ENERGY TRANSITION PARTNERSHIP

Powering Prosperity and Enabling Sustainability in South East Asia

Policy Brief

SPARK

Managing Coal Phase-Down in Southeast Asia: Constraints and Policy Options

Developed by:

Asia Clean Energy Partners

Connections. Insights. Impact.

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Executive Summary

Southeast Asia is behind only China, India, and the United States in global coal emissions.[1] With coal accounting for more than 40% of global energy emissions, this places the region at the heart of one of the most important issues contributing to global warming.[2] Coal phase-down in Southeast Asia is central to global decarbonization efforts, yet the region faces an entirely different set of challenges than the other top emitters. Countries in Southeast Asia, particularly Vietnam, Indonesia, and the Philippines (VIP), rely heavily on relatively young coal plants operating under long-term, cost-recovery contracts, while electricity demand continues to grow. These conditions mean that approaches used to phase-down coal in other regions, such as North America where the coal plants are nearing the end of their roughly 50-year lifetime, are largely non-transferable to the Southeast Asian context.[3]

Taking a Southeast Asia context-specific approach to developing recommendations for the phase-down and/or phase-out of coal-fired power plants, this policy brief draws on desk research, as well as insights from a convening of 20 government officials and experts hosted by the Southeast Asia Energy Transition Partnership (ETP) in the Philippines in January 2026. The event platform, called SPARK (Sharing Perspectives to Advance Regional Knowledge on the Energy Transition in Southeast Asia), is an ETP initiative that establishes a regional platform for collaboration, policy innovation, and peer-to-peer learning among policymakers driving the region's energy transition.

Progress on coal phase-down in VIP is shaped by structural constraints across power system design, contractual and financial arrangements, regulatory frameworks, and social and political economy considerations. To address these barriers, the brief recommends practical actions be taken across five thematic areas as shown in Figure 1 below.

40%+

COAL'S CONTRIBUTION TO GLOBAL ENERGY EMISSIONS

20

GOVERNMENT REPRESENTATIVES IN THE SPARK DIALOGUE ON COAL PHASE-DOWN FINANCING

[1] Global Energy Monitor, "Global Coal Plant Tracker," accessed March 4, 2026, https://globalenergymonitor.org/projects/global-coal-plant-tracker/tracker/.
[2] Global Energy Monitor, "Global Coal Plant Tracker."
[3] ASEAN Centre for Energy, *The Past, Present, and Future Role of Coal in the ASEAN Energy Landscape* (September 2025), https://aseanenergy.org/publications/the-past-present-and-future-role-of-coal-in-the-asean-energy-landscape.

KEY RECOMMENDATIONS FOR COAL PHASE-DOWN IN VIETNAM, INDONESIA, AND THE PHILIPPINES (VIP)

STRENGTHEN SYSTEM-LEVEL PLANNING	Embed scenarios, assess flexibility, evaluate options, prioritize investments, support capacity building
MANAGE CONTRACTUAL AND FINANCIAL RIGIDITIES	Refinance PPAs, assess debt, use concessional finance
REFINE POLICY, REGULATORY, AND FINANCE FRAMEWORKS	Provide cost guidance, advance definitions, strengthen MRV
EMBED SOCIAL AND INSTITUTIONAL CONSIDERATIONS	Include employment impacts, implement working groups, create stakeholder engagement strategy
STRENGTHEN FINANCIAL AND INSTITUTIONAL CAPACITY FOR COAL TRANSITION	Develop reference framework, create standarized templates, expland learning platforms

Source: Discussions at the SPARK Regional Dialogue on Coal Phase-Down Financing

Figure 1: Key Recommendations and Action Items

Background

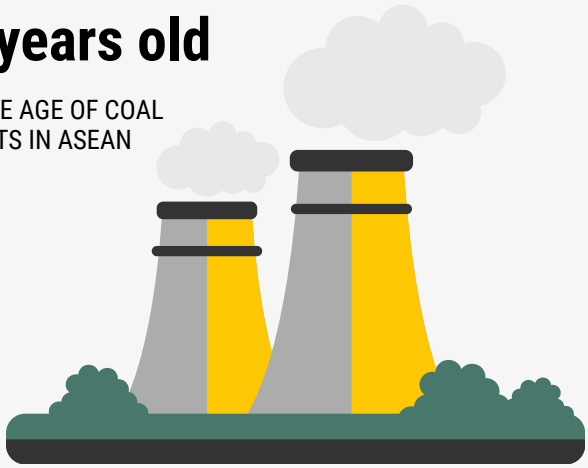
465

NUMBER OF OPERATING COAL-FIRED POWER PLANTS IN SOUTHEAST ASIA

Global coal use accounts for over a third of electricity generation and is the largest source of energy-related CO_2 emissions.[4] If all coal plants in use today continue to run as usual, they alone would emit enough CO_2 to exceed the target set by the Paris Agreement.[5] While the Association of Southeast Asian Nations (ASEAN) accounts for only 8.5% of global coal production, the coal fleet is on average less than 15 years old, as compared to over 40 in North America, close to the 40-50 year average plant retirement age.[6] In ASEAN, coal-fired power plants supply more than a third of electricity.[7] Both the young age of the coal fleet and the reliance on coal to supply electricity in Southeast Asia give the region an outsized role in shaping the global coal emissions trajectory.

< 15 years old

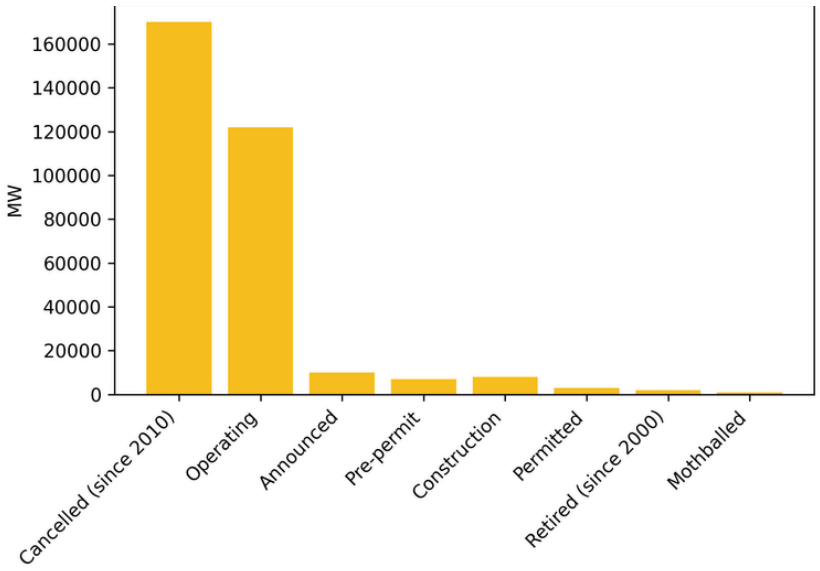
AVERAGE AGE OF COAL FLEETS IN ASEAN



As of January 2026, Southeast Asia has a total of 465 operating coal-fired power plants, highlighting the scale of coal reliance in the region.[8] In 2024, coal-fired plants emitted a total of 14,860.56 Mt of CO_2.[9] Policies such as Vietnam's moratorium on new plants after 2030 and Indonesia's Presidential Regulation No. 112/2022 blocking the development of most new coal plants offer some indication coal development may slow, but the actual effect of these policies remains to be seen.[10] With nearly 30,000 MW in the pipeline (including announced, permitted, etc.) and less than 1,500 MW retired since 2020, it is clear that phasing-down coal will be an uphill battle in the region (Figure 2).

Notes:

- "Cancelled (since 2010)" refers to projects that were once planned but have been formally abandoned prior to completion.
- "Mothballed" refers to units that were previously operating but are now temporarily shut down, with the possibility of restarting in the future.



Source: Global Energy Monitor 2026

Figure 2: Status of Coal Plants in Southeast Asia as of January 2026

[4] International Energy Agency, *Power Systems in Transition* (Paris: International Energy Agency, 2020), https://www.iea.org/reports/power-systems-in-transition.
[5] International Energy Agency, *Power Systems in Transition*.
[6] ASEAN Centre for Energy, *The Past, Present, and Future Role of Coal in the ASEAN Energy Landscape*.
[7] ASEAN Centre for Energy, *The Past, Present, and Future Role of Coal in the ASEAN Energy Landscape*.
[8] Global Energy Monitor, "Global Coal Plant Tracker."
[9] ASEAN Centre for Energy, *The Past, Present, and Future Role of Coal in the ASEAN Energy Landscape*.
[10] Danish Energy Agency and Ministry of Industry and Trade (Viet Nam), *Vietnam Energy Outlook Report: Pathways to Net Zero* (Copenhagen: Danish Energy Agency, 2024), https://ens.dk/sites/ens.dk/files/Globalcooperation/1._eor-nz_english_june2024_0.pdf.

While the importance of phasing-down coal-fired electricity generation in Southeast Asia is clear, the practical pathway for doing so is far more complex. Much of the region's coal capacity is relatively new and locked into long-term, cost-recovery power purchase agreements (PPAs), limiting near-term flexibility. At the same time, electricity demand in the region continues to grow rapidly. Many power systems in the region operate under strict reliability and least-cost dispatch mandates, thus reinforcing coal's position as the go-to firm capacity generator in system planning.

These structural barriers are compounded by limited access to concessional finance or other financing mechanisms due to reasons such as undefined nomenclature (taxonomies) on what constitutes a transition activity or exemptions to phase-down. This combination of factors means that many of the strategies used to phase-down coal in other geographies may not apply in VIP countries.[11].

To inform coal phase-down recommendations tailored to VIP, a close examination of the current status of the key regional coal-producing countries and the barriers they face to phase-down coal is needed.

"Much of the region's coal capacity is relatively new and locked into long-term, cost-recovery power purchase agreements (PPAs), limiting near-term flexibility."

[11] ASEAN Centre for Energy, *The Past, Present, and Future Role of Coal in the ASEAN Energy Landscape.*

Country Mapping

Coal-fired power generation supplies more than one-third of total electricity in Southeast Asia. In Indonesia and the Philippines, this number is as high as 60%.[12] Insights from the SPARK dialogue help map the current state of coal phase-down in VIP.

Table 1 summarizes the current status of coal-fired power generation and country policies in place that are shaping the energy transition.

Table 1: Status of Coal Phase-Down in Vietnam, Indonesia, and Philippines (VIP)

FEATURE	VIETNAM	INDONESIA	THE PHILIPPINES
Current Coal Reliance	• 30–35% of installed capacity • 49.5% of 2024 electricity output.[13]	• ~52% of installed capacity • 61.5% of 2024 power generation.[14]	• 41.9% of installed capacity • 62.5% of electricity generation.[15]
Net Zero / Phase-Out Target	• Complete phase-out of coal-fired power by 2050.[16]	• Net Zero Emissions (NZE) by 2060 or sooner.[17]	• 35% renewable energy (RE) share by 2030; 50% by 2040. • No fixed universal coal retirement date.[18] • No net-zero commitment
Short-Term Policy & Moratorium	• Coal capacity capped at 31,055 MW by 2030 based on Decision 500/QD-TTg • No new projects after 2030.[19]	• Presidential Regulation No. 112/2022 establishes a moratorium on most new coal plants.[20]	• October 2020 Department of Energy moratorium on endorsements for greenfield coal-fired projects.[21]

[12] ASEAN Centre for Energy, *The Past, Present, and Future Role of Coal in the ASEAN Energy Landscape*.
[13] International Energy Agency, Achieving a Net Zero Electricity Sector in Viet Nam (Paris: International Energy Agency, 2024), https://www.iea.org/reports/achieving-a-net-zero-electricity-sector-in-viet-nam.
[14] Ember, "Indonesia," accessed March 4, 2026, https://ember-energy.org/countries-and-regions/indonesia/.
[15] Department of Energy (Philippines), "Philippine Energy Plan," accessed March 4, 2026, https://doe.gov.ph/site/eppb/articles/group/plans?category=Philippine%20Energy%20Plan&display_type=Card.
[16] Viet Nam Ministry of Industry and Trade, *Draft Power Development Plan VIII (PDP8)* (Hanoi, 2021), https://vepg.vn/wp-content/uploads/2021/09/5.9.2021-Draft-PDP8_En.pdf.
[17] Ember, *Policy Paper – Indonesia JETP 2025* (November 2025), https://ember-energy.org/app/uploads/2025/11/Policy-paper-%E2%80%93-Indonesia-JETP-2025.pdf.
[18] Department of Energy (Philippines), "Philippine Energy Plan."
[19] Danish Energy Agency and Ministry of Industry and Trade (Viet Nam), *Vietnam Energy Outlook Report*.
[20] Discussions during the SPARK Dialogue on Coal Phase-down Financing, organized by UNOPS Southeast Asia Energy Transition Partnership, Bohol, Philippines, January 2026.
[21] Department of Energy (Philippines), "Philippine Energy Plan."

FEATURE	VIETNAM	INDONESIA	THE PHILIPPINES
Existing Transition Actions	• Fuel switching (biomass/ammonia) after 20 years • Decommissioning after 40 years.[22]	• Accelerated Renewable Energy Development (ARED) • Pilot retirements (Ombilin, Cirebon-1).[23] (See example 1 in Annex A)	• Energy Transition Mechanism (ETM) via the SLTEC plant • Voluntary coal repurposing. (See example 2 in Annex A)
Primary Replacement Sources	• Nuclear (6.4 GW by 2035) and massive offshore wind (85 GW by 2050) and solar expansion (39 GW by 2030).[24]	• Renewables (73% of new capacity by 2034); Green Enabling Super Grid.[25]	• Solar, Wind, Nuclear (1.2 GW by 2032), and Natural Gas as a transition fuel.[26]
Example Financing Mechanisms	• Just Energy Transition Partnership (JETP) mobilizing US$15.5 billion. • Seeking blended finance and risk-sharing instruments (guarantees) to lower the cost of capital for fuel-switching and early retirement.[27]	• JETP mobilizing US$20 billion. • ETM Country Platform managed by PT SMI to pool concessional and private capital. • Piloting ADB ETM (e.g., Cirebon-1).[28]	• US$500 million from Climate Investment Fund accelerating Coal Transition Investment Plan. • Market-based ETM (See example 2) • Pioneering Transition Credits to monetize avoided emissions. • Bangko Sentral ng Pilipinas (BSP) regulatory incentives for sustainable lending.[29]

[22] International Energy Agency, *Achieving a Net Zero Electricity Sector in Viet Nam* (Paris: International Energy Agency, 2024), https://www.iea.org/reports/achieving-a-net-zero-electricity-sector-in-viet-nam.
[23] Institute for Essential Services Reform, *Indonesia Energy Transition Outlook 2025* (Jakarta: IESR, 2024), https://iesr.or.id/wp-content/uploads/2024/12/Indonesia-Energy-Transition-Outlook-2025-Digital-Version.pdf.
[24] Danish Energy Agency and MOIT, *Vietnam Energy Outlook Report.*
[25] ASEAN Centre for Energy, *Policy Insight: Vietnam Revised PDP8 and Indonesia RUPTL 2025–2034* (Jakarta: ASEAN Centre for Energy, 2025), https://storage.googleapis.com/aceweb-bucket-261225/files/publication/1766846393_Policy-Insight_Vietnam-Revised-PDP8-and-Indonesia-RUPTL-2025-2034.pdf.
[26] Department of Energy (Philippines), "Philippine Energy Plan."
[27] Danish Energy Agency and MOIT, *Vietnam Energy Outlook Report.*
[28] Ember, *Policy Paper – Indonesia JETP 2025.*
[29] Department of Energy (Philippines), "Philippine Energy Plan."

FEATURE	VIETNAM	INDONESIA	THE PHILIPPINES
Key Challenges	• Energy security risks due to coal's role as baseload. • Stranded asset risks from a young fleet. • Grid constraints lagging behind RE growth. • Lack of clear compensation mechanisms.[30]	• Maintaining reserve margins (>30%) and reliability. • Archipelagic mismatch between RE resources and demand. • Existing long term PPAs • Technical flexibility needs • Fiduciary "state loss" risks for officials.[31]	• Energy security concerns due to lack of replacement firm capacity. • Transmission project delays. • High upfront RE costs and lack of financing limits RE growth • “Nomenclature gap” in financial regulations.[32]
Potential Near-Term Priorities (6–12 Months)	• Developing asset-level phase-down assessments. • Launching site-repurposing pilots. • Designing a blended finance framework under JETP principles.[33]	• Mapping potential coal-flex generation. • Creating detailed implementing regulations for retrofits. • Establishing a transition finance framework.[34]	• Formally defining "transition activities" for the financial sector. • Shifting to holistic system-level planning • Accessing low-cost financing.[35]

Source: Research from Asia Clean Energy Partners

[30] SPARK Dialogue discussion, January 2026.
[31] SPARK Dialogue discussion, January 2026.
[32] SPARK Dialogue discussion, January 2026.
[33] SPARK Dialogue discussion, January 2026.
[34] SPARK Dialogue discussion, January 2026.
[35] SPARK Dialogue discussion, January 2026.

While all three VIP countries have ambitious long-term decarbonization targets, coal remains the dominant baseload for energy production, particularly in Indonesia where it provides 67% of generation.[36] This continued reliance reflects the central role coal plays in meeting near-term demand growth and reliability requirements, even as policy aims to reduce coal use.

To navigate this shift from such a dominant fuel source, each of the countries has taken a slightly different approach.

- In the Philippines, voluntary retirement and the use of transition credits aim to facilitate early retirement or repurposing of coal assets by addressing investor risk and financing constraints at the project level.
- Indonesia's ARED strategy emphasizes rapid renewable deployment and selective early retirement pilots, while maintaining coal as the backbone of the system in the near term.
- Vietnam has embedded coal phase-down within its national power planning framework, with a greater emphasis on fuel switching and long-term replacement through large-scale renewable and nuclear development

Please see Appendix A for specific examples.

Despite these differences in approach, several common themes emerge from the VIP country comparison: across all three countries, coal remains embedded in system planning as firm capacity, with long-term contracts limiting operational flexibility, and uncertainty persisting around how transition costs should be allocated and recovered.

Understanding the levers behind these shared barriers that VIP countries face is vital for coal phase-down in the region.

The following section examines these barriers in more detail, drawing on country experience to highlight where they constrain progress and where targeted interventions may help unlock transition pathways.

[36] Ember, "Record Coal Generation Share in Indonesia and the Philippines Surpasses Poland and China," Ember, accessed March 4, 2026, https://ember-energy.org/latest-updates/record-coal-generation-share-in-indonesia-and-the-philippines-surpasses-poland-and-china/.

Barriers to Coal Phasedown and Retirement

The mapping of VIP country experience points to four shared constraints at the heart of the issue of how the coal phase-down can be facilitated, and accelerated:

1. Policy and regulatory frameworks were not designed for managed coal decline;
2. System and technical limitations that embed coal as firm capacity;
3. Contractual and financial rigidities limit operational and retirement flexibility; and
4. Social and political economy considerations influence the pace and sequencing of transition decisions.

Below, the report examines each of these barriers in turn.

BARRIER 1:
LACK OF CLARITY IN POLICY AND REGULATIONS

While VIP countries have policy and planning goals calling for coal phase-down, existing policies such as least-cost mandates and compliance requirements create challenges in implementation across the countries analyzed. Adding to the problem is a lack of clear legal framework for allocating stranded costs or compensating asset owners for early retirement. In Indonesia, officials face potential "state loss" or fiduciary risks if retiring a state-owned asset is perceived as devaluing government property. Indonesia identifies the need to align at least four separate ministries, state-owned utilities (PLN), and diverse labor unions to ensure a successful phase-down.[37] The complexity of both the legal frameworks and stakeholders to engage means that decisions are frequently delayed.

BARRIER 2:
LACK OF COORDINATED SYSTEM AND TECHNICAL PLANNING

Unified and detailed planning is a necessity for energy and power grid planning. While VIP countries have high-level targets, they lack the detailed technical implementing guidance required to operationalize transition roadmaps. For instance, Vietnam identifies a lack of asset-level data and "unit-level retirement sequencing," which prevents a holistic integration of generation and grid planning.[38] A lack of transmission planning also limits RE growth. In Indonesia, maintaining a reserve margin of over 30% is considered a prerequisite for any retirement to avoid power shortages and system instability. Without an intentional country-wide plan, this 30% mandate will be very difficult to meet while still retiring plants. Additionally, most existing coal plants in the region are not technically prepared for "flexible operation," such as rapid ramping or low minimum loads.

In summary, current power system planning frameworks are often designed for "conventional growth" rather than declining coal share, and do not meet the needs of a managed coal transition.

[37] SPARK Dialogue discussion, January 2026.
[38] SPARK Dialogue discussion, January 2026.

BARRIER 3:
CONTRACTUAL AND FINANCIAL LIMITATIONS

There is a fundamental conflict between the financial life of a young coal asset and the system's need for flexibility. Many plants in Vietnam and Indonesia were commissioned after 2010, meaning they have significant unrecovered capital that translates into massive stranded asset risks if retired early.

Long-term PPAs with guaranteed cost recovery act as a major "lock-in" mechanism that will need to be addressed. More than the type of financing, the scale of capital available also poses a real issue for Southeast Asia countries. In Indonesia, for example, an estimated $97.3 billion USD is needed between 2023 and 2030 to transition from coal to clean fuels.[39]

Available concessional finance covers only a fraction of this need. Attracting capital is made harder by the "nomenclature gap" where financial institutions lack a clear definition of what constitutes a "transition activity". In the Philippines, this lack of definitive nomenclature prevents proponents from developing a "credible pathway" that satisfies international green finance standards.

BARRIER 4:
SOCIAL AND POLITICAL ECONOMY FACTORS ARE NOT ROUTINELY CONSIDERED

Coal is deeply embedded in the social and economic fabric of the region, providing nearly 390,000 jobs across Southeast Asia, with the majority concentrated in Indonesia and Vietnam.[40] These jobs frequently carry significant wage premiums. In Quang Ninh, Vietnam, for example, coal workers earn up to 3.9 times the regional minimum wage, raising the economic and political stakes of workforce displacement well beyond average labor transitions.[41] Coal employment is predominantly male-dominated, meaning job losses can disrupt household income structures and place disproportionate pressure on women, underscoring the need for gender-responsive transition measures.

Mitigating these risks requires structured reskilling, certification, and redeployment pathways into renewables, grid infrastructure, and other emerging sectors, alongside income support and early retirement options where appropriate. A just transition framework, something currently under development, can help embed these considerations into mainstream planning of coal phase-down. Operationalizing these just transition frameworks once they are in place is vital to ensuring social factors are properly considered in the transition.

[39] World Economic Forum, *Scaling Financing for Coal Phase-out in Emerging Economies* (Geneva: World Economic Forum, February 2025), https://reports.weforum.org/docs/WEF_Scaling_Financing_for_Coal_Phase_out_in_Emerging_Economies_2025.pdf.
[40] ASEAN Centre for Energy, *The Past, Present, and Future Role of Coal in the ASEAN Energy Landscape.*
[41] ASEAN Centre for Energy, *The Past, Present, and Future Role of Coal in the ASEAN Energy Landscape.*

Recommendations for Accelerating Coal Phase-down in ASEAN

Based on these barriers, this brief recommends actions under the five thematic areas identified: system planning, contractual and financial limitations, policy, social barriers, and institutional capacity. The recommendations draw directly from VIP country experience and focus on practical options that could help governments, utilities, and stakeholders better manage coal phase-down while maintaining system reliability, financial stability, and social acceptance.

ACTION AREA 1: STRENGTHEN SYSTEM-LEVEL PLANNING

Coal phase-down cannot be done through stand-alone actions. Coordinated planning that ensures energy reliability needs are met and energy infrastructure is in place is a pre-requisite to any phase-down operations. Adjustments to system planning approaches and data-driven assessments could help countries make more informed decisions on coal phase-down pathways while managing near-term system risks. Some actions to take to improve system planning include:

- **Embed coal phase-down scenarios within power development plans** (PDPs) and integrated resource planning (IRPs), including assumptions on reduced dispatch, derating, flexibility retrofits, and indicative retirement timelines.
- **Assess coal flexibility measures** (e.g. cycling, lower minimum load operation, ancillary services) as time-bound options to support near-term reliability during the transition.
- **Evaluate fuel-switching options** where they may contribute to near-term emissions reduction or system stability, while accounting for cost and supply constraints.

ACTION AREA 2: DEVELOP APPROACHES TO MANAGE CONTRACTUAL AND FINANCIAL RIGIDITIES

Coal phase-down efforts should prioritize mechanisms that address the contractual and financial structures originally designed to ensure cost recovery and investment certainty. Policy and financing approaches should focus on creating pathways to restructure or adapt existing agreements in ways that preserve investor confidence while enabling coal assets to operate, retire, or repurpose in alignment with evolving power system needs. Some actions to consider include:

- **Examine options to refinance, renegotiate, or restructure long-term coal PPAs** to allow for reduced dispatch, shortened asset lives, or alternative operating profiles where system conditions permit.
- **Develop transparent approaches to assess outstanding debt, foregone revenues, and residual asset value**, to reduce uncertainty around stranded asset risk and compensation discussions.
- **Use concessional and blended finance selectively to lower the cost of capital for priority assets**, where this could support earlier retirement, flexibility retrofits, or transition-oriented operations.
- **Anchor coal transition financing decisions within broader power system planning and market frameworks, ensuring that retirement or refinancing transactions align with grid reliability needs and overall system costs.** In vertically integrated markets this may involve utility balance-sheet considerations and national planning processes, while in liberalized markets it requires coordination across regulators, system operators, and private asset owners.
- **Develop clearer pathways for coal asset repurposing**, including the use of tools such as ETP's coal repurposing tool or Climate Investment Funds Repurposing for Advancing Coal Transition (ReACT) tool to retain site value and support post-coal energy or economic uses.

ACTION AREA 3: REFINE POLICY, REGULATORY, AND FINANCE FRAMEWORKS FOR COAL PHASE-DOWN

Coal phase-down in VIP is taking place within policy, regulatory, and finance frameworks that were largely designed for system expansion rather than managed decline. Existing regulations often lack clear provisions for handling stranded asset risks, restructuring PPAs, or integrating coal transition activities into sustainable finance frameworks. New or updated regulations are needed to provide clear guidance on how the coal phasedown promised by existing policies and moratoriums will happen.

Potential actions include:

- **Translate high-level coal moratoriums and phase-down commitments into clear implementing regulations.** Governments should develop follow-up regulations that clarify how policies will be operationalized, including criteria for which plants may continue operating, transition to flexible operation, retrofit, or retire, and the timelines and institutional responsibilities associated with these decisions.
- **Provide clearer guidance on the treatment and recovery of transition-related costs**, including refinancing, buyouts, decommissioning, and replacement capacity, through tariffs or fiscal mechanisms.
- **Advance common definitions and taxonomy guidance for coal phase-down and transition activities**, to improve alignment between national regulations and international sustainable finance frameworks.
- **Strengthen approaches to monitoring, reporting, and verification for coal phase-down and retirement,** such as plant-level emissions monitoring, transparent reporting of coal plant operating hours and dispatch levels, and verification of retirement, repurposing, or reduced utilization to support results-based and transition-linked financing.
- **Engage domestic banks and financial institutions in developing coal transition financing frameworks**, including guidance on refinancing, balance-sheet restructuring, and transition-linked lending instruments that can support managed coal retirement while maintaining financial stability.

ACTION AREA 4: EMBED SOCIAL AND POLITICAL ECONOMY CONSIDERATIONS INTO COAL PLANNING

Integrating social and political factors earlier in planning processes could help reduce resistance, manage transition risks, and support more durable implementation. These considerations are embedded into planning through the following:

- **Include employment impacts, skills mapping,** and potential pathways for retraining or redeployment in phase-down planning.
- **Implement cross-agency working groups to strengthen coordination** across energy, finance, environment, labor, and utility institutions to align mandates, timelines, and decision-making responsibilities related to coal transition.
- **Develop financing mechanisms to support a just transition,** including dedicated transition funds, income support programs, and targeted reskilling initiatives for affected workers and communities. Potential options include leveraging concessional finance and development partner support.

ACTION AREA 5: STRENGTHEN FINANCIAL AND INSTITUTIONAL CAPACITY FOR COAL TRANSITION

Coal phase-down requires unified action across many stakeholder groups. Strengthening national frameworks and developing standardized practices could help financial stakeholders make informed decisions quicker and with more confidence.

This can be supported through the following:

- **Develop a reference framework that VIP countries could use to assess coal phase-down options,** including asset-level retirement sequencing, flexibility retrofits, stranded asset valuation, and repurposing pathways.
- **Expand peer-to-peer learning platforms, such as SPARK,** to facilitate exchange on practical coal transition experiences, including ETM pilot structures, coal refinancing approaches, and asset repurposing models.
- **Support cross-ministerial capacity building across energy, finance, environment, and labor agencies** to strengthen coordination on transition planning, fiscal risk management, and social protection measures linked to coal phase-down.
- **Strengthen coordination with development partners** to better align technical assistance, concessional finance, and policy support with nationally identified coal phase-down priorities.

Conclusion

Coal phase-down in Southeast Asia is critical to global decarbonization because the region accounts for a large and growing share of coal-fired generation, with more than 120 GW of relatively young capacity still in operation. The pace and structure of transition in Southeast Asia will therefore materially influence global emissions trajectories. However, the region's starting point is fundamentally different from that of many developed economies where plants are nearing the end of their lifetime. In Southeast Asia, coal plants are newer, electricity demand is still rising, long-term cost-recovery contracts are prevalent, and energy security remains a central policy priority. As a result, coal phase-down in Southeast Asia must be assessed and designed within its specific institutional, financial, and power system realities.

The experience of Vietnam, Indonesia, and the Philippines illustrates this clearly. Despite long-term decarbonization targets and pilot initiatives such as Cirebon-1 and SLTEC, coal continues to function as firm capacity across all three systems. Long-term PPAs limit operational flexibility, reserve margin requirements constrain retirement decisions, financing gaps persist, and uncertainty around transition cost allocation slows implementation. Structural features such as system design, contractual arrangements, regulatory frameworks, and social considerations interact in ways that make coal phase-down complex and highly context-specific.

Regional platforms such as SPARK can support this effort by facilitating peer learning, developing shared analytical tools, and strengthening coordination between governments. Moving from ambition to implementation will require coordinated action across several fronts: strengthening system-level planning, addressing contractual and financial rigidities, refining policy and regulatory frameworks, embedding social and political economy considerations into transition planning, and building financial and institutional capacity to support coal transition. Governments, utilities, financial institutions, and development partners should use these priority actions as a practical roadmap to guide near-term policy development and investment decisions. With deliberate planning and sustained collaboration, VIP can advance a transition pathway that reflects its development realities while contributing meaningfully to global climate goals.

Appendix A.
Case Study: The Cirebon-1 Coal Plant, Indonesia[42]

BACKGROUND

- Cirebon-1 is a 660 MW plant in West Java commissioned in 2012 and originally expected to operate until 2042 under its long-term PPA with PT PLN (Persero).
- In November 2022, ADB, PT PLN, PT Cirebon Electric Power (CEP), and the Indonesia Investment Authority signed a memorandum of understanding (MoU) to explore early retirement of the plant through an ETM framework.

HOW WAS THIS DONE?

- The MoU outlined a collaborative process under which the operational term of Cirebon-1 would be reduced, with discussions focused on adjusting the PPA and establishing financing structures to support earlier retirement.
- ADB's ETM initiative aimed to provide senior debt and blended financing to bridge financing gaps and support an accelerated retirement timeline, conditional on shortening the PPA and aligning stakeholders on replacement capacity and system impacts.
- By late 2025, Indonesian authorities indicated they would reassess the plan to retire Cirebon-1 early, citing technical and economic concerns and the plant's relatively advanced technology and long remaining life. They indicated that they would explore alternative candidates for ETM engagement.

[42] Asian Development Bank, Technical Assistance Report: Accelerating the Clean Energy Transition in Southeast Asia (Manila: Asian Development Bank, 2024), https://www.adb.org/sites/default/files/project-documents/56294/56294-001-dpta-en.pdf.

Appendix B.
Case Study: The South Luzon Thermal Energy Corporation (SLTEC) plant in Batangas, Philippines[43]

BACKGROUND

- This is a landmark case study for the region, representing the world's first market-based ETM.
- The 246 MW sub-critical coal-fired power plant, which began operation in 2015-2016, reached financial close on its ETM transition in November 2022.
- The SLTEC transition included a "People-Centered" approach by implementing a just transition roadmap that focuses on workforce evolution, including retraining and rotating existing coal plant staff into renewable energy roles within the company's portfolio.

HOW WAS THIS DONE?

- This innovative private-sector-led model utilized refinancing through local debt and equity to facilitate the plant's early retirement by 2040, 15 years ahead of its original technical lifespan.
- By leveraging a management agreement where ACEN purchases the plant's full capacity, the structure provides a stable transition environment while ensuring the asset owner can recover equity value early.
- A critical, "soon-to-be approved" initiative presented by the Philippines involves the use of Transition Credits to further accelerate this timeline to 2030.
    - The methodology for this was officially approved by Verra in May 2025. The proceeds from these credits are earmarked to finance replacement integrated renewable and storage capacity, ensuring that the transition does not compromise grid reliability or consumer affordability.

[43] ACEN, "Mitsubishi and DGA Join ACEN, GenZero, and Keppel to Drive Energy Transition with Transition Credits," May 7, 2025, https://www.acenrenewables.com/2025/05/mitsubishi-dga-join-acen-genzero-keppel-drive-energy-transition-with-transition-credits/.

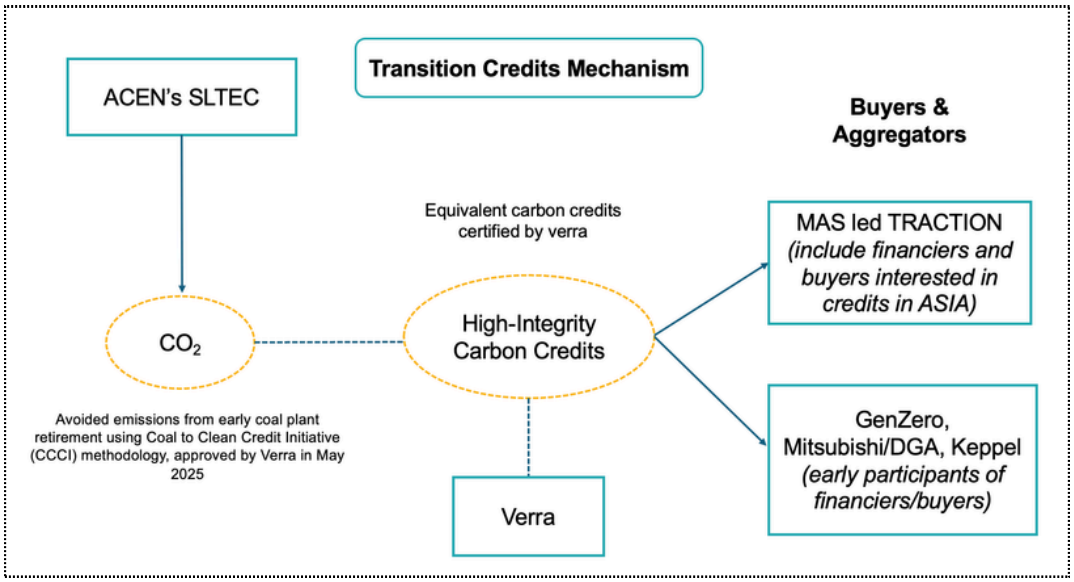


Figure 3: Transition Credits Mechanism

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