



Monetary Authority
of Singapore

Transition Credits Coalition (TRACTION)

Final Report on the Application of Energy
Transition Credits for Accelerated Coal Retirement
and its Replacement with Clean Energy

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Executive Summary

Coal to Clean Transition: A Climate and Socioeconomic Imperative

The global energy transition is unfolding against a complex backdrop of elevated geopolitical tensions, economic headwinds and renewed focus on energy affordability and reliability. Yet, the case for the coal to clean transition in Asia remains compelling and urgent. Asia accounts for 50% of global greenhouse gas emissions, of which a third is from coal-fired power plants (CFPPs), making its decarbonisation central to global climate goals. Beyond emissions reduction, this shift is vital for energy affordability and socioeconomic resilience. Transitioning away from coal can reduce the risk of stranded assets and fiscal stress from an aging coal fleet. At the same time, it can stimulate new economic opportunities in renewable energy industries, support the revitalisation of coal-dependent regions and skills upgrading, ensuring that the benefits of a cleaner energy future are just and socially inclusive.

A Shared Blueprint for Scaling Coal to Clean through Energy Transition Credits

Over the past two years, the Transition Credits Coalition (TRACTION)¹ and its partners demonstrated that high-integrity carbon credits ("Energy Transition Credits") can play a credible and complementary role in accelerating the Just Transition of power grids from coal to clean while supporting energy affordability and reliability, and investing in the socioeconomic development of communities. Industry momentum is growing and market confidence is strengthening, with organisations advancing complementary work across key enablers of integrity, project pipeline building and demand building.

Building on the insights from TRACTION's Interim Report published in 2024, this final report distils practical insights, frameworks and solutions for developing, structuring, financing and investing in high-integrity energy transition credit projects. The report outlines the following:

- First, Asia holds a strong pipeline of high-integrity energy transition credit projects, but success depends on addressing practical and region-specific complexities.
- Second, scalability requires financial confidence anchored in clear demand in the form of credible long-term credit offtake agreements, predictable carbon revenues, innovative structures, and robust risk mitigation solutions.
- Third, Just Transition is integral to the integrity and long-term viability of early of coal phaseout transactions.
- Fourth, demand for energy transition credits is gaining momentum, with concrete pathways for offtake participation tailored to different levels of readiness.

Building a High-Integrity Pipeline and an Enabling Environment for Energy Transition Credits

TRACTION's Interim Report identified four key attributes of high-integrity energy transition credits: (i) additionality, (ii) permanence of emissions reductions and mitigating risks of leakage, (iii) robust quantification of emissions reductions, and (iv) contributions to Just Transition and sustainable development goals. CFPPs that can meet these high-integrity attributes are more likely to deliver genuine, permanent and verifiable climate impact.

1. The Transition Credits Coalition (TRACTION) was convened at COP28, bringing together more than 30 members and knowledge partners across carbon services, energy financing, project development, risk management, and NGOs to identify system-wide barriers and solutions for transition credits to be utilised as a credible financing instrument.

Referencing these integrity attributes, there is a potential of about 207 GW or 33% of operating and developing CFPPs across 15 Asian markets² eligible for energy transition credits generation, representing an estimated ~1.0GtCO₂e of annual emissions reductions³. These are CFPPs that potentially meet a set of selection criteria distilled by TRACTION based on the identified integrity attributes. For example, to demonstrate permanence of emissions reduction, the CFPP owner must have a public commitment to not build new CFPPs and not increase existing CFPP capacity. This potential pipeline of CFPPs need to be further refined by considering asset-level attributes (e.g. impact on emissions reductions and jobs) and market-level attributes (e.g. market readiness for coal phaseout and carbon credits generation). State-owned and captive coal plants can be included, further expanding this pipeline, but further studies on the considerations specific to these CFPP types are needed (e.g. government commitments and industry end-use needs). In all cases, the development of credible and transparent national energy plans that align with high-integrity principles while addressing energy reliability and affordability concerns are of importance.

The success of energy transition credit development will hinge on credible and well-balanced solutions to ensure supply reliability, energy access, and energy affordability are addressed in Asia. Asia remains a region highly dependent on coal with limited renewable energy penetration and grid readiness. Project proponents, financiers and development partners can collaborate on foundational pilot projects and address energy reliability concerns through innovative approaches, e.g. sequential closure of boiler units, aligned with existing energy transition credit methodology.

Whole-of-ecosystem partnerships are crucial for development of high-integrity energy transition credits, contextualised to Asia. Governments can provide clarity through national energy plans and supportive policies to improve market readiness and transparency for robust baseline setting. Methodology developers can explore further work to factor in region-specific circumstances (e.g. nuancing no new coal and renewable energy pairing requirements to account for energy reliability concerns) into integrity guardrails, and broaden methodology design to cover a wider range of CFPP archetypes (e.g. merchant plants and captive coal). While project-based and sectoral approaches to methodology development can cater to different market contexts and power system development stages, strong government oversight, robust baseline setting, and rigorous monitoring will be essential for both approaches to help accelerate the energy transition without sacrificing integrity.

Building Blocks for Scalable and Investable Energy Transition Credits Transactions

Energy transition credits can scale when transactions are viable, investable, and replicable. These credits can crowd in financing by diversifying risks embedded in energy transition transactions across global market participants. For financiers and investors, scaling energy transition credits depends on: (i) strong and clear long-term demand from credible offtakers for high-integrity energy transition credits, (ii) predictability of future carbon prices, (iii) alternative coal transition approaches, such as phased shutdown and repurposing to suit asset-level conditions, and (iv) a robust set of risk mitigation solutions.

2. Bangladesh, Brunei, Cambodia, India, Indonesia, Japan, Laos, Malaysia, Mongolia, Myanmar, the Philippines, South Korea, Taiwan, Thailand, and Vietnam. China is excluded due to the lack of data availability.

3. Emissions data based on Global Energy Monitor (GEM)'s latest database and assumptions.



Predictability of future cashflows, through credible demand and price references form the foundation of bankability. Besides a well-structured and long-term offtake agreement, financiers look for certainty in prices of credits to reflect stable and predictable repayment cashflows. Early bilateral deals, forward contracts, advanced market commitments, and price references from compliance regimes, can provide market price signals in addition to cost-based pricing models.

Alternative coal transition approaches can overcome the binary dilemma of full operation or shutdown, enhancing stakeholders buy-in and project viability. Sequential closure of boiler units, undertaken in accordance with high-integrity principles, can bring forward credits issuance while preserving grid stability in the transition to renewable replacement sources. Asset repurposing (e.g. conversion to battery storage or synchronous condensers) can enhance power system resilience while strengthening the permanence of emissions reduction by preventing recommissioning of CFPPs.

Incorporating financial and contractual instruments can enhance bankability of transactions. Carbon credit insurance is an emerging solution that can strengthen lender confidence and expand capital flows. Coverage is evolving to address risks ranging from counterparty default to political and regulatory shocks, helping to de-risk transactions and attract new investors. Contractual tools, e.g. inter-SPV agreements that bind coal and renewable sponsors to enforceable milestones and third-party agreements that reinforce financing and social outcomes, provide investor clarity, fair risk-sharing, and a template for scalable, replicable transactions.

Embedding Just Transition into Energy Transition Credits

Just Transition is fundamental to the credibility, social acceptance, and long-term viability of coal phaseout in Asia, where coal remains the backbone of power generation and a major source of employment. Embedding Just Transition measures ensures coal phaseout is environmentally sound, socially equitable, and economically viable. Yet, these measures can be complex to cost and operationalise across diverse local contexts.

Energy transition credits can support Just Transition by accelerating the clean energy transition, supporting energy affordability, and opening new opportunities for community development. Proceeds from energy transition credits can bridge cost gaps, especially where renewable-plus-storage is more expensive than fossil fuel or coal-based local utility tariffs, and go beyond short-term compensation to support long-term community resilience (e.g. re-employment, upskilling, and business support). Project proponents must strengthen credit integrity, obtain stakeholders' buy-in, and put in place robust governance, monitoring, and verification processes.

Elevating the ambition of Just Transition as an investment into long-term community resilience rather than a cost, can attract a wider array of catalytic and commercial capital. In implementing Just Transition, project proponents can draw on a mix of funding sources. Public and philanthropic capital can support early technical assistance and stakeholder engagement, while commercial finance and energy transition credit revenues sustain implementation and longer-term resilience.

Coordinated engagements across public, private and philanthropic actors based on a common understanding of where each party can deliver most impact is needed. Multilateral Development Banks, Non-Government Organisations and civil society organisations can also serve as trusted, neutral parties to strengthen acceptance of Just Transition plans developed.

Bolstering Buyers' Confidence and Commitment to Energy Transition Credits

Energy transition credits can form a credible component of a diversified carbon portfolio strategy, combining concrete emissions reductions with tangible social and Just Transition benefits. To meet buyer demands, supply-side participants can seek to provide greater clarity on the future project pipeline and pricing mechanisms, particularly how credit revenues will be allocated towards renewable energy replacement and contribute to Just Transition.

Voluntary corporate buyers value sovereign participation in or recognition by sectoral compliance schemes such as CORSIA, as these can significantly strengthen confidence in integrity. Sovereign participation can be in the form of direct offtake, integration into national compliance regimes, or recognition under UNFCCC Article 6 frameworks. While there is clear interest, many prospective buyers continue to look for sovereign participation or compliance scheme recognition as they remain cautious due to the nascency of this asset class.

Structured participation pathways aggregate demand and lower participation barriers for new asset classes like energy transition credits. Mechanisms such as advanced market commitments and buyer coalitions help potential buyers mitigate risks and due diligence costs, and send a strong, credible demand signal to catalyse a pipeline of high-integrity projects.

The Way Forward: Charting the Next Phase of Market Implementation

TRACTION's work underscores that the promise and complexity of using energy transition credits in Asia's coal to clean transition requires ongoing innovation, financing, trust-building, and contextualisation to region specific needs and challenges. TRACTION's conclusion marks the beginning of a broader public and private effort to translate these foundations into scalable market activities. Progress will depend on collective action across three fronts:

- Integrity must remain the bedrock of a credible market. Continued collaboration with standards bodies such as ICVCM, methodology developers, carbon services agencies (e.g. ratings agencies and validation and verification bodies) is essential to embed robust integrity and Just Transition principles, transparent data, and credible monitoring and governance frameworks for real and additional impact.
- To achieve scalability, more pilot projects need to come forward and work with governments, financial institutions, and development partners to build a high-integrity pipeline and test financial and risk-sharing solutions tailored for energy transition credit projects.
- Demand-building must be strengthened through the active engagement of corporate and sovereign buyers, supported by (i) structured participation pathways from advanced market commitment coalitions such as the Kinetic Coalition and (ii) proactive exploration of eligibility pathways under sectoral and national compliance schemes and Article 6 mechanisms.

Systemic impact will take time to materialise across markets, particularly in Asia where balancing affordability, energy reliability, and decarbonisation is critical. Over time, the learnings from coal to clean application can inform the use of transition credits in other hard-to-abate sectors, such as heavy industry—expanding transition credits' role as a credible and viable financing instrument for the broader climate transition.

