

Criteria for early phase-out of the coal-fired power plants

The context

IEA's 2021 report indicated that, to be aligned with a 1.5°C scenario, about 100 GW of coal fired plants need to be phased out during 2021-2030, from both developed and emerging economies.¹

For coal to green transition, the challenge is dual: the focus is not just on scaling-up already zero-emission solutions, but also on how to quickly phase-out coal. To date, this phase-out thinking is absent in the green finance discussions despite the vital role it has to play in reducing global emissions.

More countries commit to coal phase-out: at COP26, more than 40 economies from both developed and developing countries and more recently, according to Powering Past Coal Alliance, nearly 50 governments pledged to phase out coal; however, not all are fully aligned with the IEA Net Zero Emissions by 2050 Scenario, where all OECD countries need to phase-out coal by 2030, and the rest of the world by 2040.

...but the phase-out ambition level is often questionable: in many instances, coal retirement pledges refer to plants that operate at or near the end of their full life span, those already sitting idle or long overdue for decommissioning. The challenge is to align the ambition of the 1.5°C objective with an actionable strategy required to fast-track the decommissioning and retirement of the plants that still have a long remaining operational lifetime and remain economically competitive, which could be due to lock in of long-term contracts.

Innovative climate finance tools, often labelled coal transition mechanisms (CTMs), could help to accelerate the coal to green transition: these would allow investors to wind down coal assets and their obligations, whilst placing climate change mitigation and just transition objectives at the heart of the solution.

The demand for CTMs is increasing: CTMs have gained momentum in key coal markets, ranging from securitization transactions in the U.S. to comprehensive coal transition packages such as the Just Energy Transition Partnerships that have been launched and implemented in South Africa, Indonesia and Vietnam for now. However, these mechanisms are still in the early stages of design; credibility and wide acceptance have yet been established by many financial institutions, agencies, and key stakeholders. There is a need for clear guidance on the credible use of climate finance to support the coal transition in the power sector to build confidence and enable the scalability of these tools.

Nevertheless, there is no 1.5°C aligned, science-based classification system that is currently available to define investments eligible as climate finance under coal transition schemes. While green finance classification systems have provided some clarity in other areas, few of the already developed taxonomies or frameworks offer a robust approach towards the coal transition process. In particular, better guidance is required on what acceptable ambition levels for transition of coal assets would be and how to commit to them. Even more rarely addressed is the issue of a Just Transition.

The global effort to incorporate transition dimension into taxonomies and frameworks does not yet entirely account for assets, such as coal power plants, that pose significant harm to climate objectives, or

¹[World energy outlook 2021, IEA \(2021\)](#)

address the phase-out process. Importantly, in its recent report,² the EU Platform on Sustainable Finance explicitly recommends developing technical screening criteria for potential decommissioning/closure of assets that do not have technological possibility of transitioning away from significantly harmful performance levels.³ Similarly, GFANZ recommends development of criteria for credible coal phase-out.⁴

High-level guidance is not sufficient: existing guidelines on what the credible early coal phase out means (developed by e.g. GFANZ, Sierra Club) offer only high-level principles. However, the history of development of sustainable investment eligibility criteria has been away from broad-based guidance towards more stringent thresholds due to persistent concerns around greenwashing and usability. Framework⁵ outlined in the recent paper by Climate Bonds Initiative, Climate Policy Initiative and the Rocky Mountain Institute (RMI) begins to address these issues by recommending robust and stringent criteria and initial methodology for the assessment of the CTM's credibility.

Mainstreaming climate finance for coal transition requires detailed evaluation criteria: lack of specific, universal criteria and thresholds associated with each of the activities means that 1.5°C-aligned coal-transition activities will have to be defined independently for each transition process. This increases operational costs, as financial institutions may not have the time and resources to evaluate projects from a wide variance nor use the effect of scale throughout the process to prevent greenwashing claims.

- **Credible standards will help market uptake:** to increase usability of coal transition debt vehicles, it is necessary to identify robust set of criteria that will ensure investments are aligned with a 1.5°C-aligned transition pathway. These need to be:
 - **Granular:** to the extent possible needed to provide detailed information on what is eligible as 'aligned with science-based, 1.5°C-aligned targets'. This reduces the need for interpretation and therefore avoid greenwashing.
 - **Publicly available:** they are available publicly and are not based on proprietary methodologies. They can be broadly understood, commonly accepted, and used across by a variety of different users.
 - **Science-based:** to ensure credibility, the criteria have to be based on science as far as possible rather than purely on national priorities or opinions if these are not science-based.
 - **Future-proof:** in a climate context, science-based means criteria are focused on investments that are in line with the pathway that allows for limiting global warming to 1.5°C above the pre-industrial levels.
 - **Just and inclusive:** to the extent possible, need to incorporate solutions ensuring Just Transition.

² [Final Report on Taxonomy extension options supporting a sustainable transition, EU Platform on Sustainable Finance \(2022\)](#)

³ Recommendation 10. The Platform recommends developing technical screening criteria for potential 'decommissioning/closure of...' Article 19 (3)-type activities, as well as for other activities for which no technological possibility of improving their environmental performance to avoid significant harm exists. It should be noted that whilst respecting The Polluter Pays Principle, it may be possible to add 'decommissioning of...' in the next Delegated Act, similar to activities such as 'renovation of...' or 'Renewal of...'. This would provide technical clarity on this topic, albeit indirectly, and could incentivise access to green finance for these activities without changing the Taxonomy Regulation

⁴ [The Managed Phaseout of High-emitting Assets: How to facilitate the early retirement of high-emitting assets as part of a Just Transition to a net-zero world, GFANZ \(2022\)](#)

⁵ [Guidelines for financing a credible coal transition: A framework for assessing the climate and social outcomes of coal transition mechanisms, CBI, CPI, and RMI \(2022\).](#)

Requirement of the hybrid approach

Following the approach devised by the [Guidelines for financing a credible coal transition: A framework for assessing the climate and social outcomes of coal transition mechanisms](#), to determine the substantial contribution of a phase-out activity to climate change mitigation objective, it is necessary for criteria to address the following questions:

- **Coal plant eligibility / coal asset identification:** Is it credible, from a climate perspective, to provide transition finance for the given coal plant?
- **Coal transition pathways:** Does the coal transition pathway proposed by the phase-out process support 1.5°C goals?
- **Social protection:** Does the transaction include a strategy, plan and provisions to support a just transition? Is the phase-out activity aligned to the Just Transition principles which will address social consequences and look to provide new economic opportunities for affected communities and stakeholders?

To answer these, it is necessary to devise **facility level criteria to determine the level of ambition** for the phase out process, and on top of that, the **entity and system level criteria that provide necessary safeguards** to protect against perverse outcomes.

Assessment of the credibility of early coal phase out requires tools that go beyond the scope of taxonomies.

While taxonomies are tools that determine sustainability of individual economic activities, it is the transition plans that allow for verification of a credible, 1.5°C aligned transformation of the entity. Therefore, using the taxonomy and its traffic lights labelling system would not be sufficient to comprehensively evaluate the credibility of the early coal phase out process. Guidance on what constitutes credible coal phase-out calls for a hybrid approach to marry these two perspectives.

The criteria for early coal phase out complement the Singapore-Asia Taxonomy's **effort to develop a credible approach what constitutes a transition finance**. While **the amber category defined for the Singapore-Asia Taxonomy focuses on the “transition within”** concept (activities that will be required beyond 2050 but will require extensive decarbonization to be aligned with net-zero), the **early coal phase out criteria aim to operationalise “transition away”** approach (managing and fast-tracking the decline of emissions-intensive economic activities for which there is an alternative).

Therefore, early coal phase out will not be classified using the traffic light system of the taxonomy but will instead be considered separately under the taxonomy. Investments towards early coal phase out will be eligible as transition finance.

CTMs and frameworks governing early coal phase out processes are in the nascent stage of development.

Acknowledging limitations of the proposed criteria, the document will need to be revised on a regular basis as more bodies of work become available. Proposed facility and entity level criteria are thus to be valid for a limited period of time – **until 2025**. After 2025, a new, revised criteria accounting for new developments in the field should replace the current document.

Early coal-phase out criteria – the hybrid approach⁶

The coal fired power plant can be considered as aligned with this guidance and potentially suitable for a managed coal phaseout process, if it meets the following conditions:

- 1) all of the facility level criteria,
AND
- 2) all of the entity level criteria.

a. Facility level criteria – the taxonomy approach

The coal fired power plant can be considered as aligned with the facility level criteria if it meets all of the following requirements:

- i. The financial close or final investment decision of the coal plant has been **made prior to December 2021**.
- ii. The **fair value of the coal plant is positive** at the time of the proposed coal transition.⁷
- iii. The early coal phase out results in **positive absolute emissions savings** over the expected total lifetime of the coal plant compared with a case without it. The emissions savings need to be independently verified or acknowledged by internationally recognised bodies or programmes.⁸
- iv. The phase out of unabated coal combustion at the coal plant is aligned with, or happens earlier than 1.5°C-aligned coal phase-out deadlines. In advanced economies, **this means the coal plant retires at the latest by 2030, and in other countries by 2040, in line with the International Energy Agency’s Net Zero pathway**.⁹ Should a country have a national coal phase-out target that is earlier, national targets should be adhered to instead.
- v. Operation duration of the coal plant from commercial operation date is **capped at 25 years**¹⁰ and complies with phase-out requirements in point a.iv.
- vi. Investments made as part of the early coal-phase out process do not extend the expected lifetime for coal combustion¹¹. Early coal phase out has to lead to cessation of fossil fuel-based activities of a plant in line with the timeline specified in points iv and v.
- vii. Coal plant’s generation is replaced 1-for-1 with a portfolio of clean resources that provides equivalent electricity services within the electricity system¹² and:
 1. 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,
 2. Clean resources have to meet Taxonomy criteria for green category,
 3. Replacement is based on historical dispatch,
 4. Replacement resources could include new resources dispatched elsewhere on the local grid (e.g., clean generation or demand-side energy efficiency or battery storage that

⁶ The following criteria have been based on and adapted from the working paper published by Climate Bonds Initiative, Climate Policy Initiative and RMI entitled: [Guidelines for financing a credible coal transition: A framework for assessing the climate and social outcomes of coal transition mechanisms](#). Please refer to the paper for detailed rationale and main drivers and methodological discussion behind of each of below-listed requirements. In instances, where additional resources have been used, please refer to footnotes for more details.

⁷ For the discussion on different methodologies for estimating fair value please see: Guidelines for financing a credible coal transition: A framework for assessing the climate and social outcomes of coal transition mechanisms

⁸ For the discussion on different methodologies for estimating emissions saving please see: Guidelines for financing a credible coal transition: A framework for assessing the climate and social outcomes of coal transition mechanisms

⁹ The 1.5°C-aligned deadlines may also be derived from other regional- or country-specific pathways that are consistent with science-based pathways, however the phase out has to happen by 2040.

¹⁰ [World energy outlook 2021, IEA \(2021\)](#)

¹¹ Refers to both abated and unabated coal combustion – all operations of the coal fired power plant

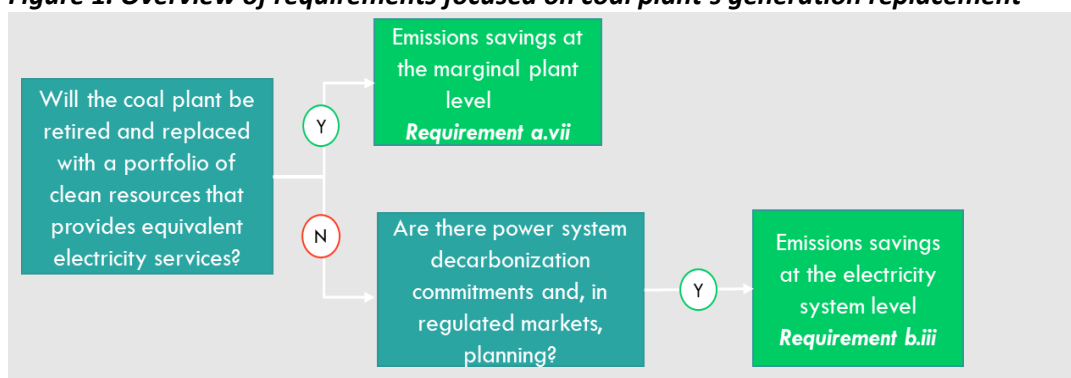
¹² The replacement generation need not be developed by the existing coal plant owner but could be done through a partnership with another company or the government

reduces the system’s generation needs at a level equivalent to the coal plant’s electricity provision) or retrofits of the original plant to run on a different type of energy source (e.g., renewable power or, where it meets the 100gCO₂e/kWh threshold, burning clean fuels),

5. It needs to be proved that replacement resources would be dispatched at a similar level as the retired generation (e.g., through an assessment of expected dispatch based on clearing prices in wholesale markets).

If the requirement a.vii cannot be met and the coal plant is not retired and replaced with a portfolio of clean resources that provides equivalent electricity services, then entity and system level requirement b. iii. has to be met. All other facility and entity and system level requirements have to be met.

Figure 1. Overview of requirements focused on coal plant’s generation replacement



viii. The coal plant, at a facility level as a minimum, has a just transition plan to mitigate impacts on key stakeholders including workers, electricity customers, and the local community. The just transition plan is designed in line with global best practices devised by internationally recognised bodies, based on the principles outlined in the Paris Agreement and by the International Labour Organisation’s Guidelines¹³ as well as local laws and regulations. Just transition plan should, inter alia, require the facility owner to:

1. Provide advance notice, of at least six months, or according to local laws and regulations whichever is earlier, of coal plant closure and communicate clear timelines for phaseout,
2. Engage in stakeholder consultations and dialogues,
3. Commit to conduct environmental and social impact assessments of the coal plant closure on its workers, direct supply chain workers, communities and ecosystem,¹⁴
4. Report on and develop plans to minimize adverse impacts on communities,
5. Develop a worker transition plan that would support relief and reskilling opportunities to affected workers,
6. Consider energy affordability and accessibility aspects of the early coal phase-out
7. Conduct remediation and reclamation.

b. Entity and system level criteria – the transition planning approach

¹³ [Guidelines for a just transition towards environmentally sustainable economies and societies for all, ILO \(2016\)](#)

¹⁴ Integrated utilities could also be expected to assess and report on impacts to ratepayers, including any distributional or energy access impacts

The coal fired power plant can be considered as aligned with the entity and system level criteria if it meets all of the following requirements:

Entity level criteria:

- i. **The coal plant owner has an entity-level commitment** to no new coal power plant development or procurement globally, beyond their plants that have reached financial close or final investment decision by December 2021 (as per a.i.).
- ii. The **entity has a 1.5°C aligned transition plan** that is aligned with the principles of transition finance outlined by International Platform on Sustainable Finance.¹⁵ **Acknowledging** that this may pose to be a challenge for many of the entities that are in the transition process, it is not expected for the entities to be 1.5°C aligned today, but to develop a plan on how to be aligned with that target. The alignment needs to happen by 2030 at the latest.

Power system level criteria:

- iii. If the coal plant is not retired and replaced with a portfolio of clean resources that provides equivalent electricity services (see facility-level requirement a.vii), long-term emissions savings are demonstrated through 1.5°C aligned, science-based power-sector-level decarbonization commitments and plans at a national or sub-national level – with a boundary entailing the entire power system in which the entity operates¹⁶. While these commitments would not necessarily be expected to be fully aligned with 1.5°C to receive support from a CTM today, such a commitment would support a ratcheting process to achieve 1.5°C ambition over time and by 2030 the latest.

Detailed recommendations on how to ensure that the transactions related to early coal phase out provide transparency and an accountability mechanism to climate and social outcomes can be found in the [Guidelines for financing a credible coal transition: A framework for assessing the climate and social outcomes of coal transition mechanisms](#).

GFIT seeks feedback to address the following questions:

- What additional issues need to be covered by the criteria?
- What are the usability challenges and potential issues with operationalisation of the criteria?
- Are there any loopholes that might lead to perverse outcomes?
- Is there a room to increase the level of ambition with regards to any of the criteria?
- Which provisions might require further guidance and what type of guidance?

¹⁵ [Transition Finance Report, International Platform on Sustainable Finance \(2022\)](#)

¹⁶ For the discussion on the examples of how such demonstration of emissions savings could look please see: [Guidelines for financing a credible coal transition: A framework for assessing the climate and social outcomes of coal transition mechanisms](#), CBI, CPI, and RMI (2022).