance sheets without achieving real-world emission reductions; and similarly, financial institutions reduce their exposure to CFPP owners.

Long term benefits of MPO far outweigh the costs

Analysis of the Indonesian power sector by the Center for Global Sustainability found net-zero pathways show coal power generation would need to fall by 11% by 2030, 90% by 2040 and almost completely phased out by 2045.[53]

It found accelerated coal phaseout is feasible and beneficial from economic and social perspectives — the positive and broadly shared benefits from avoided coal-power subsidies and health impacts are 2-4 times larger than the costs of stranded assets, decommissioning, employment transition, and state coal revenue losses. Nevertheless, the retirement costs are estimated to be $4.6 billion through 2030 and $27.5 billion through 2050. The accelerated coal phase-out would reduce cumulative emissions by 341 MtCO2 through 2030 and 2,297 MtCO2 through 2050, making the retirement costs equivalent to approximately $12-13 per tonne of CO2 removed.

Accelerating the early phaseout of high-emitting assets in APAC therefore requires a combination of supportive public policy and innovative financing structures

Despite clear signs of an increasing aversion to financing new CFPPs among many governments and investors, given these trends and the increasing awareness of the risk of such assets becoming stranded, there is great variation in the climate policies and pace of energy transition in APAC.[54] The current global energy crisis has highlighted the energy security benefits of renewable power, but governments may still be reluctant to completely close coal facilities for contingency reasons.

[47] World Bank. Global Perspective on Coal Jobs and Managing Labor Transition out of Coal, 2021

[48] ADB. Accelerating the Clean Energy Transition in Southeast Asia: Regional Scoping Report for Strategic Environmental and Social Assessment Applied to the Energy Transition Mechanism in Southeast Asia, 2022

[49] World Bank Methodology for Just Energy Transition in Coal Regions

[50] ILO. A Just Energy Transition in Southeast Asia, 2022

[51] IMF. The Great Carbon Arbitrage, 2022

[52] UMD Center for Global Sustainability. Financing Indonesia's coal phase-out: A just and accelerated retirement pathway to net-zero, 2022. Also see IESR. Enabling High Share of Renewable Energy in Indonesia's Power System by 2030, 2022.

[53] UMD Center for Global Sustainability. Financing Indonesia's coal phase-out: A just and accelerated retirement pathway to net-zero, 2022. Also see IESR. Enabling High Share of Renewable Energy in Indonesia's Power System by 2030, 2022.

[54] Climate Action Tracker

Managed phaseout (MPO) as a net zero-aligned strategy

GFANZ guidance on net zero transition planning (NZTP) sets out four key financing strategies to finance the transition to net zero:[55]

1. **Climate solutions:** Financing or enabling entities and activities that develop and scale climate solutions.
2. **Aligned:** Financing or enabling entities that are already aligned to a 1.5 degrees C pathway.
3. **Aligning:** Financing or enabling entities committed to transitioning in line with 1.5 degrees C-aligned pathways.
4. **Managed phaseout (MPO):** Financing or enabling the accelerated managed phaseout (e.g., via early retirement) of high-emitting physical assets.[56]

This report is focused on MPO strategies in relation to coal-fired power plants — "coal phaseout." The report includes discussion of the guardrails as well as socio-economic considerations that financial institutions and other stakeholders might expect to see in a coal phaseout plan. Given the systemwide challenges inherent in powering modern economies, and the need to rapidly scale clean power and supporting grid and storage infrastructure, these aspects should be considered in tandem with coal phaseout strategies.

Indeed, plans for coal phaseout can increase confidence in the deployment of renewable power. Other strategic options for transitioning CFPPs, as part of one of the other three financing strategies noted above, may also play a role, but are not the focus of this report. For example, some approaches covered in the IEA's Coal in Net Zero Transitions report included, in certain circumstances, retrofitting to allow for flexible operations of a CFPP (i.e., shifting to lower utilization peak / balancing role), energy efficiency or carbon capture measures, or repurposing to co-fire with low-carbon fuels.[57] These might be considered as 'Aligning' strategies and could be undertaken alongside Managed Phaseout. More guidance for such alternative approaches, including definitions and metrics, may be required for consideration as part of credible transition financing.

Financing based on a forward-looking coal phaseout strategy provides an alternative approach to simply withdrawing or withholding finance (e.g. divesting) from CFPPs and their owners, who are likely to play an important role to transition their power sectors to net zero. The MPO approach seeks to ensure the financing of real economy (i.e., non-financial actors who operate power plants) emissions reductions through the early retirement of CFPPs to support an orderly[58] and just transition in APAC.

[55] GFANZ, Financial Institution Net Zero Transition Plans (2022)

[56] See also GFANZ. Managed Phaseout of High-emitting Assets, 2022

[57] IEA. Coal in net zero transitions, 2022

[58] GFANZ uses the term "orderly transition" to refer to a net-zero transition in which both private-sector action and public-policy changes are early and ambitious, thereby limiting economic disruption related to the transition (e.g., mismatch between renewable energy supply and energy demand). For reference, the Network for Greening the Financial System (NGFS), which develops climate scenarios used by regulators and others, defines "orderly scenarios" as those with "early, ambitious action to a net zero CO2 emissions economy," as opposed to disorderly scenarios (with "action that is late, disruptive, sudden and/or unanticipated"). In an orderly transition, both physical climate risks and transition risks are minimized relative to disorderly transitions or scenarios where planned emissions reductions are not achieved. (NGFS. Climate Scenarios for Central Banks and Supervisors, 2020) The Paris Agreement, Article 4.1, highlighted that achievement should be "on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty," and the agreement acknowledged that "human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity" are equally important.

A strategic approach to MPO can help deliver:

- **Intent:** Directing capital to substantially reduce CFPPs' lifetime emissions
- **Impact:** Achieving credible and timely emissions reductions in the real economy, helping realize countries' climate ambitions.
- **Innovation:** Channeling and scaling up financing for these efforts through aggregation, standardization, new markets such as carbon credits, and new financing partnerships, such as philanthropy working alongside public and commercial sources of finance
- **Inclusivity and energy security:** Helping to limit economic disruption related to the energy transition by maintaining grid stability and flexibility, and managing its socio-economic risks and opportunities.

For consultation

1. Are the most relevant considerations and contexts when considering energy transition and coal phaseout for APAC countries captured? Is anything material missing?

2. Given existing policy frameworks in APAC, what additional frameworks or enabling mechanisms are needed to incentivize and scale early phaseout transactions? How can the final GFANZ APAC Coal MPO Guidance best support these needs?

3. Is there a role for regulators / official sector authorities when developing MPO guidance? Where might regulators agree or disagree with the proposed guidance?

Part 2: Financial institution expectations for MPO plans

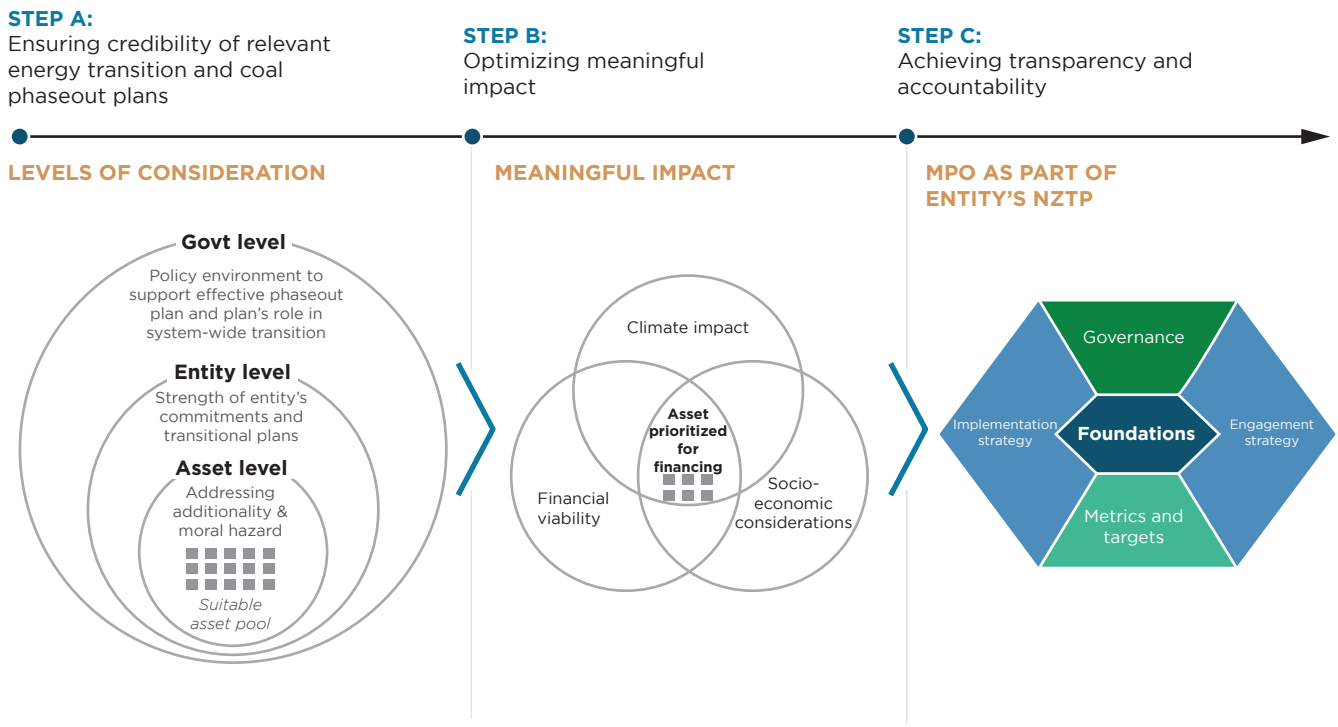
A CFPP MPO plan (or coal phaseout plan) may form part of the overall transition plan of the plant's owner/operator, such as a power utility (the entity), or may be specific to the CFPP (the asset), such as if the CFPP is project financed or subject to acquisition. [59]

Net-zero committed financial institutions may consider three key areas when assessing a coal phaseout plan in respect of providing finance to the entity or asset.

- **Credibility:** ensuring credibility of relevant energy transition and coal phaseout commitments and plans;
- **Impact:** optimizing 'meaningful' impact across climate impact, financial viability and socio-economic considerations; and
- **Accountability:** achieving transparency and accountability for coal phaseout plans in line with the GFANZ NZTP framework

The following recommendations provide an expectation of what should be covered in an entity-produced
coal phaseout plan for CFPPs in APAC. This guidance draws on other key coal phaseout guidance and frameworks, and notes key reference material with additional information on specific thresholds or requirements to consider. [60]

Figure 6: Proposed three-step process for FI consideration of coal phaseout plans



[59] GFANZ has worked with a wide range of stakeholders to draw together key work on net zero frameworks to determine the key components of transition plans for FIs and real economy actors (i.e. non-financial actors who operate power plants), such as utilities they finance. This provides the basis for the expected coverage of an Entity-level transition plan. See GFANZ. Expectations for Real-Economy Transition Plans, 2022

[60] In particular, the work draws heavily on the CBI, CPI and RMI. Guidelines for Financing a Credible Coal Transition, 2022; that covers CFPP eligibility, coal transition pathways, social protections & accountability

Step A: Ensuring credibility of energy transition and coal MPO plans

There are different levels at which planning/policy can give financial institutions confidence in the credibility and likely success of a coal phaseout plan.

In order to judge the credibility of a CFPP phaseout plan, there are three levels for a financial institution to assess:

- The policy environment and plans for power sector at government level
- The entity's own plans to decarbonize
- Plans specific to the asset to be phased out

Importantly, these levels are interdependent, such that more detailed or stronger plans at one level may give comfort around the need for fewer requirements at other levels. For example, a clear set of government commitments and policies to phase out coal may negate the need for as many commitments by an entity operating in that power sector. The higher the level of commitment across all three levels, in line with relevant science-based pathways, the greater the confidence financial institutions can have in the credibility of a CFPP phaseout plan.

Nevertheless, the network nature of power systems means that coal phaseout plans will require action by multiple actors in the power system (government, operators, and finance) to ensure the phaseout is effective, and power supply remains reliable, affordable and secure. This cannot be completely internalized to the coal phaseout plan, nor the sole responsibility of a CFPP owner or its financiers.

Government-level considerations

Coal phaseout plans may depend on the climate and energy policy environment

Ideally, a coal phaseout plan draws on clear and established government level energy transition commitments and targets, which are being implemented through national level planning. These may include clear targets, commitments and planning to halt new coal power and accelerate the phaseout of existing capacity.

For example, some countries have set targets to phase out coal. The credibility of such targets depends on the degree of alignment with science-based pathways to net zero; for example, the IEA's Net Zero Scenario involves retirement of unabated CFPPs by 2030 in OECD-member countries and by 2040 in non-OECD member countries.

Broader societal or cross-party support for climate and energy policies can improve confidence in their delivery, because the horizon of the energy transition is longer than typical electoral cycles.

Decarbonizing a country's power infrastructure is a systems issue that needs a system-level approach. The retirement of individual CFPPs in an uncoordinated manner could create risks to that system and its ability to supply accessible, affordable, reliable and secure power.

The parameters of a coal phaseout plan (e.g., the CFPP retirement date) are therefore ideally linked to a broader plan and sequencing for CFPP retirement, renewables deployment, grid infrastructure development and other power system developments.

In contexts where there exists a transition mechanism or plan (e.g. JETP, ETM), it may be possible for such mechanisms to facilitate agreement on prioritization/ sequencing of coal phaseout across a power system.

In some APAC countries, the government delivers a national energy transition plan and sets overarching targets. Establishing such a plan is ultimately a government endeavor through the grid operator. Where such country-level policy is incomplete or weak, this may require more reliance on entity or asset level considerations. Independent analysis of net-zero-aligned CFPP retirement dates for CFPPs in a power system may also provide a benchmark for considering the appropriate retirement sequence for CFPPs, particularly if a systemwide plan is absent.[61] The Asian Development Bank has developed a tool to identify and rank CFPPs for early retirement.

[61] For example, such analysis was undertaken on the Indonesian power system: UMD Center for Global Sustainability. Financing Indonesia's coal phase-out: A just and accelerated retirement pathway to net-zero, 2022

Box 3: ADB ETM Pre-Feasibility Multi-Criteria Analysis[62]

The objective of ADB's multi-criteria analysis framework is to run a high-level screening of a country's coal fleet to identify and rank CFPPs for early retirement in the context of an ETM (or any retirement mechanism).

By providing confidence to governments/stakeholders with a strategic energy transition perspective, it aims to serve as an entry point for policymaker discussions and as a tool to size the scope of coal retirement policy and a government's participation in an ETM.

The analysis uses three scoring criteria (around the three general principles of energy policy), where a total combined score assesses how suitable a CFPP is for retirement.

- Security: Assessment of the impact of the CFPP's early retirement on grid's supply security
- Cost: Assessment of the economic viability of the CFPP's operations in terms of generating strong cashflows
- Carbon: Assessment of the CFPP's removal's contribution to emissions reduction

The final decision on how to rank CFPPs in terms of these three criteria is dependent on a government's priorities, where a combination of scores can be weighted if desired.

To have the highest confidence that there will be no leakage within a jurisdiction, there needs to be both a commitment to (1) 'no new coal' and (2) a coal phaseout date, both of which are ideally aligned with a science-based pathway such as the IEA Net Zero Scenario. However, the reality is that few jurisdictions within APAC have done this today.

While governments examine how they may raise their ambition over time, climate action needs to happen now. Net-zero committed financial institutions can drive action today, and some **key considerations that may help to provide confidence are:**

- Does the country have, or is it developing, a comprehensive transition plan for the energy or power sector, including coal, that sets and seeks to deliver reduced peak overall/coal emissions, and an ambitious energy sector net-zero and coal phaseout date?
- Does the plan benefit from external input (e.g. from UNFCCC, G7, IEA) to help validate the plan's credibility to meet developmental and energy needs of the country and align with science-based pathways to net zero?
- Is the plan underpinned by assessment at a national/systemwide level including criteria and prioritization for CFPP closure?
- Is the country implementing a 'no new coal[63]' policy and actively taking steps to significantly slow or halt the pipeline of new CFPPs with plans to deploy low-carbon power resources?

[62] ADB. Regional: Opportunities to Accelerate Coal to Clean Power Transition in Selected Southeast Asian Developing Member Countries, 2021

[63] 'No new coal' may be interpreted as not initiating any new constructions beyond what has been approved by the government, and could further include canceling of pre-construction projects

Recommendation 1 (Government climate commitments): Financial institutions should assess the nature, strength and stability of the energy sector transition commitment of the government of the country in which the CFPP is located. Specifically, including the degree of alignment and convergence with 1.5 degrees C science-based pathways (i.e. national-level no new coal policies or specific coal phaseout date commitments).

- The higher the level of national commitment, and the greater the degree to which this aligns or converges with relevant science-based pathways, the greater the confidence financial institutions can have.
- The disclosure of a credible country-level transition plan can provide added confidence that a government intends to deliver on its commitments.

This consideration could be captured in the Foundations component of a NZTP.

Box 4: Reference to CBI/CPI/RMI - Guidelines for Financing a Credible Coal Transition[64]

Stage Gate 2, Emissions leakage

Guideline: If the coal plant is not retired and replaced with a portfolio of clean resources that provides equivalent electricity services, long-term emissions savings are demonstrated through power-sector-level decarbonization commitments and plans

While these commitments would not necessarily be expected to be fully aligned with 1.5°C to receive support from a Coal Transition Mechanism (CTM) today, such a commitment would support a ratcheting process to achieve 1.5°C ambition over time. This could include:

- In **wholesale electricity markets**, a legally binding commitment/law to reduce medium- and long-term power system emissions and a power-sector-wide commitment to no new unabated coal beyond plants that have reached financial close.
- In **regulated electricity markets**, a commitment to reduce medium- and long-term power system emissions, a long-term (10- to 20-year) integrated resource plan (IRP) or equivalent power-sector-level plan, and a commitment to no new coal development or procurement beyond plants that have reached financial close.

Recommendation 2 (Government energy transition planning): Financial institutions should assess the extent to which there is an existing or emerging plan (including but not limited to commitment through country platforms or alignment with science-based pathways) for the energy / power system that addresses how coal phaseout will be delivered alongside necessary investment in grid infrastructure and renewables, in the country in which the CFPP is located.

- Confidence can be increased through ambitious commitments to peak overall coal emissions by an identified date, to deliver net zero for the energy sector by a certain date, and transparency on how these goals can be met by bringing new coal to a timely end, and delivering the needed grid infrastructure and renewables projects.

[64] CBI, CPI and RMI. Guidelines for Financing a Credible Coal Transition, 2022

- This could include but not be limited to commitment by the country to transition its power sector to cleaner energy like participation in the Just Energy Transition Partnership, or no new coal and a transition plan that is in line with internationally accepted guidance, such as IEA's net-zero pathways.
- Where national-level planning is absent or nascent, financial institutions may determine that they can be informed by analysis conducted by an independent organization of an appropriate sequencing of coal phaseout that could help to deliver decarbonization to support convergence with science-based pathways and avoid carbon leakage, but confidence may be lower.

This consideration could be captured in the Implementation Strategy component of a NZTP.

Box 5: Reference to UMD center for Global Sustainability Financing Indonesia's coal phase-out: A just and accelerated retirement pathway to net-zero[65]

This research uses a structured methodology to develop a feasible plan and associated financing needs for retiring Indonesia's coal-fired power plant fleet in support of national 2050 net-zero emissions and the global 1.5ºC target — using a 3-step approach:

- First, develop the pathways for national 2050 net-zero emissions using a global integrated assessment model (the Global Change Analysis Model, GCAM)
- Second, structure detailed plant-by-plant retirement pathways based on fulfilling multiple national priorities simultaneously and that also achieve the 2050 net-zero target. These pathways are generated by combining the top-down net-zero pathway and bottom-up plant-level assessments in light of national priorities (e.g. air quality, health, economic benefits). Individual coal plants are identified for retirement at specific times based on their technical, economic, and environmental performance.
- Third, estimate the magnitude of financing needs by systematically assessing the benefits and costs of implementing a just, rapid coal-to-clean energy transition

Box 6: Reference to ASEAN Taxonomy for Sustainable Finance, Version 2[66]

Plus Standard, Technical Screening Criteria for Coal power phase-out

Tier 1 (Green): Aligned with a 1.5°C outcome and is consistent with the IEA Net Zero Emissions Pathway for the power sector to achieve net zero emissions by 2050. Specific conditions include:

- Coal phase out by 2040; and
- Coal plants built after 31 December 2022 will not qualify; and
- Operation duration of the coal plant from commercial operation date (COD) is capped at 35 years; and
- Qualifying coal plants must demonstrate the adoption of best-in-class technology, provided that these technologies are affordable, accessible, reliable and can be implemented within a reasonable timeframe; and

[65] UMD Center for Global Sustainability. Financing Indonesias coal phase-out: A just and accelerated retirement pathway to net-zero, 2022. Also see IESR. Enabling High Share of Renewable Energy in Indonesia's Power System by 2030, 2022.

[66] ASEAN Taxonomy Board. ASEAN Taxonomy for Sustainable Finance, Version 2, 2023

- Qualifying coal plants have been independently verified or acknowledged by internationally recognised bodies or programmes as having demonstrated substantial absolute positive emissions savings over their expected lifetime compared to a case without a transition mechanism. Coal plants under the ADB ETM or JETP meet these criteria.

For consultation

4. Achieving climate goals require both a 'high bar' to mitigate leakage and moral hazard risks, and measures to support urgent action. To avoid precluding MPOs based on current country-level policy: What is the best way to balance the realities of where APAC is today with more stringent policies that are likely in the future? How can we encourage financial institutions to take action on MPO today while government-level commitments are still evolving?

Entity-level Considerations

Early retirement of a CFPP needs to be assessed in the context of the owner's broader plans

The risks of leakage and moral hazard may not be fully mitigated by national-level policies and plans for the power sector. It will also be important to consider the entity's overall strategy in the context of the net-zero transition. In particular, the plan should address risks including:

- **Leakage risk:** that new fossil fuel infrastructure is developed or other coal facilities are operated more intensely in response to the closure of a CFPP
- **Moral hazard:** that the features of a coal phaseout (particularly where public / concessionary funding is involved) may create perverse incentives to develop new CFPPs, or extend the life or runtime of existing CFPPs in expectation that a coal phaseout plan for these could attract additional financing.

The fungibility of finance provided to an entity (even for a specific use) means specific safeguards may be required to address the above risks. This will be explored more in the financing mechanisms section.

Considerations may include:

- Does the entity have a **no new coal commitment** (incl. life/capacity extensions) beyond those that have reached financial close?
- Has the entity set **science-based decarbonization targets**? If so, have the targets been verified by a credible third party?
- Is the entity putting or has put in place a **transition plan** that references a science-based regional / country-specific pathway or plans?

In situations where financing relates to an acquisition of a CFPP, it may be appropriate to include conditions or covenants that seek to address the risks of leakage or moral hazard. For example, that the seller is prohibited from developing a new CFPP in the same power grid as the acquired CFPP.

Recommendation 3 (Entity coal transition plan): Financial institutions should assess the relevant (both seller and buyer where applicable) entity's overall transition plan — including but not limited to the specific CFPP — to gain confidence that a coal phaseout plan will be implemented and effectively mitigate emissions (i.e., an entity-level commitment to no new coal, or credible third-party-verified transition plan).

- Where a phaseout plan involves a change of ownership of the CFPP, it will be relevant to assess the plans of the seller as well as the buyer of the CFPP and related conditions on their coal power activities in a country or region.

This consideration could be captured in the Implementation Strategy component of a NZTP.

BOX 7: Reference to CBI/CPI/RMI - Guidelines for Financing a Credible Coal Transition[67]

Stage Gate 1, Financing coal plant owners

Guideline: The coal plant owner has an entity-level commitment to no new coal power plant development or procurement globally, beyond plants that have reached financial close or final investment decision.

Although the recommendation of a no-new-coal commitment is the minimum entity-level commitment that would support credible Coal Transition Mechanism financing today, entity-level commitments and transition planning are a strong area for future ratcheting of ambition.

Moving forward, the recommendation would be for coal plant owners to have in place commitments and develop transition plans as soon as possible and at the latest by 2030 that would minimally include:

- Short-, medium-, and long-term emissions commitments that cover entity-level emissions from generation and, when applicable, purchased power that are aligned with 1.5°C temperature targets with little to no overshoot
- Credible forward-looking transition planning focused on capital expenditure or integrated resource/electricity system planning, with transparent assumptions about costs and externalities
- A commitment to coal phaseout aligned with its entity-level emissions commitment and a forward-looking coal phaseout plan that supports achievement of that commitment
- Holistic transition planning that supports the achievement of climate targets

[67] CBI, CPI and RMI. Guidelines for Financing a Credible Coal Transition, 2022

BOX 8: Reference to ASEAN Taxonomy for Sustainable Finance, Version 2[68]

Foundation Framework, Climate Change Mitigation

Guiding Principles for Climate Change Mitigation criteria:

- Activity is in line with limiting global temperature rise to no more than 1.5°C in alignment with the Paris Agreement
- Activity which is not already low- or zero-emissions may be required to demonstrate the capability of avoiding or reducing GHG emissions in line with relevant best practices compared to the baseline scenario without the mitigating action

Guiding Question 1A for Climate Change Mitigation (Environmental Objective 1): Does the Activity avoid / reduce GHG emissions?

1. How does the Activity avoid or help reduce emissions? (e.g., generation of electricity through renewables)
2. **Do the Company's policies and business strategy generally avoid contradicting or impeding alignment with the specified environmental objective principles?**
3. Where applicable and relevant, is a third-party certification or verification of alignment of Activity with Environmental Objective 1 available?
4. Does the Activity fulfil relevant environmental law(s) applicable to Environmental Objective 1?
5. Are the effects of climate change mitigation efforts measurable and observable? (e.g., data on amount of carbon emissions avoided)

Asset-level Considerations

Restricting new CFPPs from coal phaseout plans may help mitigate perverse incentives to continue developing coal plants

As noted earlier, there is a risk of moral hazard if the financial benefits of putting in place coal phaseout plans create incentives to develop new CFPPs to benefit from such finance.

One option to mitigate this risk is to have a 'cut off' point before which CFPPs could be considered eligible to access financing for its coal phaseout plan. This should mitigate any potential incentive to build new plants after such a time if they aren't considered eligible for coal phaseout financing. For example:

- CBI/CPI/RMI guideline [70] recommends that the asset should have reached financial close before December 2021 (see **Box 9**) following agreement on the 2021 Glasgow Climate Pact
- ASEAN Taxonomy Version 2[71] recommends that the asset should have been built before 31 December 2022 (see **Box 6**)

[68] ASEAN Taxonomy Board. ASEAN Taxonomy for Sustainable Finance, Version 2, 2023

[69] 'Financial close' can be a useful basis for a threshold because it is the point at which significant investment is put into a CFPP project, presents a clear legal milestone, and can incentivize countries/utilities to abandon CFPP projects in early pipeline stages yet to have significant financial/contractual obligations.

[70] CBI, CPI and RMI. Guidelines for Financing a Credible Coal Transition, 2022

[71] ASEAN Taxonomy Board. ASEAN Taxonomy for Sustainable Finance, Version 2, 2023

Recommendation 4 (Reducing moral hazard): Financial institutions should assess conditions and commitments made in relation to a CFPP subject to an MPO plan (such as whether a plant was commissioned prior to international or national commitments to phase out coal i.e., 2021 Glasgow Climate Pact) to gain confidence that the risk of moral hazard is significantly contained.

- Financial institutions should assess a broad range of factors with the aim of ensuring that any transaction minimizes moral hazard and leakage. This assessment may include whether to exclude CFPPs that were commissioned (or financially closed) subsequent to international or national commitments on timelines to phasing down unabated coal power (e.g. 2021 Glasgow Climate Pact) or no new coal commitments.

This consideration could be captured in the Implementation Strategy component of a NZTP.

BOX 9: Reference to CBI/CPI/RMI - Guidelines for Financing a Credible Coal Transition[72]

Stage Gate 1, Moral hazard

Guideline: The financial close or final investment decision of the coal plant is prior to December 2021, following agreement on the Glasgow Climate Pact

One way to mitigate moral hazard risk is to set a threshold for coal plant eligibility. These guidelines propose an eligibility threshold based on whether a coal plant reached financial close or final investment decision prior to the Glasgow Climate Pact. This threshold leaves nearly all coal capacity operating or under construction eligible today, though it would increasingly restrict the eligibility for future coal plants.

A coal phaseout plan should accelerate the transition away from coal power

The entity may need to demonstrate that the coal phaseout plan for a CFPP is truly additive, in terms of bringing forward its retirement timing relative to its design life, particularly in situations where concessionary capital is involved.

A positive fair value of an asset can indicate it is expected to continue to operate profitably. While there may be challenges in estimating fair value, it is already reported by many entities and could provide a useful benchmark to help judge the potential additionality of a coal phaseout plan

Recommendation 5 (Accelerating phaseout): Financial institutions should assess whether the need for financing is genuine to accelerate early CFPP closure (e.g., if a CFPP has positive fair value).

- It will be important to assess whether the provision of finance for a coal phaseout plan is genuinely needed to secure or accelerate the closure of the CFPP, or whether — left to market forces — this might be expected to occur anyway (e.g., because the CFPP no longer has positive fair value).

This consideration could be captured in the Metrics & Targets component of a NZTP.

[72] CBI, CPI and RMI. Guidelines for Financing a Credible Coal Transition, 2022

BOX 10: Reference to CBI/CPI/RMI - Guidelines for Financing a Credible Coal Transition[73]

Stage Gate 1, Additionality

Guideline: The fair value of the coal plant is positive at the time of the proposed coal transition

Overview of several fair value methodologies (International Financial Reporting Standards):

- **Market approach:** Creates asset market value using market information from recent financial transactions of comparable assets applied to adjusted earnings
- **Income approach:** Creates a net present value (NPV) by converting revenue and cost assumptions for future cash flows, incorporating current market expectations
- **Cost approach:** Creates a remaining plant balance of the cost to acquire or construct the asset, or a comparable asset, adjusted/depreciated for obsolescence

The appropriate fair value methodology will depend on market and ownership structures, and the quality and availability of financial reporting data; but ultimately, valuation approaches may be specific to transaction negotiations and assets.

Step B: Optimizing 'meaningful' impact

Where possible, governments, CFPP owner/operators and financial institutions should prioritize the phaseout of CFPPs that create the largest climate impact, after taking into account financial viability and socio-economic impacts.

Climate impact

Coal phaseout should enable meaningful emissions reductions to support climate objectives

With growing expectations from companies and financial institutions (across global supply chains) to support a transition to net zero, coal phaseout plans ought to demonstrate how they support that transition, e.g. emissions savings. Entities and their financiers can integrate this information into their broader transition plans to ensure the coal phaseout plan is contributing to net-zero objectives.[74]

At a minimum, coal phaseout plans should demonstrate a positive absolute emissions reduction over the expected lifetime of the asset relative to its expected operation without such a plan. Financial institutions and entities may target a particular level of emissions reduction. In setting any threshold around the emissions reduction, it will be important to consider the environmental, health, social, or power-sector co-benefits of a transaction that may be valued/prioritized by stakeholders such as local communities, regulators, and governments. The emissions savings need to be independently verified or acknowledged by internationally recognized bodies or programs (such as the JETPs and ADB ETMs).

Coal phaseout plans may usefully capture:

1. A 'backstop commitment' on the asset retirement date in reference to key benchmarks (see **Box 6** and **Box 11**), for example:
    - **IEA's Net-zero pathway** for CFPPs to retire by 2030 for OECD member countries and by 2040 for non-OECD members
    - **Country-specific targets** to phase out coal

[73] CBI, CPI and RMI. Guidelines for Financing a Credible Coal Transition, 2022

[74] Many companies and financial institutions have committed to align their activities with a 1.5C pathway at a portfolio level; it is not the case that every asset and financial transaction needs to similarly be aligned with a 1.5C pathway.

- **Taxonomies** such as the ASEAN Sustainable Finance Taxonomy, GFIT's Green Taxonomy, etc.

2. A ceiling on the plant age from commercial operation date (or maximum years left to operate if beyond such a ceiling already):

    a. ASEAN Sustainable Finance Taxonomy's 35 years plant age cap (see **Box 6**), which would cover ~95% of CFPPs in the region

    b. Alternatively, a 30-year or 20-year plant age cap would cover ~90% and ~75% of CFPPs in the region, respectively.

3. A credible methodology to calculate emissions savings or a reduction in carbon intensity to quantify the decarbonization impact from a suitable baseline (e.g., assuming that the CFPP was run until 2040)

    a. Standard-setters such as the GHG Protocol and Partnership for Carbon Accounting Financials (PCAF) have provided guidance on calculating emissions reductions, which can serve as a starting point for calculating emissions savings driven by CFPP early retirement.

4. Investment in emissions reduction technologies to achieve emissions reductions during the phaseout period. Such technologies should be affordable, accessible, reliable and able to be implemented quickly.

    a. Such investment shall not prolong the life of an asset that would otherwise be decommissioned.

    b. As noted previously, this MPO guidance does not cover strategies such as retrofitting or repurposing CFPPs (which would be considered under the 'Aligning' financing strategy identified by GFANZ, and would require separate guidance, careful scrutiny of technical and economic feasibility, and guardrails).

Setting forward-looking metrics and targets for MPOs could help demonstrate impact and incentivize coal phaseouts. Examples provided by RMI[75] include:

- Cumulative CO2e emissions savings expected to materialize due to early retirement
- Years that retirement timeline has been accelerated

RMI[76] (see **Box 12**) and University of Maryland[77] (see **Box 5**) offer two examples of disclosing emissions savings:

- **A savings ratio as share of business-as-usual expected emissions** to highlight the extent to which financing will accelerate phaseout. A higher ratio would demonstrate larger expected relative emissions savings to assess impact and compare assets.
- **Contribution to net-zero national pathway,** combining a top-down net-zero pathway with bottom-up plant-level assessments, considering attributes such as:
    - **Technical:** age, size, combustion technology (ultra-supercritical, supercritical, subcritical), etc.
    - **Economic:** gross profit per capacity unit, etc.
    - **Environmental:** CO2 emissions rate, local air quality, health impact, etc.

Disclosures of these forward-looking metrics can enhance comparability and provide an indicator of impact. As a growing pool of MPO transactions materialize over time, the collective reporting of these metrics can guide subsequent MPOs, indicating an appropriate target range for 'meaningful impact' across these metrics.

Due to the **absence of a standardized methodology** to estimate these impact measures, we **highlight key considerations below:**

- **Establishing baseline:** Selecting a **proper baseline or BAU scenario** is crucial for any emissions savings calculations, but requires granularity; **asset-level data**, such as expected generation capacity, associated emissions footprint and factors, technical age, operational patterns; and **system-level analysis of factors,** such as the plant's role within the electricity grid system, relative cost competitiveness.
  - For example, in Gold Standard's proposed calculation methodology, a CFPP's operating efficiency is adjusted upwards (i.e., lower baseline emissions) to avoid falsely compensating owners of CFPPs with low efficiency and poor operations.
  - Standard-setters in this field (e.g. GHG Protocol) could coordinate with the financial sector to create robust guidelines for calculating avoided emissions.
- **Retirement timelines:** Impact may also be inferred from the difference between the design life of the CFPP and its planned retirement point; that is, how far its retirement may have been brought forward. An alternative to the design life of the CFPP would be to consider its likely economic retirement point. This might require transparency on the assumptions used to estimate the economic retirement point, such as information on contractual arrangements in place (e.g., power purchase agreements) and judgments on the expected development of the power market. **Portfolio alignment measures:**[79] Metrics that support portfolio alignment measurement could be considered, such as emissions-based measures of how close to a suitable benchmark the cumulative emissions profile of the CFPP is, or its Implied Temperature Rise (ITR).
- **Systemwide decarbonization:** Emissions reductions at the power system level may depend on how power production is replaced, e.g. a coal phaseout may be more impactful where it supports rapid renewable deployment. It is therefore useful to consider the expected contribution of a CFPP retirement to power system decarbonization across the region, in addition to its individual emissions impact.

Recommendation 6 (Climate impact): Financial institutions should prioritize MPO plans that support alignment with a science-based pathway, with proposed emissions reductions as ambitious as possible, with independent verification, and in line with timeframes set out by internationally recognized bodies.

- This could involve (i) targeting a phaseout year for coal in line with IEA's Net-Zero pathways, credible country-specific targets (e.g., JETPs), or the ASEAN taxonomy; (ii) implementing a cap on duration of plant operation; and (iii) demonstrating a credibly verified methodology to calculate the amount of emissions savings achieved by the MPO.
- Consideration should include the expected contribution to overall power system decarbonization across the region.
- Relevant policymakers should set the metrics, thresholds, pathways or other benchmarks they consider most appropriate; with the aim of incentivizing finance for credible MPO plans.

This consideration could be captured in the Implementation Strategy component of a NZTP.

[75] RMI. Managed Coal Phaseout: Metrics and Targets for Financial Institutions, 2023

[76] RMI. Managed Coal Phaseout: Metrics and Targets for Financial Institutions, 2023

[77] UMD Center for Global Sustainability. Financing Indonesias coal phase-out: A just and accelerated retirement pathway to net-zero, 2022

[78] Gold Standard. Methodology concept for the early Phase-out of coal fired thermal power plants and their replacement with green-field renewable energy generation plants, 2023

[79] GFANZ. Measuring Portfolio Alignment, 2022

BOX 11: Reference to CBI/CPI/RMI - Guidelines for Financing a Credible Coal Transition[80]

Stage Gate 2, Climate-alignment

Guideline: The CTM results in emissions savings compared with a case without the use of the CTM and has a backstopping commitment to phase out unabated coal combustion at the coal plant by country-specific, 1.5°C-aligned coal phaseout deadlines.

Coal plant owners and financial institutions may also wish to provide a quantitative estimate of emissions savings to lend greater transparency to the transaction. In these cases, we suggest that emissions savings be estimated at a power system level to reduce emissions leakage. However, quantitative emissions savings methodologies and whether specific emissions savings thresholds would be appropriate to lend further credibility to transactions are important areas for future work.

The proposal is for these backstopping commitment deadlines to be the earlier of a country's coal phaseout commitment date or a country-specific, 1.5°C-aligned coal phaseout date. In advanced economies, this could mean the coal plant retires at the latest by 2030, and in other countries by 2040, in line with the International Energy Agency's (IEA's) Net Zero pathway.

BOX 12: Reference to RMI Working Paper on Managed Coal Phaseout: Metrics and Targets for Financial Institutions 2023[81]

Phaseout impact assessment

With fit-for-purpose metrics, financial institutions can demonstrate whether their coal power financing leads to real-economy decarbonization, and clearer guardrails and standards around measurement approaches can help ensure comparability, accountability, and transparency across the financial sector.

Problem statement: To recognize the decarbonization impact from coal phaseout even when emissions reductions are realized in the future, forward-looking metrics and targets can be used to assess the positive climate impacts of early retirement and incentivize financial institutions to finance such assets and transactions

Concept: Estimate positive climate impacts driven by early retirement based on, for example:

- **Cumulative CO2e emissions savings** that are expected to materialize due to early retirement. One way to compare the relative impact and additionality would be to calculate the CO2e emissions savings ratio (calculated as cumulative emissions savings as a share of BAU expected emissions).
- **Generation reduction:** MWhs of annual coal power generation reduced driven by early retirement enabled by financing from an FI
- **Capacity reduction:** Megawatts (MWs) of coal power capacity reduced driven by early retirement enabled by financing from an FI
- **Years that retirement timeline** has been accelerated

[80] CBI, CPI and RMI. Guidelines for Financing a Credible Coal Transition, 2022

BOX 13: Reference to IEA World Energy Outlook 2021[82]

All scenarios that meet climate goals feature a rapid decline in coal use. However, managing the move away from coal is not simple, especially when it proceeds at the speed required in the Net Zero Emissions by 2050 Scenario (NZE), where all unabated coal power generation stops by 2040.

While the priority is to phase out the oldest and least efficient plants, more than $1 trillion of capital has yet to be recovered in younger plants in the existing coal fleet (mostly in Asia). A rapid phaseout risks creating stranded assets. Existing coal-fired power plants in emerging markets and developing economies are relatively young: for example, plants in Asia are on average 13 years old. In the Announced Pledges Scenario (APS), coal-fired plants in these countries are retired on average when they are 35 years old, and in the NZE they are retired when they are around 25 years old. In advanced economies, the average age of the coal power plant fleet is almost 35 years, and plants are retired on average in eight years in the APS and in five years in the NZE.

For consultation

5. While this report is focused on coal phaseout plans, is it useful to capture the potential for emissions reduction from retrofits ahead of retirement? How might this be integrated into the guidance?

6. Alongside approaches to evaluate expected emissions reduction from a coal phaseout plan, is there value in simpler guardrails relating to the maximum operating life of a CFPP (both in total and from now)? What analysis could the guidance draw on to support use of such guardrails?

Socio-economic considerations

Maintaining energy security and reliability is a key consideration in decommissioning CFPPs

When considering the decommissioning of a power plant and its timing, it is important to consider the impact on access to affordable and reliable power. More comfort can be taken on the overall impact of the coal phaseout where there are plans by the government, entity or other operators to bring on clean power sources and related infrastructure that can address any power generation (not just capacity) shortfall from the decommissioning of the CFPP. This relates to **Recommendation 2** earlier.

Direct CFPP replacement with clean power[83] may not always be practical from an investment, planning, location, or system reliability perspective. Depending on the country's regulations, the government or grid utility may also produce pre-feasibility studies on renewable power to identify a preliminary replacement power that does not compromise energy security, and grid impact/assessment studies to evaluate the required changes in a country's power system to accommodate CFFP retirement.

Other activity to give confidence that energy security will be maintained could include:

- new clean power resources dispatched elsewhere on the local grid
- retrofits to fossil fuel plants on the local grid to use clean fuels run on a different type of renewable energy source.

[81] RMI. Managed Coal Phaseout: Metrics and Targets for Financial Institutions, 2023

[82] IEA. World Energy Outlook, 2022

[83] The EU and ASEAN taxonomies define clean energy as having lifecycle emissions intensity threshold of <100gCO2e/kWh for electricity generation activities, which is increasingly accepted as a threshold within the international financial sector and in other government criteria for sustainable projects, and is technology and fuel agnostic, but would effectively prevent direct financing CFPP replacement with other fossil-fuel power plants without significant CCUS investment.

Recommendation 7 (Accessible, affordable clean energy): Financial institutions should assess what measures are in place to support access to secure, reliable and affordable clean energy replacements, such as having feasibility and cost assessments of clean energy replacements, and with actions underway to deliver them.

- Assess measures in place to ensure the coal phaseout plan is part of a broader strategy to support energy security, reliability and affordability, now and in the future.
- Measures could include feasibility and cost assessments of clean energy replacements, drawing on available local energy transition planning and independent assessments, taking into account both near- and long-term steps that could build out low-carbon energy systems

This consideration could be captured in the Engagement Strategy component of a NZTP.

BOX 14: Reference to ASEAN Taxonomy for Sustainable Finance, Version 2[84]

Plus Standard, Technical Screening Criteria for Electricity Generation from fossil gas (excl. unabated coal), renewable non-fossil gaseous & liquid fuels, bioenergy

Tier 1 (Green): Activity is in line with limiting global temperature rise to no more than 1.5°C, according to the Paris Agreement

- Lifecycle GHG emissions from the generation of electricity by the entire facility <100 gCO2e/kWh

Tier 2 (Amber T2): Activity supports a transition towards a Green pathway within a defined time frame, AND results in a contribution to climate change mitigation which is at least as good at the lowest carbon emitting technology currently technically and economically feasible for widespread use in ASEAN, with a prescribed sunset date

- Lifecycle GHG emissions from the generation of electricity by the entire facility: >100 and <425 gCO2e/kWh, reflecting projected emissions intensity for SE Asia in 2030

Tier 3 (Amber T3): Activity is in line with supporting the meeting of Nationally Determined Contribution (NDC) reduction targets of ASEAN Member States (AMS) that do not have a net zero 2050 timeline, OR meets the TSC of Amber (Tier 2) or Green, but has been assessed that it will do some level of significant harm to other environmental objectives

- Lifecycle GHG emissions from the generation of electricity by the entire facility: >425 and <510 gCO2e/kWh, reflecting projected emissions intensity for SE Asia in 2027

[84] ASEAN Taxonomy Board. ASEAN Taxonomy for Sustainable Finance, Version 2, 2023

BOX 15: Reference to CBI/CPI/RMI - Guidelines for Financing a Credible Coal Transition[85]

Stage Gate 2, Emissions leakage

- One way to mitigate emissions leakage risk is to pursue a phaseout and replacement strategy, where the coal plant's generation is replaced with a portfolio of clean resources that provides equivalent electricity services within the electricity system.
- In these guidelines, "clean resources" are defined as resources with a life-cycle emissions intensity of 100 grams (g) CO2 equivalent (CO2e) per kilowatt-hour (kWh) or less, in line with the EU Taxonomy for Sustainable Activities.
- Although direct retirement and replacement of a coal plant with clean resources is one way to mitigate leakage risk, it may not be practical from an investment or power system reliability perspective. We also recommend the resource plan include a credible analysis of alternative options that demonstrate that there is no economically and technically feasible clean energy alternative that meets energy security and access objectives

The success of coal phaseout plans will depend on how they address socio-economic (Just Transition) issues

The transition from coal to clean energy can involve social, environmental, and economic risks, as well as opportunities.

The success of a coal phaseout plan will depend on participants' ability to garner support from broader stakeholders who are socially or economically impacted by both the operation and closure of the CFPP. Affected stakeholders may include CFPP workers, coal suppliers, adjacent communities, and electricity consumers. Aspects such as societal support for a coal phaseout plan or ensuring the transition to a clean power system has a suitably trained workforce can be critical to the overall success of the energy transition.

A Just Transition involves maximizing the social and economic opportunities of climate action while minimizing and carefully managing any challenges through effective social dialogue and stakeholder engagement.[86]

Just Transition elements will require strong cooperation and joint planning with the government. Beyond direct impacts, financial institutions are oftentimes unlikely to be deemed directly financially responsible for Just Transition aspects, but will minimally need to participate in a process to identify indirect and induced impacts, and ensure that these impacts are being managed. These impacts might at times seem minor for individual transactions, but as multiple transactions occur, the indirect and induced impacts will start to compound and have deeper socio-economic impact. This will be the responsibility of governments to manage, supported by institutions such as the MDBs.

For entities, Just Transition elements can be captured in an organization-wide transition plan. The GFANZ Transition Plan Framework (for Financial Institutions and Real Economy actors) provides the overall framing to approach transition planning. The LSE Grantham Research Institute has set out Just Transition considerations that are aligned with the GFANZ framework (see **Box 17**).[87]

[86] ILO. Climate change and financing a just transition; UNGP. Guiding Principles on Business and Human Rights, 2011; Shift. Climate Action & Human Rights,2023; IFC. Environmental and Social Performance Standards, 2012; Council for Inclusive Capitalism. Just Transition: Framework for Company Action

[87] LSE Grantham Institute. Making Transition Plans Just, 2022

These elements may be relevant to include in a coal phaseout plan:

- **Environmental and social risk impact assessment:** The entity and/or government could carry out an environmental and social risk impact assessment, including quantitative assessments where possible, to determine both negative and positive impacts (e.g., on local economy and livelihoods, employment and labor conditions, gendered impacts, health and safety, land use and waste management).[88]
- **Social dialogue and stakeholder engagement plan:** Social dialogue with unions, employers, and the government, and stakeholder engagement with communities, international organizations, academia, and civil society (including the youth), can cultivate public support, integrate local perspectives, promote innovative ideas from diverse stakeholders, and facilitate the creation of sustainable, culturally appropriate, and feasible coal phaseout plans. As such, it is critical for entities to have a social dialogue and stakeholder engagement plan for coal phaseout to ensure inclusivity. Many existing resources provide guidance on developing these plans. [89]
- **Worker and community transition plan:** The entity should address the risks and impacts identified in the environmental and social assessment with a plan to mitigate the negative effects on the workers and communities. Actions can include retraining, re-employment and education, and reinvestments in the region to promote long-term economic resilience and growth for the surrounding communities. [90]
- **Environmental restoration and land repurposing plan:** Remediation and reclamation of the CFPP site will be critical, and this plan should ensure the safety of the community. For example, it should cover the proper disposal of hazardous waste and lay out how remediation and reclamation will be financed. Beyond this, the planned use of the site should be based on local regulation and discussed with the local communities to reflect future redevelopment goals for the site. [91]
- **Adverse impact fund or structures with similar effects** (e.g. funds for short to medium-term work and support programs pre and post shut down): plans could include details of any resources to mitigate adverse impacts of early retirement, which could be in the form of specific investor capital or a stream of operating profits. Power producers may consider leveraging concessionary capital (e.g. JETPs, governments, ADB's ETM Partnership Trust Fund[92]), as in the other parts of the world.[93]

[88] World Bank. Assessment and Management of Environmental and Social Risks and Impacts, 2017

[89] IFC. Stakeholder Engagement: A Good Practice Handbook For Companies Doing Business in Emerging Markets; ITUC. ASEM project on social dialogue on working conditions; ILO. Social Dialogue

[90] World Bank. The Coal Transition: Mitigating Social and Labor Impacts, 2021; ADB. Regional: Opportunities to Accelerate Coal to Clean Power Transition in Selected Southeast Asian Developing Member Countries, 2021

[91] CBI, CPI and RMI. Guidelines for Financing a Credible Coal Transition, 2022

[92] ADB. Energy Transition Partnership Trust Fund

[93] WEF. Just Transition Energy Strategy, Spain, 2015; WEF. Just Transition Transaction, South Africa,

Recommendation 8 (Mitigating adverse socio-economic impacts): Financial institutions should assess what measures are in place to mitigate adverse socio-economic impacts, such as (i) having environmental and social risk and impact assessments; (ii) social dialogue and stakeholder engagement; (iii) worker and community transition plans; (iv) environmental restoration and land repurposing plans; and (v) adverse impact fund (or similar).

This consideration should be captured across the components of a NZTP, but will be particularly relevant for Engagement Strategy.

BOX 16: Reference to CBI/CPI/RMI - Guidelines for Financing a Credible Coal Transition[94]

Stage Gate 3, Just transition

Guideline: The coal plant has a just transition plan to mitigate impacts on workers, electricity customers, and the local community

A just and equitable transition ideally follows key guiding principles of identifying the actors that may be negatively impacted by a coal transition (recognition justice), including affected stakeholders in the decision-making process (procedural justice), distributing the burdens and benefits equitably (distributional justice), and repairing any harm during the process (restorative justice).

These guidelines focus on applying just transition principles at the asset level — where coal plant owners are likely to have greater influence — and outline the following components:

- Provide advance notice of coal plant closure and communicate clear timelines for phaseout
- Engage in stakeholder consultations and dialogues
- Conduct impact assessments
- Report on and develop plans to minimize adverse impacts on communities
- Support relief and reskilling opportunities to affected workers
- Conduct remediation and reclamation

[94] CBI, CPI and RMI. Guidelines for Financing a Credible Coal Transition, 2022

BOX 17: Reference to LSE Grantham Research Institute - Making Transition Plans Just[95]

For financial institutions such as banks and investors, a first step is to anchor their net zero plans in the existing just transition principles from the International Labour Organization (ILO). Based on these, we have identified three key factors for financial institutions to consider in the design and delivery of their plans:

1. Anticipate, assess and address the social risks of the transition. The just transition is about understanding and acting on the distributional implications of net zero for people. Net zero plans should be designed to ensure costs and benefits are allocated fairly, particularly so that vulnerable and marginalized communities do not bear the burden of change. Therefore, the potential social risks of transition finance needed to be assessed and addressed so that no one is left behind.
2. Identify and enable the social opportunities of the transition.The transition can also be shaped to deliver positive social impacts for workers, communities and consumers transition plans should explore how financial institutions can seize the social opportunities of net zero, for example, to create green jobs with decent work, to eradicate energy and fuel poverty and reduce longstanding inequalities (for example, around income, gender and race).
3. Ensure meaningful dialogue and participation in net zero planning. The just transition is a process as well as an outcome, with a focus on procedural justice that means that financial sector net zero plans should support social dialogue with workers and the participation of other affected stakeholders. This should include proactive efforts to empower excluded groups. Financial institutions must also ensure they are lending to and investing in companies that are pursuing an inclusive approach.

Additional guidance exists in relation to coal phaseout pathways,[96] while specialized climate change organizations such as Coal Asset Transition Accelerator (CATA) and Accelerating Coal Transition (ACT) may be able to provide technical assistance.

For consultation

7. In relation to assessing the strength or quality of socio-economic considerations in a coal phaseout plan, are there additional areas the Final Report should aim to cover or guidance / references financial institutions could draw on?

[95] LSE Grantham Institute. Making Transition Plans Just, 2022

[96] UMD Center for Global Sustainability. Financing Indonesia's coal phase-out: A just and accelerated retirement pathway to net-zero, 2022; ADB. Regional: Opportunities to Accelerate Coal to Clean Power Transition in Selected Southeast Asian Developing Member Countries, 2021; WEF. Shaping the Future of Energy and Materials System Value Framework and Analysis, 2020

Financial Viability

Coal phaseout plans should support analysis of financial costs (including Just Transition-related costs)

Provision of financing is ultimately an economic choice. As such, a coal phaseout plan needs to demonstrate the financial viability of the entity or asset. Financial viability may be a particular challenge in relation to a single CFPP (e.g. project finance) where the early retirement reduces the core cash flow generation from the asset.

It may be possible new revenue streams can be developed in relation to the site, its infrastructure, and potential to generate carbon credits. These are covered in more detail in **Part 3.**

A coal phaseout plan could involve multiple stakeholders providing financing. They would all be expected to **optimize across other considerations (e.g. Just Transition),** and some stakeholders (e.g., concessionary capital - MDBs, philanthropic capital) would **condition their financing for specific uses.** Such partners can also bring credibility to coal phaseout plans (see **Box 18**).

Different financing mechanisms can be used to support the viability of coal phaseout transactions. In particular, if they enable the financial benefits of the phaseout (e.g. lower energy and healthcare costs) to fund the phaseout plan; see **Part 3** below.

Recommendation 9 (Holistic financial viability analysis): Financial institutions should perform holistic financial viability analysis of a coal phaseout plan to ensure that it is likely to be viable, including capturing the financial impact of socio-economic support measures and associated costs.

- Perform financial viability analysis based on key costs and returns over the shortened lifespan through to planned early retirement date, including with reference to write-downs, Just Transition costs,[97] proposed (re)financing to support the phaseout, new cost of capital, and any supplementary revenue streams such as from associated renewables projects, carbon credits, and retraining grants.

This consideration could be captured in the Metrics & Targets component of a NZTP.

[97] E.g. accounting for potential severance payments if the plan is to shut down, retraining of workers, in the financial term sheets, accounting for labor in the business valuation, and accounting for consultation / labor union engagement costs.

BOX 18: Participation from MDBs, philanthropic organizations, and impact funds can provide credibility by ensuring MPO compliance with internationally accepted ESG requirements, which can include Just Transition themes

In addition to de-risking the transaction to crowd-in private investors and acting as sources of financing for initiatives aimed at just transitions, MDBs, philanthropies, and impact funds play a crucial role in promoting coal phaseout by increasing the attractiveness of the transaction by virtue of participation. As these non-commercial financiers are typically aligned with international standards, their participation provides assurance that the coal phaseout plan they are supporting is aligned with international requirements, which are usually further customized to the requirements of a transaction, such as Just Transition considerations.

BOX 19: Reference to RMI Financing the Coal Transition (November 2021)[98]

Stage Gate 3, Just transition

Five key principles to guide the design of financial mechanisms for the coal transition:

1. **Just and equitable.** Fairly distribute the costs, risks, benefits, and upsides of the coal transition among key stakeholders
2. **Additional.** Support the transition of plants that otherwise would continue to operate in a manner inconsistent with climate and development goals
3. **Manage.** Prioritize, sequence, and accelerate the transition of coal plants in a way that maximizes societal benefits and minimizes harm
4. **Transformational.** Align with and support the enabling environments needed to achieve a low-carbon transition
5. **Scalable.** Be implementable at scale, enabling significant progress on 1.5°C efforts

[98] RMI. Financing the Coal Transition, 2021

Step C: Achieving transparency and accountability for coal MPO plans

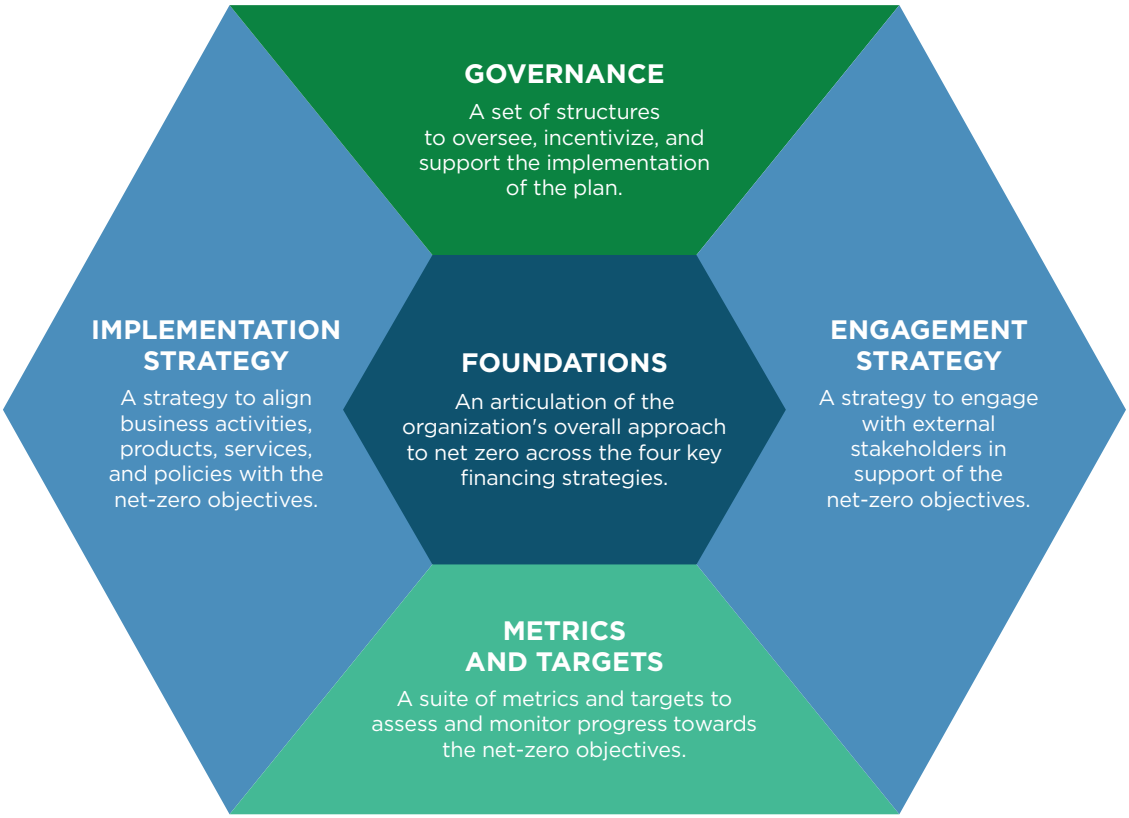
GFANZ, working with key stakeholders and financial institutions, developed a framework for Net Zero Transition Planning (NZTP) (see **Figure 7**). The components of the NZTP framework provide a basis for setting out information in relation to a coal phaseout plan, and those elements covered in Recommendations 1-9 in particular.

GFANZ welcomes related work by policymakers and regulators on the role of transition planning to support an orderly and just transition. This includes building on and supporting convergence around common market-based approaches, such as those developed by GFANZ in this report and guidance.

It will be important to ensure that where official sector requirements and frameworks are developed they can capture plans for managed phaseout.

Given the young CFPP age profile in APAC, many assets face long time horizons with closures potentially taking place 10-15 years from now. This may necessitate creation of near-term action plans (e.g. 18-24 month timeframe), such as counterparty plans/milestones to deliver on asset-level emissions avoidance, and account for energy security concerns.

Figure 7: GFANZ Net Zero Transition Plan Framework



Beyond disclosure relating to the elements captured in Recommendations 1-9 of this report, financial institutions should consider requiring additional reporting by the entity to lend further credibility to coal phaseout plans:

- General governance and incentive structure of the transaction (e.g., escalation processes, resource recourse mechanisms, disbursal schedule, or incentives or penalties) to support achievement of climate and social outcomes
- Review points to dynamically adjust entity ambition levels and actions. Financial institutions can consider future plans/interventions announced by counterparties (e.g. R&D into renewables) to ensure sufficient financing to support transition
- Reporting requirements that are specific to the type of financial instrument(s) used (e.g., for sustainability-linked or KPI-linked bonds)
- The criteria and rationale behind asset selection and prioritization, especially where concessionary capital is involved.

Financial institutions should also consider how they will conduct due diligence on an entity's commitments, time-bound transition plans, social-impact assessment and issues related to Just Transition,[99] and implementation progress pre-, during, and post-transaction.[100]

Recommendation 10 (Coverage of NZTP components): Financial institutions should set expectations that the entity's CFPP phaseout plan covers the key components in the GFANZ NZTP framework.

- The key components are Foundations (i.e. objectives and targets), Implementation Strategy; Engagement Strategy; Metrics and Targets that support disclosure and monitoring of progress; and Governance of the coal phaseout plan

This consideration could be captured across a NZTP with particular coverage of the Governance and Metrics & Targets components.

[99] For example, Impact Investing Institute "Just Transition Criteria" (2023)

[100] Where an entity may be a state-controlled energy company, entity-level diligence may need to capture broader country transition plans or processes associated with international agreements.

For consultation

8. Does the three-step process capture the right stages and considerations for financing for a coal phaseout plan from a financial institution's perspective?

9. Do the ten recommendations cover the most important considerations for determining whether to participate in the financing of an MPO project? What other areas should a coal phaseout plan include to support assessment of the plan's:

    a. Climate impact

    b. Financial viability

    c. Socio-economic considerations

    d. Accountability

10. Does the guidance, when taken together, strike the right balance between facilitating early transactions that could help accelerate peak coal emissions in APAC, and ensuring that each transaction has sufficiently positive impact?

11. This report refers to additional guidance, benchmarks and thresholds that could inform assessments on aspects such as the credibility and impact of coal phaseout plans. Is there additional existing guidance that could be provided? What are the merits/issues of the different options set out?

12. What are the relative roles for private sector, policymakers and standard setters to develop more granular guidelines (e.g., thresholds and conditions) on financing MPOs at this time? Would regulatory standards for MPO help incentivize FIs participation in transitions?

Part 3: Financing Mechanisms

Although energy policy will remain the primary driver of a country's transition from coal to clean energy, financing mechanisms can play a catalytic role in enabling the benefits of, and overcoming barriers to, coal phaseout.

Coal phaseout presents particular challenges in terms of financing, given that phaseout implies shortening the economic life of an asset, and as such the revenue stream it generates. Innovative financial structures and levers can help ensure that the economics of an MPO transaction work for the different stakeholders involved. In 2022, GFANZ commissioned RMI to publish a working paper entitled *Financing Mechanisms to Accelerate Coal Power Phaseout* that provides further guidance.[101] The levers presented here align with and build on those in the RMI report for an APAC context (see **Box 20**).

In general, a number of structures and levers can be pursued, and it is likely these will need to be combined. Relying on just one or two of these levers may not be sufficient to ensure that a transaction is financially viable.

It is also likely that successful transactions — at least in the near term — will require some participation from public or philanthropic finance (see **Box 21**), including grants and concessional finance, both to confer credibility and ensure that the economics of the transaction work.

As set out here, the broad levers are refinancing that secures a materially **lower cost of capital** and / or the development of **alternative revenue streams**. There may also be a need, particularly considering the costs of coal retirement at the system level, to secure some form of **asset revaluation**, which may have implications for a range of stakeholders, including existing owners of, or investors in, the relevant asset.

The three types of financial levers that can enable coal phaseouts are broadly:

1. **Reducing Cost of Capital:** Given MPO aims to reduce the lifespan of a CFPP, perhaps significantly, income that might otherwise have accrued under a PPA would be lost. Some transactions will hinge on significantly lowering the cost of capital that an asset faces, which might be achieved in part through **blended finance**, such as refinancing that draws on public / MDB / DFI sources that have significantly lower cost of capital, and / or through **credit enhancements**.

2. **Alternative Cash Flows:** Likewise, the associated reduction in a CFPP's revenue flow means that alternative revenue streams may be important to support the economics of an MPO transaction. There may be cases where it is appropriate to deploy emerging **energy transition carbon credits**, and these are being explored through various initiatives currently, and as such may be addressed in more detail in the final version of this report. More generally, the owners of a CFPP may choose to diversify earnings and reduce dependency on coal through other income streams, such as through **bundling with renewable energy projects, solar-for-coal swaps,** and **leasing site and grid connection to renewable energy developers**.

[101] RMI. Financing Mechanisms to Accelerate Managed Coal Power Phaseout, 2023

3. **Asset revaluation and pricing:** As set out in Part 1 of this report, the business environment for owners of coal assets is changing, with increased stranded asset risk, affecting risk / return considerations and driving down fair market value. Where the asset value is subject to market forces, this may be reflected in the equity value, or may be brought about as part of an MPO transaction. If so, a reduced asset value may support the economics of a transaction, given the reduced operating period and associated cash flows.

Financial institutions may participate in MPO transactions in different ways. At the **asset level**, this may include investing directly or indirectly through a special purpose vehicle (SPV) owning a CFPP, or a managed transition vehicle (MTV) targeting CFPP owners. Alternatively, at the **portfolio level**, financial institutions can target holding companies owning CFPP(s) and other power generation assets, including renewables. Ultimately, the appropriate participation model relies on due diligence on any change of control provisions (e.g., in existing power purchase contracts) and potential implications.

Box 20: Deep-dive: Options in APAC

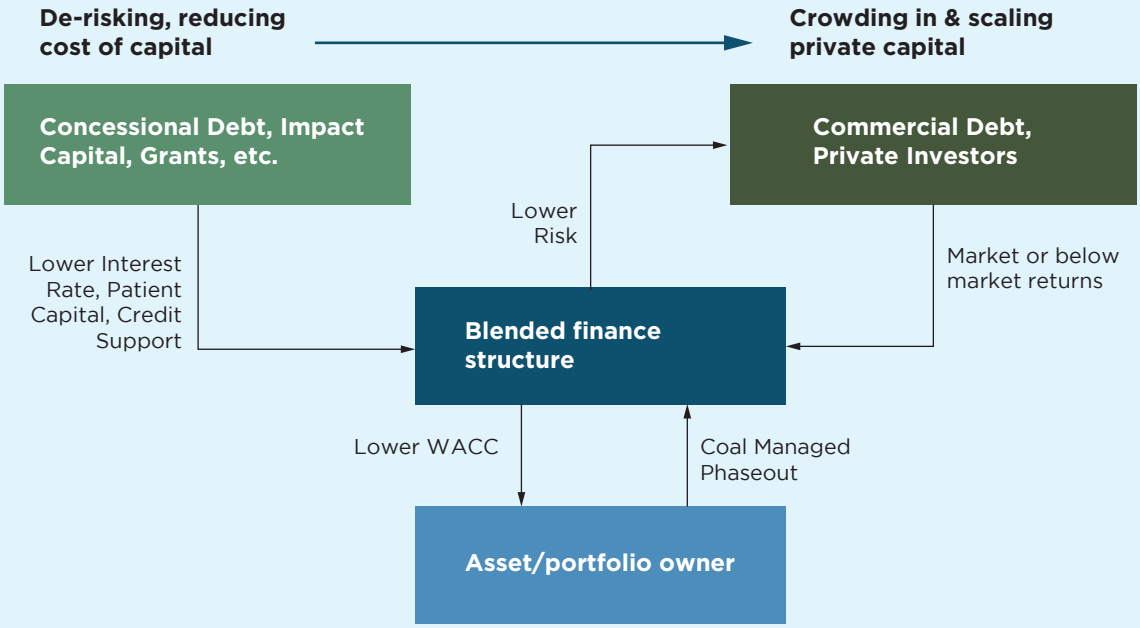
The choice of financing mechanisms will be contingent on MPO contexts, including the political and regulatory environment of the country in which the CFPP is located. While no one-size-fits-all financing mechanism exists, the following are potential financial levers that may be most relevant to the different contexts of the APAC region.

Blended capital

Mechanics: Diversifying sources of capital by using a mix of commercial and non-commercial funds (e.g., concessional or public funding, including participation from MDBs, philanthropic funds, and ESG impact funds) to mitigate specific transaction risks, reduce overall costs, crowd-in commercial funds / private capital, and scale future MPO transactions.

Key considerations: Providers of non-commercial financing may want to support Just Transition elements and ensure long-term scalability and replicability of MPO structures. As such, funds may be strategically used to benefit the public, such as by targeting national climate and energy objectives, supporting the social transition, and de-risking close-to-commercial MPOs. For additional de-risking support, a first-loss guarantee may be provided by non-commercial financing to further attract commercial financing to crowd in private capital.

Figure 8: Mechanics of Blended finance structure



Examples: ADB's Energy Transition Mechanism,[102] South Africa's Just Transition Transaction,[103] Singapore's Bayfront CLO[104]

Potential safeguards: For transactions involving equity and debt instruments, impact may not be explicitly built into the structure. Debt instruments could be arranged in partnership with local financial institutions that can offer deeper understanding of the market and may have lower due diligence costs. For transactions shifting access from the public to the private markets, the private owner should continue reporting carbon emissions and the seller should adjust its own reporting framework and ambition under the new perimeter.

Financial engineering

Mechanics: Financial engineering involves understanding the different terms, conditions, and transaction structures of an MPO transaction through analysis, documentation, and operations. Several levers to explore include:

- Higher leverage translating to a lower overall cost of capital
- Credit support and enhancements to improve credit and operational risk of the MPO
- Different sources of cash flows on top of business as usual (e.g., carbon credits)
- Transaction structures (SPV vs portfolio-based financing, using MTVs).

[102] ADB. Energy Transition Mechanism

[103] WEF. Just Transition Transaction, South Africa, 2021

[104] IFR Asia. Bayfront CLO Scores Greenium, 2021

Key considerations: Financial engineering involves optimizing the capital structure, which can involve a combination of cost of capital reduction levers. The features of an MPO may support these levers if it creates more certainty of cash flow, reduces stranding risks, etc. Some examples include:

- **Increasing leverage / higher debt:equity ratio:** Maximizing debt levels translating to a lower overall cost of capital (e.g. 80-90% debt). This is suitable for asset/portfolio entities with bankable PPAs and existing debt. CFPPs with consistent cash flows are ideal targets for this lever, as increasing leverage raises the risk of financial distress and the costs associated with financial distress.
- **Refinancing with longer loan tenors:** Debt service follows the operation's cash flow profile, reflecting the optimal capital structure. This is ideal for existing asset/portfolio entities with debt partially or fully repaid and may presume repayments from additional revenue sources even after CFPP decommissioning to allow for accelerated CFPP retirement.
- **Debt repricing within the life of the loan:** The facility is priced at a lower benchmark tenor (e.g. based on call/noncall date) versus actual tenor of the lending. This is suitable for financial institutions and CFPPs open to potential refinancing and repricing risk at repricing date of the MPO. All-in rate should be 1) lower than the existing rate being paid by the issuer, or 2) higher than expected future benchmark rates, which the issuer plans to assume upon the date of repricing.
- **Deferred payments structure:** Reducing pressure on debt service by adjusting repayments to a later date, potentially decreasing risk and weighted average cost of capital of the company. This is typically offered by concessional financing and suitable for entities facing the financial burden of installment payments and the consequences of nonpayment. It can be structured to offer repayment holidays, which are similar to grace periods but for mature operating CFPPs. A sustainability-linked bond (SLB)-type structure can also be designed as a deferred payment structure — instead of a coupon step-up/down, a payment of a share of the notional paid to a specific third party can remedy the negative impact of not meeting a key performance indicator.

Credit enhancement is a risk mitigation strategy to improve a company's credit risk profile, allowing the company to obtain more favorable financing terms from existing and/or new lenders. Traditional providers of such credit enhancements include governments and MDBs through existing programs, but similar facilities are also provided by commercial issuers, such as insurance and surety companies and other financial institutions. Examples include the following:

- **Direct or indirect guarantees:** Includes sovereign-level direct or indirect credit guarantees (e.g., providing implicit credit support through financial guarantees, enhancement of existing credit cover).
- **Commercial guarantees:** Direct or indirect guarantee from a lender by another party if the borrower defaults.
- **First loss:** Absorbing initial losses in case of erratic cash flows.

- **Derivatives and insurance products:** Provision of exchange rate hedges, credit default swaps, interest rate swaps, and other derivatives can help manage a financial institution's risk. Insurance can also be helpful in redefining traditional Property Damage & Business Interruption (PDBI) coverage.
- **Expanded collateral pool as part of MPOs:** If a CFPP owner is willing, additional assets can be included on top of the existing collateral pool consisting of the coal power assets, increasing the pool of collaterals and source of recourse for potential investors, and hence lowering the risk of non-payment.[105]

Examples: PT Sarana Multi Infrastruktur (PTSMI), SPV under Indonesia MoF, as the Energy Transition Mechanism Country Platform Manager,[106] Vistra Energy Corp's asset refinancing[107]

Potential safeguards: Pre-agreed safeguards and mechanisms (on top of standard terms and conditions) can be integrated into transaction documents to ensure the planned coal phaseout achieves its objectives and remains credible. Examples of these include the following:

- **Use of sale proceeds aligned with decarbonization targets.** Proceeds from sale of a CFPP (e.g. to an SPV) could be invested into broader operations aligned with decarbonization objectives.
  - *For specific use of proceeds.* Examples include pre-identified plant decommissioning of IPPs, identifying specific renewable energy projects or upgrades to be introduced into the CFPP asset to reduce emissions (provided such upgrades do not extend the operational life of the CFPP)
  - *For generic use of proceeds.* Examples include capturing renewable energy projects only for projects that pass a pre-agreed investment framework with decarbonizing and undertaking a Just Transition of a business model of a single IPP or an entire portfolio of power plants
- **Hiring an independent safeguard consultant:** The independent safeguard consultant should assist the lender in conducting due diligence and developing environment and social standards (ESS) obligations. Additionally, the consultant should be hired each year by the borrower to assess compliance to ESS and report it to the lender.
- **Strict penalties for non-fulfillment of MPO objectives or targets.** These can include mandatory prepayment/ redemption or Events of Default (for debt).

Change of control provisions. These may be added as part of terms in a coal phaseout plan to ensure continuity of the plan's commitments if the CFPP were sold.

Outcome-based / KPI-linked instruments

Mechanics: Corporate-level key performance indicators (KPIs) linked to debt financing or incorporated into the debt instrument, offering lower interest rates to issuers that successfully implement sustainability or ESG targets. These are typically labeled as sustainability-linked loans and bonds (SLLs and SLBs)[108] and can be designed to support forward-looking, entity-wide targets.

[105] In case an MPO defaults, an expanded collateral pool ensures that there are adequate sources of cash, such as from sale of collateral assets, for the repayment of principal invested. However, this lowers loan to value and may limit the ability to maximize leverage in an MPO.

[106] PTSMI. Indonesia Launches ETM Country Platform to Accelerate Just and Affordable Energy Transition, 2022

[107] WEF. Asset Refinancing Case study: Vistra Energy Corp., 2022

[108] Existing frameworks should be leveraged to allow transition finance to flourish (e.g. ICMA principles (including SLB principles, Climate Transition Finance Handbook), regional/ local regulations and frameworks on ESG, where available (e.g. Loan Market Association).

Key considerations: SLBs can be used to maximize potential "greeniums" for green-labeled securities and benefit from the option premium that SLBs offer to issuers.[109] Issuers may also restrict use of proceeds to discourage leakage and reinvestment into coal projects for other structures (e.g. using labeled sustainability bonds, green bonds).

Examples: ENGIE Energia Chile carbon reduction bonus loan from IDB,[110] Tauron Polska Energía's sustainability-linked bond[111]

Potential safeguards: Pre-agreed safeguards and mechanisms can be integrated into the terms of the instruments to ensure the planned coal phaseout achieves its objectives and remains credible. Examples of these include the following:

- **Structure:** Issuers should avoid:
  - Setting call dates prior to KPI observation dates
  - Step-ups that only kick in at the end of the bond's term
  - Performance target observation dates being set after the maturity of the bond
- **Ambition:** To ensure SLBs are sufficiently ambitious and coupon step-ups are appropriately priced, Anthropocene Fixed Income Institute (AFII) has proposed pricing SLBs as straight bonds with an option attached. Greater ambition will increase the option value and more substantial coupon step-ups increase the value of the ambition, which in turn lowers cost of capital for the issuer.
- **Reporting standards:** These should be set based on rigorous standards to ensure transparency in the disclosure process, minimizing greenwashing and maximizing the impact of the instrument. It is essential to ensure that the KPIs are credible and verifiable for ease of benchmarking against peers and sectoral pathways.[112] In the absence of universal market standards or regulatory requirements for SLBs, consistency in approach is recommended for products to be compared and priced effectively. One specific initiative designed to provide a credible standard is the Climate Bonds Initiative's expanded Climate Bonds Certification program, which now includes entity-level and SLB certification.[113] Its Sustainability-Linked Bond Database also records SLBs that demonstrate alignment and credibility with a sector-specific 1.5°C pathway.
- **Legal guardrails:** Credible KPIs or carbon reduction commitments should be included in the terms and conditions of the loan or bond instrument itself as part of the contractual agreement, without any qualifying language or exemptions that undermine the commitment to facilitating managed phaseout.

[109] See: AFII. An option pricing approach for sustainability-linked bonds, 2022; AFII. Understanding dynamics between SLB and traditional debt, 2023

[110] WEF. Carbon Reduction Bonus Case study: ENGIE Energia Chile loan, 2021

[111] WEF. Sustainability-linked Bond, 2022

[112] Existing frameworks should be leveraged to allow transition finance to flourish (e.g. ICMA principles (including SLB principles, Climate Transition Finance Handbook), regional/ local regulations and frameworks on ESG, where available (e.g. Loan Market Association)

[113] Climate Bonds Initiative. Certification under the Climate Bonds Standard

To link the instrument to *outcomes* as well as *ambitions*, it is recommended that commercially sensible legal safeguards be incorporated within the terms of the bond, in addition to or instead of step-up coupons, which stipulate consequences that can be applied if agreed KPIs or carbon reductions are not being achieved during the life of the bond. These provisions should ensure integrity of outcomes, while facilitating the best possible uptake of transactions. For example, tiers of accountability over time may include:

- A financial penalty (or step-up coupon of at least 100 bps (as an indicative example)) as a consequence of failure to achieve a KPI or fulfill carbon reduction commitments.
- If the KPI or carbon reduction is not achieved after a year (or other agreed cure period), an accountability provision could be triggered. For example, investors have suggested a provision tied to the performance-related portion of the issuer's directors' remuneration as an accountability mechanism. Another alternative, if commercially viable and in carefully considered circumstances, could be an option enabling investors to choose whether to put back the bond to the issuer in return for its price (similar to provisions commonly included in change of control clauses).

Renewable energy bundling

Mechanics: In cases where the target CFPP owner has renewable energy (RE) projects that can be coupled with a CFPP scheduled for early retirement as part of its portfolio, the CFPP owner can raise funds to invest in a renewable energy project through the proceeds of the MPO. To diversify sources of funds to invest in renewables, international trade export credit agencies or investment insurance agencies can be leveraged to de-risk RE projects and facilitate access to financing. RE project revenues can then be used to support debt and other payments of the CFPP scheduled for future decommissioning.

For transition investors and energy operator/developers, a solar-for-coal swap may be considered, which combines the acquisition of a CFPP with securing a contract to develop solar power. The transition/energy investor receives the return through consumer/ratepayers charged with covering payment from solar power generation, repayment from purchasing and decommissioning the CFPP, and if included, financing for a just transition. Consumers should theoretically be paying less due to relatively lower cost of solar power generation[114].

Additionally, depending on the site conditions, the RE development could use or lease the decommissioned CFPP to repurpose select facilities (e.g. land, switchyard, grid connection). An example of this is the closure of the Andorra thermal power plant in Spain with solar, wind and storage facilities established on the site. This helps to preserve the value of decommissioned CFPP facilities and as a lessee, generate additional sources of cash that may improve the economics of accelerated CFPP retirement.

Key considerations: In addition to RE development, proposed use of proceeds may include CFPP decommissioning costs, socio-economic transitioning costs, debt repayment costs, and operational costs to maintain the portfolio and transaction structure. Due diligence will be critical to ensure technical feasibility through an RE feasibility study and/or detailed engineering design and financial viability through an identified market offtaker (e.g. direct/captive offtaker, spot market).

[114] Energy Innovation. Solar for Coal Swaps, 2020

This lever is potentially attractive to mitigate energy demand concerns for utilities (and to maintain revenues). In regulated markets it may be necessary to secure or renegotiate a PPA. In markets with lower cost of renewable energy production, this lower cost of power generation can help offset the overall costs identified with a coal phaseout of a CFPP.

Example: Andorra Thermal Power Station's coal to solar, wind and storage project[115]

Potential safeguards: The target CFPP owner must account for and mitigate RE development risks to ensure the outcome and avoid greenwashing risks.

Carbon credits

Mechanics: Carbon credits are a potential way to reduce those up-front costs, and generate much-needed private finance to be channeled directly into coal phaseout. The credits would be generated on the basis of reduced emissions associated with individual assets, with the units of CO2e sold equivalent to the expected or realized emissions across the asset's life after the retirement date.

Key considerations: Methodologies for these credits require careful design.

- For countries or regions with mandatory carbon markets, verify CFFP's compliance under local or international guidelines.
- For CFPPs in voluntary markets, ensure the CFPP has passed the eligibility and verification process by third-party agencies and international certification bodies such as Gold Standard or Verra. These bodies aim to address several hurdles, such as:
  - **Additionality:** demonstration that absent the funds generated from the credit, the asset in question would continue to operate as planned. This can, in part, be achieved by demonstrating that the fair value of the plant is positive when the credits are issued.
  - **Leakage:** reassurance that a CFPP's early retirement does not expand coal power elsewhere — potentially by pairing its closure with clean power replacement in the same transaction, demonstrating a robust wider policy context that guards against leakage (e.g. through a JETP), etc.
  - **Acceptance:** buy-in from the wider climate community that these credits represent credible emissions reductions. It will be important to highlight to external stakeholders the unique challenges in emerging markets and developing economies with respect to coal phaseout (e.g. long-term PPAs), and that renewables' cost competitiveness in the OECD does not undermine integrity of credits elsewhere.
- For carbon credits sold to support a Just Transition, stakeholder engagement will be necessary in the design and implementation of the benefit-sharing mechanisms to ensure that they reflect the needs and priorities of different stakeholders.

[115] WEF. Coal to Solar, Wind and Storage, Andorra Thermal Power Station, 2022

More work is required from the ecosystem to shed light on the definition, mechanics and methodology for generating carbon credits for the MPO of CFPPs. In the final version of this report, the Asia-Pacific Network intends to capture proposed methodologies, such as the ongoing consultation for Gold Standard's methodology concept.[116] The Energy Transition Accelerator aims to support the development of these transactions.[117]

Example: Infographic on Shades of Voluntary Carbon Markets in Asia Pacific[118]

Potential safeguards: Carbon accounting must be properly assessed to ensure that there is no "carbon arbitrage"[119] as a result of the transaction. Furthermore, carbon credits may demonstrate additional certification criteria, such as Verra's Sustainable Development Verified Impact Standard (SD Vista) and Climate, Community, and Biodiversity Standards.

Asset revaluation and pricing

CFPPs are facing a changing business and regulatory environment that increases overall stranded asset risk, affecting risk/return considerations and driving down fair market values. The increased risk profile can be observed as a discount to potential fair market value compared to values three to five years ago (see **Figure 9**).

Stranded asset risk can be further broken down by the following key risk factors: market risk (e.g., increased volatility of commodity prices, increased preference of clean energy over coal power from offtakers in global value chains, reduced demand from private and public offtakers due to targets aiming CO2 reduction and RE development); liquidity / refinancing risk (e.g., lack of potential lenders); legal / policy risk (e.g., carbon taxes, stricter air emission standards); reputational risk (e.g., investors and stakeholders becoming more aggressive ensuring corporations / countries align with global targets on decarbonization); and operational risk (e.g., unavailability of technical services and insurance).

[116] Gold Standard. Methodology concept for the early Phase-out of coal fired thermal power plants and their replacement with green-field renewable energy generation plants, 2023

[117] U.S. Department of State. U.S Government and Foundations Announce New Public-Private Effort to Unlock Finance to Accelerate the Energy Transition, 2022

[118] S&P, Shades of Voluntary Carbon Markets in Asia Pacific, 2022

[119] Financial Times. "COP26 Day Three: BlackRock's Fink says climate pressure on public companies 'biggest arbitrage in my lifetime"

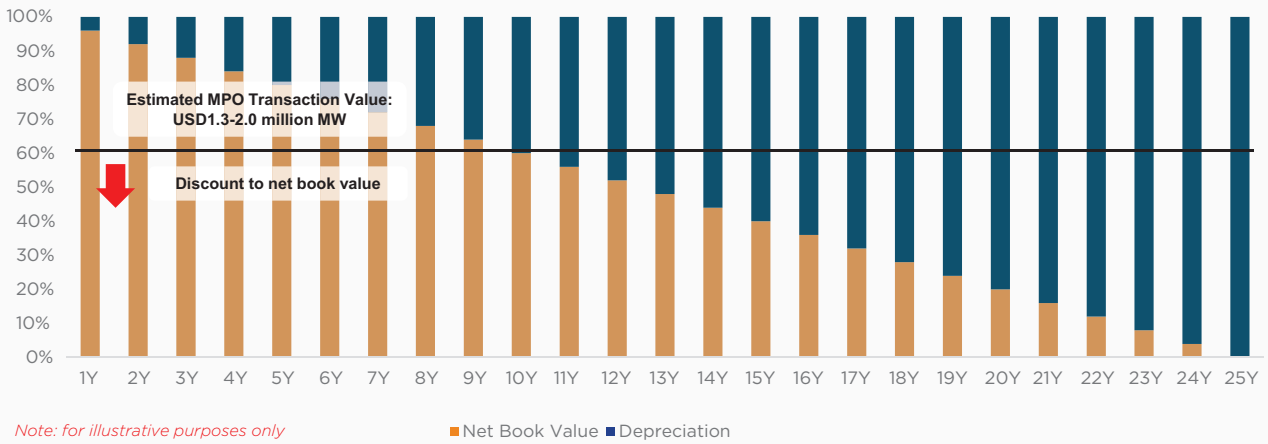
Figure 9: Estimated fair market value today can be below project costs of CFPPs

Select CFPP transactions in Southeast Asia show fair market value (FMV) multiples matching or falling below project cost multiples in recent years*:

Country	ID	PH	PH	MY	IDR	PH	VND
Year	2011	2012	2014	2016	2016	2018	2020
Plant / Hold Co	Jawa Power	Quezon Power	Masinloc	Jimah East	Paiton Energy	Kauswagan	Vung Ang 2
Capacity (MW)	1,320	503	674	2,000	674	552	2,530
Cost per MW	2.2	1.8	1	1.3	1.9	1.3	1.3
FMV per MW	2.3	2.8	1.5	1.3	1.8	1.7	1.2
Buyer	Marubeni	EGCO	EGCO	Chugoku	Nebras Power	Aboitiz Power	KEPCO
Seller	YTL Power	IMS, QGC	AES	Mitsui	Engie	CAN	CLP

*Estimates only based on public disclosures

As a CFPP is depreciated over the course of its economic life, a sale at a later date runs the risk of realizing losses when the selling price is lower than net book value. If selling prices of CFPPs are expected to decline over the next few years due to increasing risk profiles, CFPP owners have the option to lock in value and refinancing today through MPOs and manage potential future losses, particularly if actual stranding is eventual or imminent.



Note: for illustrative purposes only

Lower-than-expected valuations reflecting discounts due to emerging risks are expected unless new factors come into play. These factors can include increased government / private sector support to operate CFPPs in the medium to long term, or "earn-out" provisions for existing CFPP owners who decide to remain as CFPP operator-owners to ensure continuity and execution of transition programs, among others.

This is where potential cost-burden sharing can be set in MPOs, in which both sellers and buyers recognize the lower value of the asset facilitating a managed phaseout.

Historically, government-led energy programs have also set prices (tariffs), and even price ceilings, based on industry averages and norms. These governments usually set price levels to reflect cost plus any allowable margins within industry standards. For MPOs and other comparable structures, there are no similar government-led case studies outside German auctions.[120] Requiring phased shut downs of CFPPs by 2020 onward needed strong policy backing — and this was advanced even for developed market standards. This also required strong government support to mitigate displacement of workers and communities.

Box 21: Philanthropic capital approaches to MPO

Philanthropic support for MPOs are typically through technical assistance in the form of grants, particularly in support of Just Transition and capacity building.

Philanthropic funding may also play a role in blended finance packages, particularly where such funding can mitigate transaction risks that other parties are less well placed to address.

Similar to concessional capital, philanthropic capital can be used to complete and de-risk early transactions, and help scale initiatives with a view that future MPOs will be driven by the private sector in the long run. Pre-agreed and contractual safeguards will need to be in place to mitigate reputational risk and ensure credibility and transparency.

Box 22: Insurer's perspective on insuring MPO of CFPPs

Many global insurance companies have adopted coal exit policies, which vary depending on alignment to different international standards.

Many APAC power markets have a significant presence of IPPs that face restrictive underwriting policies as they are not part of a larger, diversified utility. This may cause a real transition risk to CFPPs in the region if they face rising operational costs from insurance and increasing coverage gaps with lower limits being sought, exposing MPO investors.

MPO plans can help overcome potential insurance challenges, bring capacity back to the retiring assets, and reduce uncertainty in operational costs of insurance.

All parties need to be clear in their priorities and their precise insurance needs. For example, this could include:

a. financial sponsors not seeking full asset and revenue protection, but instead coverage for their outstanding loan / investment

b. offtaker not expecting full replacement of generation during retirement timeline (e.g., extending the retirement scheme to compensate for any business interruption events)

c. operators only having coverage for minor repairs to keep the plant operating safely over retirement period

[120] WEF. Reverse Auctions Case study: Germanys Coal Reverse Auction, 2021

Under these conditions, there is a **potential for a blended insurance mechanism** by providing traditional Property Damage & Business Interruption (PDBI) to cover for minor losses and an 'agreed sum payout' for anything exceeding a certain loss threshold. Such a mechanism could provide for repair / replacement costs for minor losses, coverage of the outstanding loan amount in the event of a major loss, early retirement penalties to the offtaker, and decommissioning costs (if greater due to earlier-than-planned sun-setting). Other benefits include reduced uncertainty on insurance costs for the agreed payout (with greater appetite from insurers to provide longer-term contracts for such insurance schemes via traditional PDBI), or reduced total insured value over the retirement scheme which may reduce insurance costs

Figure 10: Illustration of blended insurance mechanism

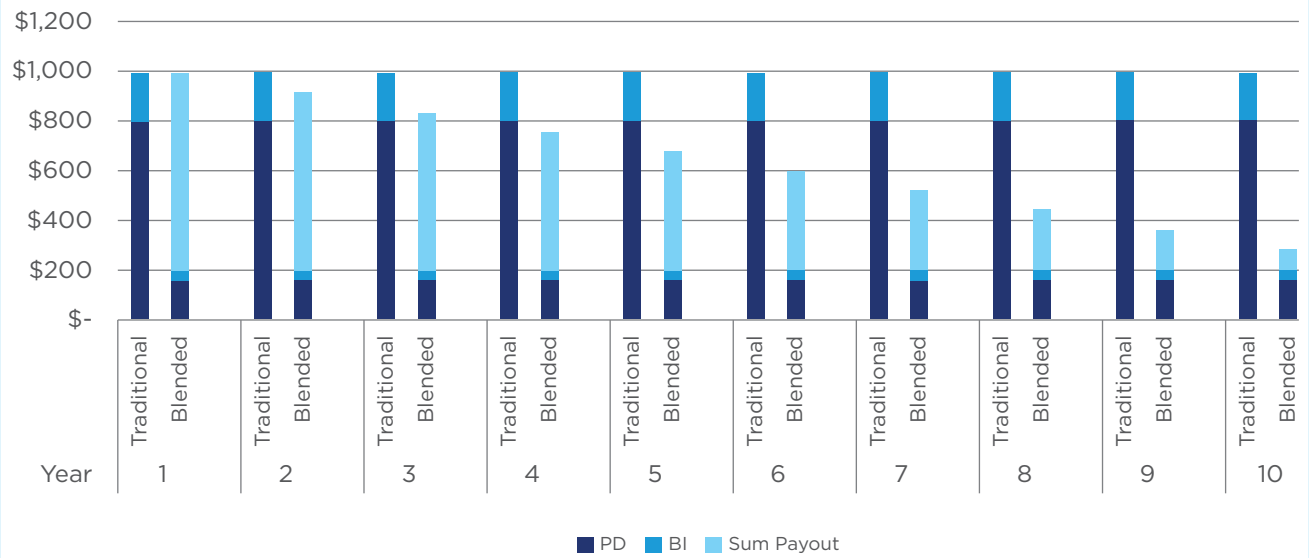


Figure 1: Scheme shown with full coverage of $1bn (80/20 PD/BI) and a 20% threshold on major loss triggering an agreed sum — demonstrated at covering the outstanding property value decreasing over the re-finance duration (for illustrative purposes only)

As coal MPOs garner scale, capacity for CFPPs is expected to be increasingly constrained as insurers respond to a range of pressures, including decarbonization of their underwriting portfolios. Therefore, there also needs to be consideration of how to bring new capacity to retiring CFPPs to manage volatility. Areas to be further considered could include industry mutualization (a mutual insurance company that is owned by IPPs under a coal MPO plan), associated captives with members including coal MPO entities, and insurance-linked securities (ILS), which are financial instruments whose value is affected by an insured loss event.

For consultation

13. Are there other ways financing mechanisms for a coal phaseout plan can lower the cost of capital? Which elements are likely to be most impactful at reducing risk / crowding in private finance?

14. What are the most important alternative revenue streams for APAC coal phaseout plans? What other alternative revenue streams are possible from coal closure? What real examples of these provide the most instructive case studies?

15. Early retirement may pose particular challenges with respect to writing down the value of CFPP assets or associated financing. What additional considerations could be useful in the final guidance with respect to write downs? How important is this to consider in structuring transactions?

16. Are the proposed safeguards for financing mechanisms the right ones? Are they sufficient?

Part 4: Enabling financial institutions to take action

Financial institutions' own transition plans, including related targets and fossil fuel-related policies and conditions, will have an important role to play in their ability to finance credible coal phaseout plans and the entities that own CFPPs.

Specifically, even where a CFPP has a credible, financially viable, and inclusive MPO today, internal barriers could prevent net-zero committed financial institutions from participating. For example, internal policies that preclude financing of coal may have the unintended consequence of inhibiting the financing of coal phaseout; it may be helpful for such policies to specifically capture how coal MPO can be financed. Similarly, where financial institutions have set financed emissions decarbonization targets, these could disincentivize the institutions from financing MPOs given the exposure to currently operational coal assets will lead to a near-term increase in financed emissions, even though the intention of the MPO is to accelerate emissions reductions.

The RMI working paper, "Managed Coal Phaseout: Metrics & Targets for FIs,"[121] commissioned by GFANZ, lays out an approach to 'Financed emissions for Phaseout', where FIs could separately calculate the financed emissions associated with MPO, set specific targets around this, and provide disclosures in relation to MPO financing. This would help financial institutions to (1) demonstrate their progress against tailored phaseout-related targets without skewing the progress made against their energy or power-related financed emissions reduction targets; (2) set more granular targets for assets planned for phaseout; and (3) mitigate potential disincentives to taking on exposure to high-carbon assets where there are robust plans to decarbonize, such as via MPO. Policies and target setting methodologies should be reviewed to ensure they do not disincentivize credible MPO transactions.

For consultation

17. GFANZ seeks input on how internal financial institution policies and conditions may impact financing of coal phaseout plans, while at all times remaining cautious of identifying any non-public, commercially sensitive information. In particular, the following would be helpful:

    a. Specific wording around coal transactions (e.g., what types of coal transactions are allowed or not);

    b. Treatment of financed emissions for MPO (e.g., carve-outs or use of additional metrics outlined in the RMI Managed Coal Phaseout: Metrics & Targets for FIs);

    c. How financed emissions from MPO exposures are treated in the broader context of net-zero target setting.

18. Given the potential for widely used financed emissions targets to disincentivize financing of coal phaseout plans, should coal phaseout plans be treated separately? Can this be achieved through greater transparency or do MPO transactions need to be fully carved out from financed emission targets? Does the need to finance coal phaseout justify amendments to financial institutions' emissions reduction targets

[126] RMI - Managed Coal Phaseout: Metrics and Targets for Financial Institutions

Part 5: Next steps

The release of this Consultation Report marks the start of the public consultation period running until August 4, 2023. Thereafter, feedback from all stakeholders will be considered in further developing the guidance, with the aim of delivering a final report ahead of COP 28 in December 2023.

In developing the final report, we are considering inclusion of the following topics and welcome inputs on these, in addition to the consultation questions:

- Tracking the **latest developments** in terms of work by other institutions on relevant aspects of MPO (e.g., work on carbon credits)
- Analyzing **potential unintended effects** of internal financial institution policies and considering **enhancements to better support** participation in MPOs
- **Engaging with policymakers** on the forward-looking enabling environment in support of coal phaseout
- Reviewing the guidance in light of **MPO transactions** such as in JETPs, ADB's ETMs, and national level ETM programs, and incorporating their needs and challenges
- Drafting **case studies** to illustrate the recommendations and financing mechanisms

We thank you for your participation and look forward to receiving your feedback here.

For more information, please visit gfanzero.com