Climateworks CENTRE

Advancing Just Energy Transition Partnerships

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Stocktake analysis for Vietnam and Indonesia

ACKNOWLEDGEMENT OF COUNTRY

We acknowledge and pay respect to the Traditional Custodians and Elders – past and present – of the lands and waters of the Wurundjeri people of the Kulin Nation on which the Climateworks Centre head office is located, and acknowledge that sovereignty has never been ceded.
We extend our respect to all Traditional Custodians and Elders of the lands and waters where Climateworks operates. More information.

ABOUT US

Climateworks Centre bridges the gap between research and climate action. We are climate transition specialists, working in Australia, Southeast Asia and the Pacific with decision-makers who have the power to reduce emissions at scale. Climateworks develops evidence-based solutions to accelerate emissions reduction in line with the global 1.5°C temperature goal and shared climate safety.

Co-founded by philanthropy and Monash University, Climateworks is an independent not-for-profit working within the Monash Sustainable Development Institute.

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Executive summary

Southeast Asia is at a pivotal moment in its journey towards decarbonisation. The commitments made under the Just Energy Transition Partnerships (JETPs) in Vietnam and Indonesia indicate both countries' dedication to accelerating decarbonisation. High-level commitments include deploying large-scale renewable energy, enhancing interconnection and storage, phasing out unabated coal-fired power generation and ceasing the issuance of new coal-fired power plants. While JETPs are not designed to achieve a wholesale energy transition, their initial implementation is crucial for building momentum in the region. Successful operationalisation will not only enhance the credibility of the JETP model globally but also unlock further financial flows in both countries.

This policy brief assesses JETPs' first 18 months in operation and their ability to build momentum towards just energy transitions in Indonesia and Vietnam. Climateworks Centre analysis identified the key drivers and barriers that will enable them to fulfil their net zero commitments and achieve a just energy transition. This policy brief builds on Climateworks' 2023 work, Energy Transitions in Vietnam and Indonesia: Building Blocks for Successful Just Energy Transition Partnerships, which developed a just energy transition (JET) framework comprised of systemic, financial, governance and socio-economic benchmarks.

This policy brief provides a comprehensive stocktake analysis for policy-makers, financial institutions, researchers and civil society stakeholders to explore Vietnam and Indonesia's progress on just energy transitions in the initial phases of implementing JETPs. This brief aims to serve as a valuable resource to inform about the progress made and areas for improvement to operationalise JETPs in Vietnam and Indonesia.

For this brief, we assessed policies, financial flows, investments and initiatives in Vietnam and Indonesia based on 26 systemic, financial, governance and socio-economic benchmarks developed for our JET framework.

The analysis relies on secondary data derived from national strategies, resource mobilisation plans, investment plans and related policy documents, and commitments issued by public authorities. We also draw on secondary analysis from international institutions focused on finance and socio-economic growth, intergovernmental agencies and societal actors. Additionally, we include investment data from local and national news sources, as well as publicly available data that can be triangulated with official figures.

Systemic benchmarks

Vietnam and Indonesia face distinct challenges in their energy transitions. In Vietnam, while some coal-fired power projects were delayed in the Power Development Plan 8 (2023–2030), there is no formal plan to retire on-grid coal plants, with new capacity still being built. Indonesia has announced a retirement plan for a portion of its on-grid coal infrastructure by 2030, but it has not progressed at the pace and scale necessary to achieve the country's net zero target. Both countries are advancing renewable energy deployment, yet challenges persist in interconnection and storage infrastructure, which are crucial for supporting the transition to low-carbon technologies.

Financial benchmarks

Financial clarity and the deployment of credit enhancement instruments are critical to determining the success of JETPs' operationalisation. Vietnam has partially clarified its public capital commitments, but its green bond market, which is integral to its JETP's success, remains underdeveloped.

Indonesia has shown significant progress, particularly in deploying credit enhancement instruments for early coal plant retirements. Both countries rely heavily on commercial loans from Development Finance Institutions (DFIs), potentially straining fiscal capacities.

Governance benchmarks

Effective governance is crucial for aligning JETP objectives with national and international commitments. Vietnam has made partial progress in aligning its capital mobilisation with national development plans. However, there is room to improve cross-ministerial coordination. Indonesia has established a more structured governance framework, with a clear division of roles and responsibilities among ministries.

Socio-economic benchmarks

Both countries face significant socio-economic challenges in ensuring the energy transition is equitable, inclusive and just. While environmental impact assessments in Vietnam include participatory elements such as stakeholder engagement with vulnerable groups, their effectiveness is unknown due to limited transparency of methods and resource allocation to participate in the process. Indonesia has made some progress in supporting economic diversification and job creation in coal-dependent regions. However, both countries can do more to enhance incentives and compensation mechanisms to promote reskilling and upskilling the labour force to support the unfolding energy transition.

This policy brief provides insights on the state of energy transition in Indonesia and Vietnam in the first 18 months of JETP operations (December 2023 to June 2024). First, energy and industrial policies primarily operate on a national level; yet significant opportunities exist to adopt place-based policies at sub-national levels (city and provincial scales) that can maximise benefits for governments, financiers, industries and local communities. Such approaches can enable large-scale renewable energy deployment while accelerating coal phase-out by addressing socio-economic considerations. Second, there are significant opportunities for both countries to learn from JETPs' operationalisation to date. The implementation is country-specific, demonstrating success and sandbox policies, that is, frameworks within which participants can test innovative concepts in the market under more flexible regulatory requirements at a smaller scale. To exemplify, Vietnam's achievements in renewable energy deployment and Indonesia's prospects in phasing out coal assets are crucial for facilitating knowledge exchange on policy formulation and implementation. Third, the benchmarks outlined in this report should not be considered in isolation, as policy instruments and outcomes directly impact one another, demonstrating the need for a holistic approach in policy design and implementation. Finally, industries can play a more active role in ensuring a just energy transition through meaningful partnerships with governments to support upskilling and reskilling programs.

Introduction

JETPs in Vietnam and Indonesia represent a significant commitment to accelerating the transition to a low-carbon economy while addressing the socio-economic impacts of moving away from coal dependency. This stocktake report provides an overview of the policies, financial flows, investments and initiatives surrounding JETPs in Vietnam and Indonesia. We compare them to the JET benchmarks – systemic, financial, governance and socio-economic – developed by Climateworks Centre (2023a) to demonstrate what success looks like in a just energy transition.

The result is a decision-making tool for policy-makers, financial institutions, researchers and civil society stakeholders working on just energy transitions in Southeast Asia. This policy brief looks at whether and how JETPs achieve positive systemic, financial, governance and socio-economic outcomes.

Climateworks Centre measures JETPs' effectiveness in contributing to a just energy transition based on the 26 criteria identified within our JET framework across systemic, financial, governance, and socio-economic categories (Climateworks Centre 2023a), see Figure 1.

FIGURE 1: CRITERA FOR STOCKTAKE ANALYSIS

SYSTEMIC	FINANCIAL	GOVERNANCE	SOCIO-ECONOMIC
+ Early retirement of on-grid and captive coal-fired power plants. + Increase in the deployment of low-carbon technologies, grid flexibility, interconnection, storage. + Metrics for early retirement, site selection and prioritisation (e.g. reserve margin, PPA buyout cost, geographical, economic lifetime).	+ Clarity from international JETP partners relating to public capital commitment. + Deployment of credit enhancement instruments. + Targeted use of sovereign guarantees. + Progressive reduction and removal of producer and consumer-facing subsidies. + National clean energy project pipeline. + Implementation of mandatory climate-related financial disclosures. + Just transition financing in banking and investment activities.	+ Processes and mechanisms through which sources of capital are mobilised and operationalised are aligned with national plans. + Cross-ministerial coordination body to ensure coherence between public entities overseeing the legal, financial, policy-making and regulatory aspects of renewables development, coal phase-out, and fiscal allocation. + Recognition of and participation from marginalized and disenfranchised communities.	+ Regional economic diversification and job creation in coal-dependent regions. + Implement robust, fit-for-purpose, and participatory environmental impact assessment processes. + Access for workforce traditionally employed in the coal industry, to compensation mechanisms. + Effective programmes for reskilling and up-skilling the labour force.

Climateworks' JET framework was informed by the Global Commission on People-Centred Clean Energy Transitions (IEA 2021), Supporting Energy Transition in Coal Regions (World Bank 2021), the OECD's 'do no more harm principle' (OECD 2020), the National Green Taxonomy Guide (World Bank

2020), the guidelines for a just transition towards environmentally sustainable economies and societies for all (ILO 2015), and Social Protection for a Just Transition: A Global Strategy for Increasing Ambition in Climate Action (ILO 2022).

We evaluated the developments during the first 18 months of JETPs operations in Vietnam and Indonesia against the JET framework until June 2024. From this analysis, we created a traffic light assessment, colour-coded to represent progress visually – we coloured each criterion based on whether they are fully or partially achieved or not yet acted on when applicable. Green indicates substantial improvement to date, yellow denotes moderate achievement with room for improvement, and orange signifies a lack of progress.

For this work, we analysed over 80 sources to explore the state of progress in Vietnam and Indonesia. These include new policies, regulatory developments, investments and initiatives through official reports, media outlets and reports from civic organisations. While the traffic light system offers insights at a glance, each is paired with detailed information about the state of progress for each criterion.

Tables 1–4 below offer a comparative snapshot of the developments in Vietnam and Indonesia across the 26 systemic, financial, governance and socio-economic benchmarks. They provide a high-level overview of current JETP landscapes, including progress, challenges and areas requiring further attention. The six systemic criteria focus on coal phase-out and renewable energy technology deployment as well as the development of transmission and distribution infrastructure and storage technologies. The eight financial criteria include public capital commitments, credit enhancement instruments, sovereign guarantees, alignment with national green taxonomies, subsidy reform, climate-related financial disclosures, just transition financing and the implementation of financial vehicles to scale coal retirement. The eight governance criteria assess whether the capital mobilised through JETPs aligns with national development plans, socio-economic policies, international climate commitments, power supply strategies, financing schemes and industrial policies. This benchmark also examines coordination among public authorities and considers how fairly people are involved and how their rights and values are recognised within the governance of energy transitions. Finally, the four socio-economic criteria assess regional economic diversification and job creation, participatory processes, access to compensation mechanisms and labour force reskilling and upskilling.

TABLE 1: STATE OF PROGRESS – SYSTEMIC

CRITERIA	VIETNAM	INDONESIA
Early retirement of on-grid coal plants	+ Not applicable, as no official plans for retirement are in place.	+ 9.2 GW announced for retirement by 2030. + Discussions started for Cirebon-1 and Pelabuhan Ratu as pilot coal closure. + The government is assessing 13 potential coal-fired power plants with a total capacity of 4.8 GW to be retired by 2030.
Early retirement of captive coal plants		+ No official announcements or plans for captive coal plant retirement, but the JETP Secretariat has formally kicked off a study to transition captive coal plants, and they are expected to be considered in the

		next Comprehensive Investment and Policy Plan (CIPP) update.
No new coal plant becomes operational	+ Plans for an additional 6 GW of new coal projects as part of the goal to increase coal capacity. + 57 GW of pipeline projects cancelled as of 2023.	+ 9.8 GW under construction and 56.2 GW in overall project pipeline. + 50.5 GW of pipeline projects cancelled as of 2023.
Increase in the deployment of low-carbon technologies	+ Added 100 MW solar and 823 GW wind in 2023. + Ambitious 2030 targets (unconditional: 15.8% reduction relative to BAU; conditional: 43.5% reduction relative to BAU).	+ 1.89 GW of solar and 4.5 GW of wind power in development. + Ambitious 10-year business plan for the development of power projects (generation, distribution and transmission) in line with 2030 targets (unconditional: 31.89% reduction relative to BAU by 2030; conditional: 43.2% reduction relative to BAU by 2030).
Increase in the deployment of transmission and distribution infrastructure	+ Various investment projects to add new transmission lines and develop interconnections in place/consideration.	
Increase in the deployment of storage technologies	+ 285 MWh of energy storage deployed including utility-scale battery energy storage systems integrated to renewable projects. + Additional projects on pumped hydro and solar are planned through DFIs.	+ Plans to operationalise pumped-hydro storage and battery storage systems. + Both storage implementations are in the early stages.

TABLE 2: STATE OF PROGRESS – FINANCE

CRITERIA	VIETNAM	INDONESIA
Clarity from international partners (IPG members) on public capital commitments	+ Partial clarity from international JETP partners relating to public capital commitments. + Further clarity needed on conditions and concessions. + Public capital commitments heavily rely on commercial DFI loans over grants.	+ CIPP and GFANZ provide clarity regarding public capital commitments and private sector financing. + Public capital commitments heavily rely on commercial DFI loans over grants.
Deployment of credit enhancement instruments	+ No accessible guarantee facilities, which limits financing options.	+ International Partners Group have disclosed their credit enhancement instruments for Cirebon-1's closure.
Investment assurance to independent producers through sovereign guarantees	+ No accessible guarantee mechanism, preventing disbursement of overseas development assistance funding.	+ Public funding requires sovereign guarantees. + Pressure on the government's ability to maintain or increase financial resources to meet growing demands (fiscal capacity) remains high.
Alignment with national 'green' taxonomies	+ No green taxonomy yet, but development is underway. + Lack of regulations for standards for specific green industries and commodities. + Limited number of green bonds issued, following the first one in 2021.	+ Some progress with taxonomy development, but some coal plants are considered as transition projects on the basis of their national strategic significance. The inclusion of coal plants in yellow criteria (transition projects) can hamper alignment.
Reduction of producer and consumer subsidies	+ Fossil fuel subsidies continued to rise, no publicly available information on government direction.	+ Fossil fuel subsidies continued to rise. However, the new government plans to reform the fuel subsidy scheme. This reform package aims to reallocate subsidies for deploying clean energy sources.
Implementation of mandatory climate-related financial disclosures	+ No requirement for financial institutions to disclose climate-related information. + Listed companies are required to report on environmental,	+ Mandatory sustainability reporting was already implemented in Indonesia prior to JETP, and included some climate-related

	social and governance aspects but disclosure quality and consistency varied considerably.	financial disclosure elements.
Financial institutions embed just transition financing in banking and investment activities	+ No public pledge for just transition financing, but several banks in Vietnam have implemented financing frameworks with earmarked SDG targets.	+ Financial institutions adopted safeguards that embed financing for just transition.
Pilot projects and managed transition vehicles to scale coal retirement financing are in place	+ No government-initiated pilot projects or formally managed transition vehicles to scale financing for coal retirement in place.	+ Pilot transaction for retiring the Cirebon-1 and Pelabuhan Ratu is in progress with independent power producers

TABLE 3: STATE OF PROGRESS – GOVERNANCE

CRITERIA	VIETNAM	INDONESIA
Capital mobilised through JETP is aligned with country's national development plans and socio-economic policies	+ Emissions reduction targets by 2030, long-term net zero goal, renewable energy targets and energy mix are more robust than the National Green Growth Strategy, National Climate Change Strategy and aligned with the 8th Power Development Plan (PDP8).	+ Mobilised capital in Indonesia's JETP aligns broadly with the goals of economic growth, energy security, and sustainable development as outlined in key national development frameworks, such as the National Medium-Term Development Plan (Rencana Pembangunan Jangka Menengah Nasional, RPJMN), Vision 2045, the Master Plan for Acceleration and Expansion of Indonesia's Economic Development, the National Energy Policy, and social safety net programs.
Capital mobilised through JETP is aligned with country's international commitments	+ Nationally determined contribution and the National Climate Change Strategy to 2050 are aligned with the JETP and the Resource Mobilisation Plan (RMP) targets – all aim to achieve net zero emissions by 2050.	+ JETP advanced the net zero ambition. + Focus of coal closure is limited to on-grid plants due to recent and drastic developments for nickel demand.

Capital mobilised through JETP is aligned with country's power supply strategies and master plans	+ Key power supply strategies and master plans – PDP8, Master Plan for National Energy, National Energy Efficiency Program 3 for 2019–2030 – are mostly aligned with JETP objectives, which are conditional to the full IPG support.	+ Key power supply strategies and master plans – National Energy Policy (KEN), National Energy Master Plan, Presidential Regulation on accelerating renewable energy for electricity supply, and draft renewable energy law – are not fully aligned with the JETP objectives. + Some of these strategies, such as KEN, will be updated though recent developments in the nickel industry bring significant uncertainties.
Capital mobilised through JETP is aligned with country's policies on financing the energy transition	+ Green bond market is in early stages and a mandatory domestic carbon market will soon be introduced. Though market participants tested new green products, the enabling policy environment and their governance does not meet expectations of the market participants.	+ Introduction of green instruments (Green Sukuk, Social Bonds and/or Sukuk, Sustainability Bonds, Waqf Sukuk, and Sustainability-Linked Bonds) indicates regulatory support for sustainable finance as well as a trend to encourage market innovation.
Capital mobilised through JETP is aligned with industrial policies	+ Sectoral development strategies at provincial level are not fully aligned with capital mobilised through JETP.	+ CIPP is not fully aligned with the national industry master plan and industry regulation; misalignment could widen given recent developments in the nickel sector. + JETP Secretariat launched an additional working group, Energy Efficiency and Electrification, which primarily focuses on the demand-side energy users, including the industry sector. + Modest development in local content regulations to promote the growth of domestic renewable energy manufacturing.
Availability of cross-ministerial coordination body	+ JETP Secretariat established, but effectiveness remains uncertain due to lack of coordination.	+ National Energy Transition Task Force and JETP Secretariat in place to ensure coordination and cohesion between public entities and non-state actors.

Recognition of and participation from marginalised and disenfranchised communities	+ Limited number of JETP initiatives fostered community participation. + Transparency and effectiveness need improvement.	+ Limited number of JETP initiatives fostered community participation. + Transparency and effectiveness need improvement.
Government facilitation of a clean energy project pipeline to coordinate development finance inflows	+ Coordinated public body established to facilitate finance flows. However, the national energy project pipeline relies heavily on fossil fuel infrastructure.	+ Key decarbonisation projects are disclosed in CIPP; further development and transparency needed.

TABLE 4: STATE OF PROGRESS – SOCIO-ECONOMIC

CRITERIA	VIETNAM	INDONESIA
Regional economic diversification and job creation	+ Coal-dependent regions saw positive developments in economic diversification and job creation.	+ Coal revenue sharing and corporate social responsibility programs are in place to support regional economic diversification.
Robust, fit-for-purpose and participatory Environmental Impact Assessment (EIA) processes	+ EIA included participatory elements, but effectiveness is uncertain due to limited public information about public consultation practices and resource allocations.	+ EIA included provisions for public participation and consultation. However, societal actors criticise the process of having limited information disclosure, perfunctory consultation practices and inadequate resource allocation as well as the gap between regulatory requirements and actual practice.
Coal workers' access to compensation mechanisms	+ RMP mentions social support, but no compensation mechanisms introduced as no early coal retirements occurred.	+ Limited compensation mechanisms introduced despite Standard 9, developed by the JETP Secretariat to assess economic diversification and transformation.
Effective programs for reskilling and upskilling the labour force	+ Initiatives underway, including collaborations with international organisations and the private sector.	+ Initiatives underway and institutionalised within the CIPP with a specific emphasis on vulnerable constituencies.

Overview of Vietnam's progress

Vietnam's JETP partially met governance, systemic and socio-economic benchmarks within the first 18 months of operation. However, significant gaps remain – specifically in financing – in operationalising the JETPs to achieve a just energy transition in Vietnam.

Despite progress on renewable energy deployment and an end to substantial new coal capacity, Vietnam does not have a mandate for early retirement of existing coal infrastructure. Financial mechanisms are nascent; public capital commitments are partially in place, but the green bond market remains underdeveloped. While robust governance structures are emerging, there are discussions around their effectiveness in coordination and inclusivity. The JETP created momentum in diversifying coal-dependent local economies into tourism and industrial sectors while introducing upskilling and reskilling programs. However, there is no publicly available information on whether and how the government is planning inclusive stakeholder management and compensation schemes.

Progress against systemic benchmarks

Early retirement of on-grid and captive coal plants

In the context of its JETP, Vietnam's approach to decreasing the share of coal in power generation is limited. Despite the commitment to phase out coal by 2050, the JETP does not include provisions for the early retirement of existing on-grid coal plants, with no such plants scheduled for retirement as of 2024. Moreover, 4 GW of new coal-fired capacity is still under construction (Bloomberg Coal Countdown 2024). The Resource Mobilisation Plan (RMP), the plan that is developed to operationalise the JETP, outlines aspirations for converting coal to alternative fuels like biomass and ammonia (Socialist Republic of Vietnam 2023). However, the plan currently lacks phase-out or conversion goals or timelines. According to the RMP, plants that have been operating for over 20 years will shift to biomass and ammonia as input fuels, while those with a lifespan of over 40 years and without possible fuel conversion are planned to be closed. Vietnam has not announced plans to retire captive coal plants, that is, off-grid power plants that are used solely for particular industrial facilities (Bloomberg Coal Countdown 2024).

Despite limited progress in coal phase-out, the government made strides by cancelling 57 GW of the coal project pipeline as of 2023 (Bloomberg Coal Countdown 2024). However, plans are still in place to install an additional 6 GW of new coal capacity by 2030 (Hau 2024). The 8th Power Development Plan (PDP8) reflects this tension, projecting coal-fired capacity to reach 30 GW by 2030, from 21.38 GW installed capacity as of 2020 (Prime Minister of Vietnam 2023c).

Due to rapid growth in domestic energy demand, Vietnam's gas reserves are not sufficient to meet consumption needs, prompting the country to begin importing liquefied natural gas (LNG) in 2023. Under the PDP8 (Prime Minister of Vietnam 2023c), Vietnam aims to increase LNG's share in its energy capacity to 15 per cent, equivalent to 22.4 GW by 2030. To support this goal, the country is currently constructing import terminals to expand its LNG infrastructure (Chow and Vu 2024).

Deployment of low-carbon technologies

Vietnam has significantly increased its deployment of low-carbon technologies. Since 2019, Vietnam has been the leader in solar and wind electricity adoption in ASEAN (Do et al. 2021). In 2023, the country added 100 MW of new solar capacity and 823 MW of wind capacity, marking a considerable increase from the previous year's figures (Statista 2024a; REN21 2024). Vietnam's installed solar

capacity now exceeds 18.4 GW, making it the largest solar market in Southeast Asia, outstripping the combined capacities of all other ASEAN countries by a ratio of two to one (Dialogue Earth 2024). However, after the conclusion of the feed-in tariff system (FiT 2) in late 2020, due to grid congestion, solar PV capacity additions have slowed dramatically, from 10 GW in 2021 to just 100 MW in 2023 (REN21 2024). The total installed wind energy capacity has reached 5.9 GW by the end of 2023, with an addition of 823 MW in the same year (Statista 2024a). The adoption of the Decree on Direct Power Purchase Agreements (Ministry of Industry and Trade 2024) is a critical milestone in this regard, enabling bilateral renewable energy sales and self-consumption in addition to the conventional model from the national grid. This decree is expected to catalyse the uptake of renewable energy projects by the industrial consumers.

Despite progress in the operating environment for renewable energy projects, a national roadmap for green hydrogen is not readily available. Though Vietnam aspires to become a leader in green hydrogen through leveraging its abundant resources and adopting advanced technologies, a designated roadmap to operationalise the green hydrogen potential is currently unavailable.

Development of interconnection infrastructure

The development of interconnection infrastructure in Vietnam has also seen significant progress. In 2022, Vietnam Electricity (EVN) completed 183 power grid projects ranging from 110 kV to 500 kV. In the first 11 months of 2023, the company started 77 projects and put 84 grid projects into operation (EVN 2023). The total length of Vietnam's power transmission lines has now reached 25,236 km (International Trade Administration 2024), enhancing grid flexibility. However, substantial additional investment is required to ensure the system's flexibility can meet future demand.

Development of energy storage technologies

Vietnam has deployed 285 MWh of storage capacity, including utility-scale battery energy storage systems integrated with renewable energy projects to enhance grid stability (Bloomberg New Energy Finance 2023; International Trade Administration 2021; Han et al. 2024).

Progress against financial benchmarks

Alignment with the public capital commitments

Vietnam has made some public capital commitments to the JETP. The RMP provided some transparency regarding the International Partners Group's (IPG) public funding. The RMP was written with the expectation that public finance commitments from the IPG would act as a catalyst for private-sector investment. The RMP outlines just under US$8 billion worth of public investment, with the remaining US$7.5 billion anticipated to come from the private sector, facilitated by the Glasgow Financial Alliance for Net Zero (GFANZ) (CPI 2024). Of the total, US$2.7 billion will be in the form of concessional loans, while approximately US$5 billion will be market-rate loans (CPI 2024). GFANZ's involvement in mobilising private sector financing remains unclear, with limited information available about their role. Although some GFANZ working group members, such as Standard Chartered and Mizuho, have reiterated their support, the specifics of their involvement in JETP activities have been largely silent (Vietnam Investment Review 2023).

However, of the pledged US$8 billion in public financing, only US$321.51 million has been mobilised to date (CPI 2024) and the timeline for disbursing these funds remains unclear. The funds allocated by IPG are tied to specific conditions, limiting their flexibility. For instance, US$240 million of the grant funding is already earmarked, leaving circa US$82 million available for flexible use. Furthermore, concessional loans, such as the EU€600 million (~US$650 million) loan for the Bac Ai pumped storage hydropower facility are in place and the operations will commence in 2029 (Vietnam

Investment Review 2024). This represents a larger proportion of JETP's funding pool compared to committed grants. IPG members' prioritisation of debt financing, such as in the form of concessional loans over grants could exacerbate Vietnam's debt burden (Climate Policy Initiative 2024).

Deployment of credit enhancement instruments

Vietnam has faced significant challenges in deploying credit enhancement instruments, which are financial tools used to improve the creditworthiness of a borrower or a financial product. IPG members have not yet disclosed instruments to guarantee partial risk for potential private investors and commercial banks, or have not acted as guarantors or provide first-loss provisions. Interventions that could reduce capital costs by mitigating risk perceptions are also not readily available at the global scale. Vietnam's current regulatory framework imposes significant restrictions on the government's ability to provide sovereign guarantees or risk-sharing instruments, creating obstacles for project financing and international loan deployment. For example, the Public Debt Management Law (Socialist Republic of Vietnam 2017) stipulates that government guarantees are limited to projects of national importance or those aligned with specific government priorities, leaving many private sector-led initiatives ineligible. In addition, projects eligible for government guarantees under the Public Debt Management Law must navigate a lengthy approval process involving the National Assembly, the Government and the Prime Minister's investment decisions. Compliance requirements for sovereign loans such as on-lending – that is, lending from international funders that is re-lended to local borrowers by the local banks through domestic banks and restrictive guarantee terms – constrain the ability of state-owned enterprises to access concessional loans from the IPG or other international entities. These administrative hurdles further delay implementation (GIZ 2023). Since the RMP's introduction in 2023, no new policies have updated government guarantee mechanisms or disbursement of Official Development Assistance (ODA) capital to state-owned enterprises.

Alignment of renewable energy projects with national green taxonomies in Vietnam is another area that requires attention. Although there is partial progress, Vietnam has yet to develop a comprehensive taxonomy to clearly define green investment criteria. The country's first certified green bond, issued in 2023, was aligned with the International Capital Market Association (ICMA) Green Bond Framework (Climateworks Centre 2024). While some banks, such as the Bank of Investments and Development of Vietnam, have been actively working on green credit and bond frameworks, these initiatives are still nascent (BIDV 2024). Across ASEAN, taxonomies are being developed or updated, including the ASEAN Taxonomy (v3) and domestic efforts in countries like Indonesia, Singapore, Malaysia and Thailand (ASEAN Capital Markets Forum 2024; Lee 2024). However, Vietnam is still in the process of developing its own (ASEAN Capital Markets Forum 2024).

Reduction or removal of subsidies

Vietnam has not made significant progress in reducing or removing producer- or consumer-facing subsidies, which distort price signals and investment trajectories. In fact, Vietnam's total fossil fuel subsidies reached US$31.6 billion in 2022, a 6.5-fold increase from 2021, with the majority, US$26.7 billion, allocated to electricity subsidies (IEA Fossil Fuel Subsidies Database 2023).

Climate-related financial disclosure

Implementation of mandatory climate-related financial disclosures in Vietnam also requires attention. Vietnam does not have specific requirements for financial institutions to disclose climate-related information. Although there are some environmental, social and governance (ESG) reporting requirements, such as Circular No. 96/2020/TT-BTC by the Ministry of Finance, which mandates listed companies to include sustainable development information in their annual reports, the quality and consistency of disclosures vary considerably (GIZ 2023). Furthermore, the adoption rate of ESG reporting is low, with 70 per cent of Vietnamese enterprises either not disclosing ESG reports or doing so infrequently (PwC 2022). Vietnam currently tracks at the lowest rate among ASEAN's largest economies in adopting existing global disclosure frameworks (Global Reporting Initiative and National

University of Singapore 2022). Implementation of a comprehensive disclosure regime in Vietnam is likely to face significant challenges due to the lack of defined emissions reduction pathways across various sectors, making the identification, assessment and management of climate-related disclosures difficult (GIZ 2023).

Just transition financing in banking and investment activities

None of the financial institutions in Vietnam have publicly announced embedding just transition principles in their financial and investment decisions.

Pilot projects and managed transition vehicles

There are no publicly available government-initiated pilot projects or formally managed transition vehicles to scale coal retirement financing instruments in Vietnam, as there is no mandate for early coal retirement.

Progress against governance benchmarks

Alignment with national development plans and socio-economic policies

Alignment between mobilised capital and Vietnam's national development plans and socio-economic policies under the JETP requires attention. The processes and mechanisms through which capital is mobilised and operationalised are well-aligned with the nation's objectives. Specifically, the JETP's emissions reduction targets by 2030, long-term net zero goals, renewable energy targets and energy mix are more robust than those outlined in the National Green Growth Strategy (NGGS) (Prime Minister of Vietnam 2021) and the National Climate Change Strategy (NCCS) (Prime Minister of Vietnam 2022b).

The JETP places a greater emphasis on increasing the share of renewables and reducing GHG emissions, which necessitates revisions to Vietnam's existing national strategies, NGGS, NCCS and PDP8. While NGGS and NCCS act as the overarching framework guiding the country's sustainable development and climate change initiatives, PDP8 provides sectoral targets. Compared to the commitments in JETP, PDP8 sets its key targets lower: by 2030, renewable energy accounts for 31–39 per cent of the country's electricity generation (compared to 47 per cent of JETP), peak annual power sector emissions of 204–254 $MtCO_2e$ (compared to 170 $MtCO_2e$'s of JETP). The PDP8 suggests that Vietnam could meet the 170 $MtCO_2e$ target only if international partners fully and substantially implement the commitments under JETP. Regarding coal-fired generation, both JETP and PDP8 set the peak capacity to 30.2 GW by 2030.

Alignment with international commitments

Vietnam's updated Nationally Determined Contribution (NDC) (Socialist Republic of Vietnam, 2022) reflects a significant increase in Vietnam's GHG reduction targets: 15.8 per cent unconditionally and 43.5 per cent with international support, compared to BAU by 2030. This aligns well with the JETP and relatedly, RMP targets with the ultimate goal of achieving net zero emissions by 2050. The NDC includes detailed plans for achieving these targets across various sectors, such as energy, agriculture and forestry. It also outlines the necessary financial resources and a monitoring and evaluation framework. The government plans to implement these through policy improvements, public awareness initiatives, capacity building and international cooperation.

Alignment with power supply strategies and master plans

Key power supply strategies and master plans in Vietnam, including PDP8, the Master Plan for National Energy and the National Energy Efficiency Program 3 for 2019–2030 (Prime Minister of Vietnam 2023d; Ministry of Industry and Trade 2018) are mostly aligned with the objectives of the JETP. However, this alignment is conditional on full support from the IPG. For example, the PDP8, adopted in 2023 after Vietnam's commitment to JETP in December 2022, specifies the target for the installed capacity of coal at 30.1 GW by 2030 (20 per cent of the capacity mix) by 2030, from the 2021 target of 23 GW (30 per cent of the capacity mix). This marks a significant reduction from the previous target in the 7th Power Development Plan (PDP7), which aimed for 55.3 GW (53.2 per cent of total capacity) by 2030. PDP8 also sets a renewable energy target of 47 per cent of the total energy mix, a substantial increase from the PDP7 target of 10.7 per cent. This target is conditional on the full and substantial implementation of the JETP (Prime Minister of Vietnam 2024).

At the end of 2023, coal power capacity in Vietnam was 26.8 GW (Asian Power 2024). Although there are no plans yet to retire or transform existing coal-fired power plants (CFPPs), some new projects have been cancelled, reducing the total capacity of the project pipeline listed in PDP8 to around 5 GW, which will add up to around 31 GW of total coal capacity by 2030. PDP8 also outlines the development of two inter-regional renewable energy industry and service centres by 2030, which will serve as hubs for the renewable energy sector, fostering innovation, manufacturing and providing comprehensive services to support the growth and sustainability of renewable energy sources in Vietnam. The Government's latest policies, including PM Decision 262 and 270 issued in April 2024, detail the plan for implementing the National Power Development Master Plan and prioritise projects to implement PDP8. These include the plans for new policies on import pricing, implementing Direct Power Purchase Agreement (Decree 80/2024/ND-CP) (Prime Minister of Vietnam 2024), offering incentives for rooftop solar and developing a legal framework for the carbon credit market before 2025. These policies also cover projects for upskilling and training workers in the power sectors as well as all projects upgrading transmission grid and power generation across the provinces.

However, implementing PDP8 will face challenges, particularly around its 2030 targets for wind power capacity. Total wind power installed capacity reached 4.9 GW by the end of 2023, compared to the 2030 target of 27.9 GW (Vietdata 2024). Of this 27.9 GW, 6 GW are expected to come from offshore wind projects, although no such projects are listed in PDP8. Given the average minimum completion time for such projects is 7–8 years, it is unlikely that this target will be achieved by 2030 (Nangluong Vietnam 2024). Moreover, integrating a high share of renewable energy will require significant upgrades to the electricity transmission grid and energy storage. Implementing PDP8 will require an estimated total investment of US$135 billion by 2030, of which about US$15 billion is needed for transmission grid expansion (World Economic Forum 2023). However, progress has been slow. While the current Electricity Law (Socialist Republic of Vietnam 2024) allows private sector investment in transmission networks, no clear follow-up guidelines have been issued, resulting in a lack of participation from private investors.

Alignment with transition financing

Vietnam's policies regarding transition financing, such as those related to carbon tax, green taxonomy, feed-in-tariff schemes, green bonds, green credit policies and tax incentives, are still in the early stages of development. The country's green bond market is nascent though legal frameworks for issuing green government, municipal and corporate bonds are already established (BIDV 2024). However, the market's growth is hindered by the absence of a comprehensive national green taxonomy, which is essential for clearly defining eligible projects, ensuring environmental integrity and fostering investor confidence. Without a standardised framework, investors face challenges in verifying bonds' credentials, increasing the risk of greenwashing. Decree 08/2022/ND-CP (Socialist Republic of Vietnam 2022a) planned the development of a green taxonomy by the end of 2022, but it has not yet been realised. Some banks, like the Bank of Investments and Development of Vietnam (BIDV), have been actively working on their green credit/bond frameworks, but these initiatives are not yet fully developed (BIDV 2024). Vietnam's plan to introduce a mandatory domestic carbon

market under Decree No. 06 (Socialist Republic of Vietnam 2022b) could help to rebalance market and investment signals and serve as a 'push' catalyst to incentivise foreign direct investment (FDI) into both commercial and industrial and utility-scale clean energy projects (Government of Vietnam 2022). Additionally, the decree demonstrates a commitment to decarbonisation that acts to reduce policy and regulatory risks over the medium term. The national carbon market is set to be piloted between 2025 and 2027, with official commencement targeted for 2028 (Government of Vietnam 2022). As stipulated in the Law on Environmental Protection (Socialist Republic of Vietnam 2020), the domestic carbon market includes activities for exchanging GHG emissions quotas and carbon credits obtained from domestic and international carbon credits exchange and offsetting mechanisms, following the provisions of laws and international treaties to which Vietnam is a party.

Alignment with industrial strategies

Vietnam's Industrial Development Strategy (2015–2025, vision to 2035) (Prime Minister of Vietnam 2014), introduced in 2014, requires updating to reflect Vietnam's evolving commitments under the JETP, which emphasises a shift from carbon-intensive industries to clean energy powered sectors and other national and sectoral plans. These updates must incorporate the objectives set out in the National Master Plan for 2021–2030 (Resolution No. 81/2023/QH15), with a vision to 2050, as well as the priorities outlined in the energy master plans, including PDP8 and the Master Plan for National Energy, mentioned earlier. These updates are necessary to ensure consistency across national strategies and international commitments.

Recognising the pivotal role of foreign investments, especially foreign direct investment, in sustaining economic development, Vietnam is actively revising its industrial policies to attract high-tech foreign direct investments in sectors such as semiconductors, artificial intelligence and renewable energy. In the first eight months of 2024, disbursed foreign direct investments increased by 8 per cent, year-on-year, to US$14 billion, equating to 5 per cent of GDP (Invest Vietnam 2024).

Cross-ministerial coordination body

The creation of a cross-ministerial coordination body to ensure coherence between public entities overseeing the legal, financial, policy-making and regulatory aspects of renewables development, coal phase-out, and fiscal allocation is emerging. The JETP Secretariat, led by the Ministry of Natural Resources and Environment, was assigned by the Prime Minister to coordinate work across government agencies to design and implement the JETP's RMP over the next five years (Ministry of National Resources and Environment 2023). Unlike the lead implementing bodies in Indonesia and South Africa, Vietnam's JETP Secretariat is not an independent agency. While multiple ministries are engaged in the process, they operate largely in silos. The JETP Secretariat has the potential to serve as a central coordinator. The Ministry of Industry and Trade leads the design and implementation of PDP8 (Decision 262) (Prime Minister of Vietnam 2024). This requires significant alignment between the two authorities. The Vietnamese Government has made efforts to create a high-level cross-ministerial body, with the Secretariat for the Political Declaration on establishing JETP launched in July 2023 (Decision 845/QD-TTg 2023) (Prime Minister of Vietnam 2023e). Furthermore, the Ministry of Natural Resources and Environment issued Decision 3028/QD-BTNMT (Ministry of National Resources and Environment 2023), specifying the working mechanism of the Secretariat and providing a clear agenda for 2023 and 2024. The Secretariat comprises four working groups:

+ Coordination (led by Ministry of Natural Resources and Environment)
+ Governance, Policy, and Investment (led by the Ministry of Planning and Investment)
+ Technology and Energy (led by Ministry of Industry and Trade)
+ Finance (led by the Ministry of Finance).

Although the creation of the Secretariat reflects a cross-ministerial structure, it is too early to assess its impact in effective implementation.

Recognition and participation from marginalised and disenfranchised communities

The JETP agreement emphasises the necessity of regular consultation with the media, non-governmental organisations and other stakeholders to ensure broad social consensus. However, the policies lack formal provisions to promote strong consultation with stakeholders, such as NGOs, women and Indigenous communities. There remains no official platform for engagement. Policies and decisions, such as the recent Decision on Direct Power Purchase Agreements, aim to enhance electricity supply to rural and underserved communities by expanding transmission networks and developing new renewable energy projects. Additionally, policies seek to support affected workers through skill training or social security programs. However, robust attention and improvement are required to ensure the participation and recognition of marginalised and disadvantaged communities. While the theoretical concepts of fairly recognising individuals and groups and ensuring their rights to participate (recognitional and participatory justice) are in place for processes related to JETP, such as the Environmental Impact Assessment process, their effectiveness is questioned due to limited information accessibility, cultural sensitivity, outreach, awareness and broader power dynamics (350.org 2024).

Scheme for the Implementation of the Political Declaration on Establishing the JETP (Decision 1009/QD-Ttg) (Prime Minister of Vietnam 2023b) includes a clause to ensure justice in the energy transition. This decision aims to ensure equal access to resources, support vulnerable groups of workers and households by expanding electricity transmission, ensure reasonable prices for affected, vulnerable and low-income groups, promote jobs, implement social security supports for affected workers, and provide training for employees. The PDP8 and newly issued policies also emphasise the importance and urgency of power development programs for rural, mountainous and island regions, most of which are underserved and marginalised communities (Prime Minister of Vietnam 2024).

Government facilitation of a national clean energy project pipeline

There is little evidence that the Vietnamese government has made efforts to facilitate a national clean energy project pipeline in the service of coordinating development finance inflows and providing transparency around opportunities to international partners and private investors.

The energy project pipeline, which comprises key national energy programs, was made public through the Prime Minister's Decision (Decision 270/QD-TTg) (Prime Minister of Vietnam 2023a). This decision is a subset of PDP8's broader project list, highlighting the largest, most strategic, or time-sensitive energy projects for Vietnam. However, of the 12 power plant projects listed in this decision, three are coal projects and four are LNG projects; the list also includes petrochemical projects.

Progress against socio-economic benchmarks

Regional economic diversification and job creation

Vietnam's JETP has shown positive though limited progress in diversifying regional economies and creating jobs in coal-dependent regions. Approximately 150,000 jobs are currently tied to coal mining and power generation (CEED 2023). Quang Ninh province, which produces 99 per cent of Vietnam's hard coal and employs around 100,000 people in the coal sector, has seen some encouraging developments in alternative sectors (Nguyen and Ngo 2022). Coal is not its only revenue source in this coal-dependent province; tourism and hospitality sectors are also prominent. There is also potential for developing 16 industrial parks in this province, which could generate 20,000 jobs in electronics manufacturing, automotive and logistics sectors (Nguyen et al. 2022; Minh 2023.).

Robust, fit-for-purpose and participatory Environmental Impact Assessments

The government of Vietnam is implementing environmental impact assessment processes, aligning with the Law on Environmental Protection (Socialist Republic of Vietnam 2020) and Decree 08/222/ND-CP (Socialist Republic of Vietnam 2022). These processes include participatory elements, such as consulting residential communities, individuals, agencies and organisations directly impacted by investment projects. However, criticisms have been raised regarding the effectiveness and depth of these consultations, particularly due to limited information disclosure and resource allocation (Clarke and Vu 2021). Ensuring meaningful engagement and transparency remains a challenge.

Circular 17/2022/TT-NHNN (State Bank of Vietnam 2022), is about environmental risk management in lending activities and came into effect in June 2023. This circular mandates financial institutions to assess and manage environmental risks for projects likely to have adverse environmental impacts, with a responsibility to disclose environmental impact information. Furthermore, Decision 167/2022/QD-TTg (Prime Minister of Vietnam 2022a) supports private enterprises in sustainable business practices from 2022 to 2025, offering advice on accessing finance and attracting investment for sustainable businesses.

Workers' access to compensation mechanisms

No compensation mechanism has been introduced for coal workers as no early retirements or mine shutdowns have been implemented.

Reskilling and up-skilling the labour force

Regarding the workforce traditionally employed in the coal industry, the National Green Growth Strategy 2021–2030 (Socialist Republic of Vietnam, 2021) emphasises workforce development by promoting green job creation and upskilling workers transitioning from traditional energy sectors. The RMP outlines investment priorities, such as social security mechanisms, training for jobs in the green economy and support for Vietnamese businesses to participate in renewable energy value chains. It also proposes regulations to enable multi-purpose land use to mitigate land impacts and targeted development programs for micro, small and medium enterprises (CEED 2023). Several programs for reskilling and upskilling the workforce are underway, including the initiative of the Ministry of Industry and Trade and the World Bank (Doan et al. 2023), the initiative of the Ministry of Planning and Investment and USAID (USAID 2023), and UNDP and the government of Japan (Melissa 2024). Despite these initiatives, there is limited evidence of widespread participation in these reskilling programs.

Overview of Indonesia's progress

Indonesia made significant progress in achieving governance, systemic and socio-economic benchmarks within the first 18 months of JETP operations. However, significant challenges, specifically with financing and recent developments in the nickel sector, hinder operationalising the JETPs to achieve a just energy transition in the country. For financial mechanisms, a major area to improve is providing investment assurance beyond state-owned enterprises to independent producers. The other prevalent room for improvement is the consideration of coal-fired generation under transition activities. While there has been a broad alignment with Indonesia's international commitments across development plans and policies, phase out remains limited to on-grid plants only, given the drastic growth in the nickel industry. Though Indonesia's new President vows to retire all on-grid coal plants in the next 15 years (Bloomberg News 2024) and has cancelled permits for additional coal plants, there remains 9.8 GW of new coal capacity under construction and another 5.2 GW is in the pipeline awaiting decision (Bloomberg Coal Countdown 2024). Several power supply strategies and master plans also remain to be updated in line with JETP goals. There is room for improvement in achieving socio-economic benchmarks, in particular, disclosure of and public participation in environmental impact assessments and reskilling the workforce.

Progress against systemic benchmarks

Early retirement of on-grid and captive coal plants

Indonesia is taking steps to retire on-grid coal plants ahead of their operational lifetimes. The government has announced plans to retire 9.2 GW of on-grid coal capacity by 2030 (Katadata 2021; Center for Global Development 2023). The Indonesian government is assessing 13 CFPPs with a total capacity of 4.8 GW for early retirement (Ministry of Energy and Mineral Resources 2024a). Pilot projects are underway through the Asian Development Bank's Energy Transition Mechanism (ETM) to retire the 660 MW Cirebon-1 coal plant in West Java seven years ahead of its scheduled retirement (ADB 2023a) and 1 GW Pelabuhan Ratu plant by 2037 (CREA 2025). For captive coal plants, early retirement is also being considered, although there has been no official announcement or plan outlining a specific timeline for their decommissioning (JETP Secretariat Indonesia 2024a).

In terms of new coal plant development, permits for various new CFPP have been cancelled. As of 2024, 50.5 GW of coal project pipelines have been cancelled (Bloomberg Coal Countdown 2024). However, 9.8 GW of new coal capacity is currently under construction and 5.2 GW of project stock remains unaddressed (Bloomberg Coal Countdown 2024).

Deployment of low-carbon technologies

Renewable energy technology deployment has seen significant growth. Notably, 1.89 GW of solar power and 4.5 GW of wind power are in development and are expected to be connected to the grid (IESR 2025).

The Indonesian government also aspires to become a key player in producing green hydrogen, reflected in its 2024 National Hydrogen Strategy (Ministry of Energy and Mineral Resources 2024b). The Strategy highlights the country's green hydrogen production potential capacity of around 185.1 Gigawatt hours (GWh) by 2060.

Development of interconnection infrastructure

Substantial progress has been made in developing low-carbon interconnection infrastructure. Key projects include investments in new transmission lines and inter-island interconnections, such as the Java-Bali 500 kV line, which spans 220 kilometres (Global Energy Monitor n.d.).

Development of energy storage technologies

The deployment of storage technologies has advanced. Significant battery storage capacity is planned, including Vena Energy's 8 GWh storage system (PV Magazine 2024a) and five pilot battery energy storage system projects being developed by the state utility *PT Perusahaan Listrik Negara* (PLN) and the Indonesia Battery Corporation (Grow Your Business 2022).

Progress against financial benchmarks

Alignment with public capital commitments

There has been significant progress from JETP partners in providing clarity on public capital commitments. The grants and technical assistance components, and private sector financing are provided in the implementation document, Comprehensive Investment and Policy Plan (JETP Secretariat Indonesia 2023), GFANZ and most recently in the JETP grant mapping document (JETP Secretariat Indonesia 2024b). These capital mobilisation commitments include US$204.3 million for grant and technical assistance programs with clear information about timelines and deliverables. The CIPP provided clarity related to IPG's public funding, detailing the composition of financing, earmarked projects, conditions, concessionality and institutional construction. Conditions for grants or technical assistance are mostly represented in the form of deliverables required and earmarking for an ongoing or new program. There is no other publicly disclosed condition or concessionality. Further clarity is required for disbursement timelines. It is also worth noting that public capital commitments skew heavily towards commercial development finance institution (DFI) loans rather than grants.

Deployment credit enhancement instruments

There has been moderate progress on how JETP partners deploy credit enhancement instruments. The only credit enhancement instrument disclosed for a particular deal by international partners is the Cirebon-1 early retirement with Asian Development Bank (ADB), the first pilot transaction under the framework of ETM. The Cirebon-1 project is still at an early stage, according to the Preliminary Just Transition Assessment and Environmental and Social Compliance Audit Report (ADB 2024). However, compared with the other four countries using ADB's Energy Transition Mechanism – Kazakhstan, Pakistan, the Philippines and Vietnam – ETM Indonesia is at the most advanced stage (ADB 2023a).

JETP financing is expected to be a blended structure, including both concessional capital and capital from ADB's Private Sector Operations Department. The concessional funds will likely include donor-supported funds from ADB's ETM Partnership Trust Funds as well as a portion of the recently approved Indonesia allocation from the Climate Investment Fund's Accelerating Coal Transition Program (ADB 2023b; CIF 2022). With the transaction structure yet to be finalised, no information is available about details of the instruments to be deployed (ADB n.d.). For other deals, ADB identified the following sources of funding:

- ETM funding vehicle funds transactions
- Concessional finance from ETM Partnership Trust Fund, administered by ADB, to fund the financial vehicles

+ Concessional finance, comprising concessional loans, evergreen debts, junior equities and guarantees.

There has been limited progress towards Indonesia's government providing investment assurance (sovereign guarantee) to independent producers.

The guarantees provided by the United States and the United Kingdom can only be accessed once Indonesia reaches a single-borrower limit set by the World Bank, which it has not reached (CPI 2023). Current public funding commitments from IPG are routed through financing intermediaries such as multilateral development banks, development finance institutions or the special mission vehicle, PT SMI (Indonesia's Country Platform Manager), all of which require a sovereign guarantee. This creates pressure on Indonesia's fiscal capacity as the government would need to set aside approximately US$8.4 billion for this guarantee. Loans offered by IPGs are channelled as sovereign lending, which can only be accessed by state-owned enterprises, thus limiting access to concessional financing for Independent Power Producers (CPI 2023).

Indonesia has made partial progress in aligning energy projects with its national 'green' taxonomy. For example, Indonesia updated its green taxonomy – Indonesia Taxonomy for Sustainable Finance (TKBI) – in 2024 to be interoperable with other taxonomies (OJK 2024; IEEFA 2024). TKBI more clearly demarcates activities into three categories of 'green', 'transitional' and 'doesn't meet criteria'. However, one major challenge of TKBI is that coal-fired generation is still categorised as 'transitional'.

Reduction or removal of subsidies

Indonesia made limited progress in reducing and removing subsidies. Fossil fuel subsidies continue to rise; however, the government aims to reallocate the subsidies for clean energy deployment (Riyadi 2024). The lack of progressive reduction or removal of producer and consumer-facing subsidies for fossil fuels distorts price signals, and investment trajectories are not available. Indonesia ranked 8th in the world for consumer-facing fossil fuel subsidies, with US$44.31 billion in 2022, nearly twice what they were in 2021, US$23.36 billion (IEA 2023). Consumer-facing subsidies were at their highest level over the last decade. Producer-facing subsidies also experienced a drastic increase over the past four years. Electricity subsidies provided by the government of Indonesia to state utility *PT Perusahaan Listrik Negara* (PLN Persero) soared from Rp 47.99 trillion (US$2.98 billion) in 2020 to Rp 68.64 trillion (US$4.26 billion) in 2023 (Statista 2024b). However, the new government plans to reform its fuel subsidy scheme (Reuters 2024).

Climate-related financial disclosure

Implementation of mandatory sustainability reporting was already advanced in Indonesia before the operationalisation of its JETP. Building on this strength, the country made further progress in implementing mandatory climate-related financial disclosures. The gradual enforcement of sustainability reporting includes climate-related financial disclosure elements. Indonesia is one of the first countries to make corporate social responsibility (CSR) mandatory before the JETP implementation. The Financial Services Authority (*Otoritas Jasa Keuangan*, OJK) developed guidelines for sustainability reporting in 2021 with clear timelines for disclosure. The timelines for disclosure are as follows: 2019 for the banking sector, 2021 for issuers and public companies and 2022 for capital markets. The Financial Services Authority Regulation No. 51/POJK.03/2017 (POJK 51) (Indonesia Financial Services Authority 2017) helps Indonesia apply aspects of international standards, such as the Taskforce on Climate-Related Financial Disclosures (CPI 2022). The disclosure performance of the listed companies is high, with 88 per cent of Indonesia's listed companies having submitted their 2022 Sustainability Report (PwC 2023).

Just transition financing in banking and investment activities

In the past 18 months, financial institutions began embedding just transition financing in banking and investment activities. As such, several financial institutions in Indonesia adopted safeguards to embed financing specifically earmarked for just transition in addition to government requirements. The JETP Secretariat established Standard 9 to enhance the social, economic and environmental opportunities associated with energy transition projects. As a result, just transition principles are embedded in the pre-bankable feasibility studies and bankable feasibility study assessments. Even before the development of Standard 9, private sector lenders in Indonesia often voluntarily adopt additional safeguards beyond legal requirements from the government on projects that they finance (JETP Secretariat Indonesia n.d.).

Pilot projects and managed transition vehicles

Indonesia has also seen progress on pilot projects and managed transition vehicles to scale coal retirement financing. The government of Indonesia, in collaboration with ADB, is working on the early CFPP retirement and managed coal phase-out through an independent power producer (IPP) pilot transaction, that is a demonstration project designed to test new financing structures for IPPs, for the Cirebon-1 and Pelabuhan Ratu coal plants. This nascent coal retirement financing instrument is progressing ahead of CIPP's proposed 2025 date for initiating the managed transition vehicles.

Progress against governance benchmarks

Alignment with national development plans and socio-economic policies

The mobilised capital in Indonesia's JETP aligns broadly with the goals of economic growth, energy security and sustainable development as outlined in key national development frameworks, including the National Medium Term Development Plan 2020–2024 (*Rencana Pembangunan Jangka Menengah Nasional*), Indonesia Vision 2045, the Master Plan for Acceleration and Expansion of Indonesia's Economic Development, the National Energy Policy (*Kebijakan Energi Nasional*), and social safety net programs (Ministry of National Development Planning 2015; Ministry of National Development Planning 2019; Ministry of National Development Planning 2025; President of the Republic of Indonesia 2014; SMERU Research Institute 2025).

Alignment with international commitments

Indonesia's JETP, including processes and mechanisms through which capital is mobilised and operationalised, also aligns with the country's international commitments, such as its NDC and long-term strategies. Indonesia strengthened its net zero targets in its 2022 enhanced NDC two months before the JETP Joint Statement which mirrored the NDCs ambition. Relatedly, the CIPP specified ambitious emissions reduction targets for Indonesia's energy grid (a 250 $MtCO_2e$ emissions limit by 2030) in 2023. The GHG reduction target is significantly increased in the 2022 NDC – 31.8 per cent unconditionally and 43.2 per cent with international support (Republic of Indonesia 2022a). The ultimate goal is for Indonesia to achieve net zero emissions by 2060 or sooner, according to its enhanced NDC. However, Indonesia has narrowed the focus of its coal phase-out to off-grid plants (JETP Secretariat Indonesia 2023) with recent and drastic developments in the demand for nickel. The CIPP offered targets for on-grid emissions only. What is known about the industrial captive power landscape seems to suggest that the JETP target (power sector emissions peaking at 290 $MtCO_2e$ in 2030) would be challenging for captive coal plants.

Alignment with power supply strategies and master plans

Indonesia has made moderate progress in aligning its JETP with power supply strategies and master plans. For instance, the key power supply strategies and master plans – National Energy Policy (KEN) (Ministry of Energy and Mineral Resources 2019), National Electricity Master Plan (RUKN) (Ministry of Energy and Mineral Resources 2024c) and 2021–2030 Electricity Supply Business Plan (RUPTL) (PT PLN Persero 2021) – are not fully aligned with the JETP objectives. Recent developments in the nickel industry bring significant uncertainties to captive plants. Alignment can be expected when these strategies are revised or updated. However, Presidential Regulation No 112 (Republic of Indonesia 2022b) and Energy Ministry Regulation No 5/2025 (Ministry of Energy and Mineral Resources 2025) are designed to accelerate the development of renewable energy for electricity supply, aligning with the JETP commitments.

Alignment with transition financing

The country has also made strides aligning mobilised capital from JETP with policies on financing the energy transition, such as carbon tax, green taxonomy, feed-in-tariff schemes, green bonds, green credit policies and tax incentives. OJK has included green instruments – Green Sukuk, Social Bonds, Sustainability Bonds, Waqf Sukuk and Sustainability-Linked Bonds (Deloitte 2023) – indicating regulatory support for sustainable finance and a trend to encourage market innovation. However, alignment of the Indonesia Taxonomy for Sustainable Finance (Indonesia Financial Services Authority 2024), Sustainable Finance Roadmap Phase 2 (Indonesia Financial Services Authority 2021), sustainable finance regulation (51/POJK.03/2017) (Indonesia Financial Services Authority 2017) with the financing framework specified in CIPP are required. The green taxonomy 2.0 (Indonesia Financial Services Authority 2024) represented a concerning reversal from the 2022 version, by providing that investments in captive coal plants, under certain conditions, can now be considered as a transition asset if the power plant is captive to a unit involved in the processing of mining of minerals deemed critical to the energy transition (IEEFA 2024). Nevertheless, the Ministry of Energy and Mineral Resources' Regulation on Implementation of Carbon Capture and Storage and Carbon Capture, Utilisation and Storage in Upstream Oil and Gas Business Activities (Republic of Indonesia 2023) provides insights into future tax incentives and carbon trading for carbon capture and storage, and its by-products.

Alignment with industrial policies

There is a significant gap between industry-related policies, such as national industry development master plans, economic master plans, national industrialisation programs and foreign direct investment policy, with the capital mobilised through JETP. The National Industry Development Master Plan (RIPIN) 2015–2035 (Republic of Indonesia 2015) has not been updated since the JETP became operational. The latest Regulation No.23/2023 (Ministry of Industry 2023) appears to suggest walking back on ambitious local content rules (LCR) to promote the growth of local manufacturing and service industry. It delayed the mandatory LCR of 60 per cent for solar modules until 1 January 2025 (UMBRA 2023). It also provides an exemption from mandatory LCR for solar plants over 50 MW capacity if no similar local products are available (PV Magazine 2024b). Misalignment and conflict in the country's national energy policy and RIPIN remains, and can be expected to widen, given the developments in the nickel sector.

Cross-ministerial coordination body

The National Energy Transition Task Force and JETP Secretariat are functioning and ensuring cohesion between public entities overseeing the legal, financial, policy-making and regulatory aspects of renewables development, coal phase-out, and fiscal allocation.

Recognition and participation from marginalised and disenfranchised communities

Indonesia has made moderate progress in providing recognition of and seeking participation from marginalised and disenfranchised communities. Small-scale initiatives to involve local communities in planning and decision-making are in place. While CIPP identifies participation from women, customary groups and other vulnerable groups in stakeholder consultations as part of the 'Just Transition Target Monitoring' indicator under the accountability criteria (JETP Secretariat Indonesia 2023), no official analysis against the 2023 benchmark has taken place. Improved transparency and accountability for recognitional and participatory justice are required.

Government facilitation of a national clean energy project pipeline

There has been partial progress on government facilitation of a national clean energy project pipeline to coordinate development finance inflows. CIPP identifies investment focus areas, selection and prioritisation criteria and review structures for channelling JETP funds into individual projects. It also notes that the existing pipeline in the National Energy Master Plan and Net Zero Emission (NZE) Roadmap should be expanded and a priority project list should be established to capture the JETP target.

Progress against socioeconomic benchmarks

Regional economic diversification and job creation

Progress towards this benchmark has been partially successful in terms of regional economic diversification and job creation. Currently, approximately 250,000 jobs in Indonesia are dependent on coal mining and power generation (United Nations Partnership for Action on Green Economy 2023). There is potential to create 96,000 high-skilled jobs in coal-producing regions if JETP initiatives are implemented, particularly by replacing existing coal plants with solar energy facilities (Ember 2024). To support economic diversification, the government has introduced coal revenue-sharing and corporate social responsibility programs. These initiatives have been applied in Paser Regency and Muara Enim Regency regions (IESR 2023). In an effort to mitigate the negative effects of the coal phase-out on employment and regional economies, the government is conducting impact assessments (IKI-JET 2023). Furthermore, regional economic diversification is being addressed through international collaborations, including the Coal Regions in Transition Platform, the Powering Past Coal Alliance and the Interregional Platform for the Just Energy Transition in Coal Regions (ETP 2025; Powering Past Coal Alliance 2025; GIZ 2025).

Robust, fit-for-purpose and participatory Environmental Impact Assessments

Government progress towards implementing robust, fit-for-purpose and participatory environmental impact assessments has been moderate. Aligned with the Environmental Protection and Management Law (Republic of Indonesia 2009) and Implementation of Environmental Protection and Management Regulation (Food and Agriculture Organisation of the United Nations 2021), the environmental impact assessment process is enhanced to meet international standards. The JETP environmental impact assessment includes provisions for public participation and public consultation to be mandatory. As such, new guidelines have been introduced to detail the disclosure of project information and make public consultation more stringent. More training programs for local government officials and community workshops are now offered. Use of digital platforms, such as the AMDALNET system, an online platform developed by the Indonesian government to streamline and digitise the environmental

impact assessment process, increase accessibility and transparency. However, environmental impact assessment processes in Indonesia have received criticism due to limited information disclosure, perfunctory consultation practices, inadequate resource allocation and the gap between regulatory requirements and actual practices on the ground (Suprapto 2023).

Workers' access to compensation mechanisms

The workforce traditionally employed in the coal industry has access to compensation mechanisms in Indonesia. JETP Standard 9 has been established to support economic diversification and promote new job opportunities, which includes training programs to develop new skills (CPI 2023).

Reskilling and up-skilling the labour force

JETP Standard 9 aims to provide training and support for reskilling, targeting women and marginalised communities. The IPG committed US$200 million in grants for just transition assessment intervention, of which US$18 million will be allocated for capacity building, scoping studies and project piloting (CPI 2023).

Policy recommendations

This section identifies policy recommendations for a just energy transition in Vietnam and Indonesia that span systemic, financial, governance and socioeconomic considerations and address priority requirements.

Enable a net zero-aligned energy system

In order to further progress JETPs systemic benchmarks, Vietnam and Indonesia can focus on operationalising comprehensive deployment of renewable energy, energy storage and interconnection while phasing out carbon-intensive production with robust financial planning.

Energy self-sufficiency is another priority. In Vietnam, if small- and medium-scale enterprises and industrial zones could produce and consume their own energy using solutions such as rooftop solar, it would reduce their dependence on the national grid and contribute to overall energy stability. For improved grid integration, Vietnam can increase the limit of surplus energy (currently 20 per cent of a project's installed capacity) from industrial solar applications to be sold back to the grid, supporting renewable investments and leveraging direct power purchase agreements to boost investor interest. Indonesia can upgrade grid infrastructure to support renewable integration and invest in battery storage solutions to strengthen energy resilience.

For Indonesia, there are significant opportunities to increase renewable uptake, especially in coal-dependent regions (Ember 2024). Increasing the deployment of renewable energy technologies in these regions would not only help to achieve an additional 36 GW of renewable capacity as committed under JETP but also provide significant advantages for governments, industries and communities, promoting greater equity in Indonesia's economic recovery and resilience during the energy transition.

Both countries have significant opportunities to design policies, programs and incentives to catalyse place-based industrial decarbonisation through JETP mechanisms. Subnational governments and regions play an important role in facilitating the planning and implementation of just energy transition mechanisms through industrial decarbonisation initiatives such as net zero industrial precincts (Climateworks Centre 2023b).

Enhance the enabling environment to mobilise financing for a net zero-aligned energy system

Expanding financing options is essential to attracting private investment in JETP projects. Vietnam can broaden its use of financing instruments, such as credit enhancements, sovereign guarantees and blended finance to de-risk clean energy projects and make them more appealing to private investors. Indonesia can provide additional financial backing, such as sovereign guarantees, accessible to both state-owned enterprises and independent power producers, to support just energy transition projects, ensuring that private investment is more attractive.

Both Vietnam and Indonesia need to restructure subsidies to expand clean energy development and reduce reliance on fossil fuels in the electricity sector. The JETP Secretariat in Indonesia could work closely with government bodies to ensure that coal projects designated as 'national strategic projects' align with the net zero objectives.

Transparency in financial reporting is also crucial. Vietnam would benefit by implementing climate-related financial disclosures for its financial institutions, establishing guidelines to ensure consistent and transparent reporting. Indonesia, already progressing in sustainability reporting, can continue to

integrate just transition principles into financial decisions, reinforcing its commitment to a sustainable finance framework.

Enhance policy coordination and collaboration

Establishing and maintaining a clean energy project pipeline is a core component of effective governance of energy transition for both Vietnam and Indonesia. Vietnam's project pipeline can improve its prioritisation of renewable projects – such as solar, wind and sustainable biofuels – to reduce dependence on fossil fuels and align national energy strategies with international finance flows. Indonesia can expand its clean energy project pipeline under JETP, ensuring compatibility with the country's broader energy and industrial policies.

Both countries would benefit from advancing their green taxonomies. Vietnam can look to accelerate the adoption of a green taxonomy to standardise investment criteria, thereby making it easier for public and private financial flows to align with international standards for green finance. Indonesia, which has a sustainable finance taxonomy, can update it to support renewable investments, removing coal from the 'transitional' activities category.

Aligning industrial policy with energy transition goals is also critical. Vietnam has the opportunity to develop policies that promote local renewable energy manufacturing, prioritising local manufacturing in its renewable sector. Indonesia, meanwhile, could ensure that JETP funding aligns with national industrial policies, particularly in sectors like nickel, where rapid developments are taking place. Additionally, both countries can improve information disclosure and transparency in environmental impact assessments, ensuring meaningful public participation and building stakeholder trust.

Enhance social and economic resilience

The socio-economic impact of the energy transition requires focused attention, particularly in terms of workforce support and regional economic diversification. In addition to developing roadmaps for reskilling and upskilling workers in coal-dependent regions – creating opportunities in the renewable energy sector, especially for marginalised communities – social safety net programs for workers outside the formal workforce and alternative livelihoods for disenfranchised communities need prioritisation.

A robust compensation framework for affected workers is essential for a fair transition. Vietnam can design comprehensive compensation packages for coal workers, including not only financial compensation but also retraining opportunities and pathways to employment in low-carbon industries. Indonesia can strengthen its compensation mechanisms under Standard 9, focusing on economic support for coal plant workers affected by closures.

Collaboration among stakeholders is also key to community support during the energy transition. Vietnam can benefit by establishing partnerships between industry stakeholders, local governments and educational institutions to align reskilling efforts with the needs of the renewable sector. Indonesia can support coal-dependent communities with targeted economic diversification initiatives, fostering job creation in sustainable industries and mitigating the impact of the transition on local economies.

Together, these policy recommendations provide a structured path forward for Vietnam and Indonesia in their pursuit of a just energy transition. By focusing on systemic, financial, governance and socio-economic priorities, both countries can work toward net zero aligned, fair and inclusive energy futures.

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