



ENERGY
TRANSITION
PARTNERSHIP



UNOPS

SOUTHEAST ASIA ENERGY
TRANSITION PARTNERSHIP

STRATEGY

2026 to 2030



Federal Ministry
for Economic Affairs
and Climate Action



Department for
Energy Security
& Net Zero



Environment and
Climate Change Canada
Environnement et
Changement climatique Canada



CHILDREN'S
INVESTMENT FUND
FOUNDATION



SEQUOIA
CLIMATE
FOUNDATION

Director's Foreword

As Director of the Energy Transition Partnership (ETP), I am delighted to introduce our strategy for 2026–2030. This document sets out how we will build on our achievements to date and adapt to the evolving energy landscape in Southeast Asia. Guided by the climate commitments of our partner countries, this strategy represents our roadmap to accelerate the transition to a low-carbon, sustainable future.

ETP's first phase has laid a strong foundation with many impactful interventions successfully delivered. In Indonesia, we developed engineering designs for the JAMALI Control Center, opening a pathway to increased renewable energy integration. In Vietnam, our contributions to the Green Cooling Programme informed key policy decisions on greenhouse gas mitigation and green finance, preparing the way for substantive project implementation. In the Philippines, we supported regulatory reforms to leverage investment in renewable energy integration and smart grid adoption. Regionally, our Just Coal Transition Platform is leading a transition that is both environmentally sustainable and socially equitable.

Since ETP's launch, the energy transition landscape has shifted significantly. Indonesia, the Philippines, and Vietnam have all enhanced their climate commitments, setting ambitious targets for GHG reductions, coal phaseout, and net-zero emissions. These policy advancements underscore the region's commitment to meeting the goals of the Paris Agreement and highlight the need for action to turn these commitments into reality.

The priorities for the energy transition have also evolved. Coal phaseout, industrial decarbonization, and the development of supply chains for renewable energy are now at the forefront. Our strategy reflects these emerging needs, positioning ETP to deliver targeted solutions and foster regional collaboration.

The second phase will focus on realizing and scaling up clean energy deliverables. This includes unlocking large-scale renewable energy and energy efficiency projects and catalyzing investments to accelerate progress. To achieve this, ETP will build on our funding, expertise and strategic partnerships. Details are set out below.

Together, we can transform Southeast Asia's energy systems, creating a sustainable, equitable, and low-carbon future.

ETP Strategy 2026-2030

Launched in 2020, the Energy Transition Partnership (ETP) has operated under a 5-year strategy to drive progress in energy transition in South East Asia. With ETP's mandate extended to 2035, this document describes our plan for the next 5 years. It responds to the evolving challenges of energy transition, building on ETP's results to date and strengths, and seizing new opportunities to create an exciting roadmap in partnership with the many and diverse partners in our ecosystem.

How the document has been developed

The ETP Strategy 2026-2030 was shaped through a thorough consultation process with prominent national and regional partners, including beneficiary government agencies, development partners, funders, academia, and the ETP Advisory Panel. It also takes account of our recent independent evaluation. The strategies and priorities outlined reflect the dynamic regional landscape, positioning ETP to implement strategic technical assistance and capacity-building support leading to transformational impact.

How the document is structured

- a. ETP Vision and Values
- b. Progress and Challenges in Southeast Asia Energy Transition
- c. Role of ETP
- d. Strategic Objectives and Outcome Targets for 2030
- e. Strategic Priority Sectors
- f. Regional Portfolio
- g. ETP Comparative Advantage
- h. Cross Cutting Issues
- i. Finance and Programme Management

A: We Are ETP

ETP has pioneered an innovative model, bringing together governments and philanthropies in a partnership sharing an ambition to accelerate energy transition in Southeast Asia. This is supported by a pooled fund housed in the UN. This model allows a demand-driven approach ensuring that our initiatives are tailored to the specific needs of the region. Our new strategy builds on the successes of the past four years and responds to emerging strategic priorities in energy transition, contributing to Paris Agreement goals and each country's national climate commitments.

Our Vision

We target a Southeast Asia where clean, reliable energy drives sustainable growth. In this future, people enjoy better living conditions, stronger energy security, cleaner air and free from extreme risks of climate change — creating a healthier, more prosperous region for everyone.

Our Values

- **Partnership:** We are clear about our comparative advantage and build strong networks with diverse partners and experts to broaden our impact and develop the ecosystem as a whole.
- **UN Neutrality and Trust:** as part of a UN agency, we are trusted by partner governments to stay impartial and evidence-driven, offering solutions based on what each nation and the region needs and in line with high-level national policies.
- **Adaptability and Innovation:** We stay flexible, responding quickly to changing needs and challenges as the energy landscape evolves, embracing fresh ideas and technologies.
- **Expertise and Integrity:** Our skilled team and network of respected external experts are backed by UNOPS systems, ensuring high-quality support for every project. Our in-country staff, trusted by governments, are a major asset.

B: Progress in Southeast Asia's Energy Transition

Recent developments in Southeast Asia, particularly in Indonesia, the Philippines, and Vietnam represent significant strides towards sustainability and equitable energy policies. Details can be found in the Country Annex to this document, noting the high-level overview.

- **Indonesia's Just Energy Transition Partnership (JETP)** marks a pivotal shift from coal-fired power generation, with commitments to peak on-grid power sector emissions at 250 Million Tons of Oil Equivalent (MTOE) by 2030 and a target to phase down coal by 2050, while ensuring a fair transition for vulnerable workers and communities.
- **Philippines' Green Energy Auction and Policy Changes.** Allocated 2,000 MW of renewable capacity and opened the energy sector to 100% foreign ownership in renewable facilities, boosting international investment.

- **Vietnam's JETP** aims to achieve a reduction in emissions to 170 MtCO₂e by 2030 through a combination of policy actions and investments in renewable energy, advanced smart grids, and enhanced energy efficiency. This plan also includes a reduction in the coal fleet.

Significant Challenges Remaining

While progress has been made, critical challenges must still be addressed for energy transition to succeed.

- **Fragmented policy implementation.** Targets and policies are often misaligned, complicating enforcement. Central to this issue is the heavy reliance on fossil fuels for economic growth and energy security, which makes it difficult for governments to fully commit to the energy transition. In addition, regulatory barriers and rigid commercial arrangements make it difficult for renewables to penetrate the markets. Coal fleet retirement and providing fair economic opportunities for affected communities is especially difficult.
- **Challenges in accessing financing.** Significant funds have been committed to the energy transition in the region, including the JETPs. However, bankable projects are limited, and regulatory barriers persist. Private capital needs to be mobilized to bridge the investment gap to reach the 2030 vision.
- **Grid constraints.** Strategic planning and substantial investment are required to upgrade grids for the integration of variable renewable energy sources. The high cost of energy storage systems and smart grid technologies, needed for grid flexibility, limits its adoption.
- **Low adoption of energy efficiency.** Although it is the least costly energy transition strategy, the adoption of energy-efficient technologies and strategies remains low. Perceived risks associated with efficiency projects make it challenging to secure financing, and consumers often lack confidence in complex energy-saving models.
- **Missed opportunities from ASEAN integration.** An interconnected ASEAN could accelerate the energy transition and security by enabling regional collaboration on large-scale renewable energy projects, allowing economies of scale and security. However, limited coordination, resources, and regulatory alignment among ASEAN states have delayed progress.
- **Just elements are not embedded into the transition.** There is still limited understanding of the long-term impacts of the transition on communities and the workforce. Whilst

promoting a just transition is crucial, this effort must remain balanced with economic and social development to retain public support.

- **Supply chain limitations.** Energy transition relies heavily on the availability and production of critical minerals, components, and skilled labor to meet the demand for renewable energy technologies. Each country in the region has the potential to contribute to this value chain through resource extraction, manufacturing, and workforce development. However, barriers include geopolitical risks, supply shortages, insufficient investment in local production capacity and shortage of skilled labor.

C: The Road Ahead: ETP's Role in the Transition

ETP is well-placed to address these challenges in partnership with others. Building on past results, ETP will prioritize addressing financing gaps, ensuring policy consistency, and fostering innovation in clean energy solutions throughout the value chain. We will also work closely with governments to ensure that regional and national policies align with international climate agreements and broader energy security goals.

ETP will deepen its collaboration with Indonesia, the Philippines, and Vietnam from 2026-2030 while expanding its regional efforts through ASEAN. Our primary focus will be on unlocking sustainable financing mechanisms, developing investor-friendly policies, and stabilizing regulatory frameworks to accelerate renewable energy and energy efficiency projects.

Our goal is to support Southeast Asia's transition to a sustainable energy future, contributing to regional climate goals and fostering a resilient energy system.

In the next five years, ETP aims to facilitate the shift from fossil fuels to renewable energy sources across Southeast Asia, working with governments to make clean, sustainable energy the standard. Our goal is to support the region:

- **Triple Renewable Energy Capacity**

We will facilitate the accelerated adoption of solar, wind and hydro energy by transforming policy and regulatory frameworks to enable investments, enhance capabilities, and unlock grid constraints. Other energy sources such as geo-thermal could be considered depending on circumstances. This requires ETP to focus on supporting specific project pipelines. In practical terms, ETP will design programs to support the achievement by 2030 of 23% renewable energy in Indonesia, 35% in the Philippines, and 39% in Vietnam. Such achievements of 2030 targets will ensure strong momentum for each country in their journey to decarbonise their energy sectors.

- **Double Energy Efficiency Measures**

We will promote the adoption of energy-saving technologies and practices by addressing actual and perceived financing risks and advocating energy efficiency. Across ETP's focus countries, grid intensities are high, ETP aims to support a multi-sectoral suite of activities targeting energy conservation and efficiency to reduce the Philippines energy intensity by 3% up to 2040, Indonesia from 1579 to 214 TOE/ MUSD by 2030 and Vietnam to target a reduction to 214 TOE/ MUSD against a projected 400–420 TOE/million USD 2030 peak.

- **Strengthen Just Transition Efforts**

We will ensure that energy transition is equitable. We will support workforce retraining, community engagement, and policies that benefit communities, especially those dependent on fossil fuels. Our work will support the ASEAN ambition of 5.5 million green jobs by 2050.

- **Foster the Development of Local Supply Chains**

We will build local expertise, strengthen regional partnerships, foster technology transfer, and facilitate the growth of domestic industries, ensuring a robust and sustainable supply chain for renewable energy projects. Developing supply chains nationally and regionally is critical for both ensuring a just transition, and the economic growth of economies. High-level ETP targets we will seek are in green jobs, seeking to raise from 630,000 to 740,000 in Indonesia, 106,000 to 266,000 in the Philippines, and 223,000 to 350,000 in Vietnam.

- **Enhance Regional Cooperation**

We will support ASEAN and facilitate South-South learning which will amplify impacts, foster regional collaboration, and share best practices across borders. By supporting the realization of the ASEAN Power Grid and through renewable energy optimisation ASEAN could avoid 90,852 million tons of CO₂ by 2040. *(See Section F for details of Regional Portfolio)*

D: Expected Outcomes and Impacts on ETP's Strategic Outcomes

The ETP Strategy 2026-2030 outlines a comprehensive approach to driving energy transition in Southeast Asia in partnership with others. It focuses on four key Strategic Outcomes (SOs) and one underpinning outcome,, supported by key enabling factors and addressing strategic priority sectors to achieve transformative outcomes.

- **Policy Alignment with Climate Commitments (SO-1)**

ETP collaborates closely with governments to develop and implement clear, consistent regulatory frameworks that support sustainable energy practices. Our goal is to ensure energy policy aligns

with climate commitments, paving the way to triple renewable energy capacity and double energy efficiency measures.

- **De-risking Investments on Renewable Energy, Energy Efficiency and Fossil Fuel Phasedown (SO-2)**

ETP bridges the gap between renewable energy and energy efficiency projects and financial institutions. We work to de-risk projects and make them more attractive for investment, aimed at unlocking large-scale funding from both national and international sources.

- **Sustainable and Resilient Infrastructure (SO-3)**

ETP aims to develop sustainable and resilient energy infrastructure by incorporating smart grids and innovative technologies. This includes improving national smart grid systems, reducing constraints on existing renewable energy, and enhancing cross-border power trade and interconnections to ensure long-term energy security.

- **Just Transition (SO-4)**

ETP is committed to fostering an equitable and inclusive energy transition, ensuring that social, economic and environmental considerations underpin the shift to a green economy and that those who are negatively impacted by it are supported. This includes facilitating dialogue and partnerships to support awareness raising, inclusive planning and capacity building, enabling access to knowledge, technical assistance, and finance.

- **Knowledge and Awareness Building (Underpinning Outcome)**

Linked to the above SOs, we empower stakeholders with capacity building across priority sectors, and share lessons learned across the region. This equips individuals and institutions with the expertise they need to drive the energy transition.

E: Sectoral Areas of Intervention

Our strategy addresses targeted sectors critical to energy transition. These sectors represent a multifaceted approach necessary to create a sustainable and resilient energy future, whilst adhering to ETP comparative advantage. ETP has established robust country-specific programs based on these. We proactively seek out partners with similar Outcomes, not only to avoid duplication but to multiply the impacts at a scale necessary for transition to happen.

- **Renewable Energy**

ETP is committed to tripling renewable energy capacity in the region by transforming outdated fossil fuel policies and regulations, ensuring they adapt to a market dominated by renewables. We

leverage our partnerships with the government and active involvement in the JETPs to offer strategic policy recommendations. Recognizing the critical role of private sector investments, ETP focuses on enhancing project viability, opening markets for decentralized generation, and mitigating investment risks. As renewables grow, we promote electrification of sectors like transport and industry to accelerate decarbonization.

- **Energy Efficiency and Demand-Side Management**

Improving energy efficiency and implementing Demand-Side Management practices are essential for optimizing energy use. Energy efficiency could deliver more than 40% of the reduction in energy-related emissions needed to meet global climate goals. ETP explores innovative approaches to scale proven energy efficiency solutions in the region. We work with governments to establish efficiency standards and regulations, and support in strengthening the ESCO (energy service companies) sector. Working with grid operators and planners, ETP will promote Demand-Side Management strategies to enhance grid flexibility and grid efficiency.

- **Resilient Power Grid and Energy Storage**

Building a resilient power grid that can integrate significant renewable energy is vital to the energy transition and in sustaining economic growth. We have been supporting the modernizing of grid infrastructure, integrating smart grid technologies, and establishing cross-border power exchange to ensure a reliable and flexible energy system. In addition to technical grid innovations, ETP works to improve grid governance and investment planning. ETP also focuses on integrating advanced energy storage solutions to enhance grid flexibility and optimize production for variable renewable energy.

- **Fossil Fuel Phase-down**

Phasing down the use of fossil fuels is an essential part of our strategy. ETP is exploring mechanisms to reduce the life of fossil fuel plants and replace them with more renewable energy generation, ensuring energy security.

F: ETP's Regional Portfolio

ETP's regional portfolio leverages its engagements in our focus countries to identify strategic regional and multi-country interventions that respond to common challenges, opportunities for sharing of lessons, and scaling successful models. For example, ETP in cooperation with the EU has developed a strong engagement with ASEAN on energy cooperation through the ASEAN Power Grid Advancement Programme. With the drafting of the ASEAN Plan for Energy Cooperation (2026 - 2030) currently underway, ETP is well-positioned to support its development and implementation.

Further, in partnership with the World Bank, ETP is working across our focus countries to support dialogue and capacity building to ensure the just elements of the energy transition through the Just

Coal Transition Platform. Approaching challenges through a regional perspective ensures that through cooperation and sharing of lessons learned, energy transition benefits can be multiplied and extended to all ASEAN member states, driving sustained and collective progress. Working strategically at the regional level allows ETP to extend its impact in Southeast Asia without having to develop additional bilateral programmes.

G: ETP Comparative Advantage

- **Government Partnership**

We build and maintain strong partnerships with governments through our in country presence, transparent communication, collaborative approaches, and delivering impactful results. Our skilled and experienced in-country staff are crucial in this effort.

- **Agile and Responsive Structure**

Our agile structure enables us to quickly adapt to new challenges and opportunities. With the flexibility to innovate and the advantage of pooled funds, we can swiftly address emerging needs from governments.

- **Empowered People and Culture**

Our greatest asset is our team. We foster a motivating and empowering culture that inspires our staff to excel. By nurturing talent and encouraging innovation, we ensure that our team is always UN Credibility and Trust ready to tackle the toughest challenges.

We leverage the established reputation of the UN to enhance our program's standing, foster collaboration and ensure that our initiatives receive global support.

- **Enhanced Monitoring and Evaluation**

Robust systems for tracking progress and demonstrating impact are essential. We continuously enhance our monitoring and evaluation frameworks. This provides us with insights that allow us to adjust our strategies, define priorities, and optimize time and resources.

- **Ecosystem Collaboration**

ETP is advantageously positioned to unite stakeholders, including academia, CSOs, and UN agencies. By fostering collaboration, we leverage their expertise and enable others to build on our work, amplifying our collective impact and accelerating the energy transition.

- **Driving Greenhouse Gas Reduction**

We support governments in reducing emissions through clean energy adoption, energy efficiency, and policy reforms.

H: Cross Cutting Issues

Gender

ETP will remain dedicated to gender mainstreaming and achieving gender balance in its work. The ETP Gender Action Plan (GAP) will be reviewed regularly and strengthened to ensure the programme continues to foster inclusion and gender mainstreaming in ETP's operations and projects. Gender considerations will also be strengthened in ETP project tender documents. This will include inter alia requirements for gender balance within project teams, specifying minimum female participation in ETP-organized workshops, and incorporating gender expertise to drive substantive outcomes, where relevant.

Gender balance will be an important factor in recruiting new ETP staff. We aim to maintain at least 50% of female staff overall and in the Senior Management Team.

Communications

The new ETP strategy will involve a structured and targeted approach to communications. Our primary audience includes our Steering Committee, current and potential donors, beneficiaries, government officials, strategic partners, and other stakeholders in the energy transition ecosystem.

Our communications materials aim to enhance both our visibility and credibility by informing target audiences about the impact of our projects in Indonesia, the Philippines, Vietnam, and our Regional Programme. This will be captured through success stories and project milestone updates, and communicated through two primary channels: i) reports - annual report, semi-annual report, Results Based Monitoring Framework and supporting documents; and ii) knowledge products - website updates, factsheets, newsletters, project videos, and social media posts.

Written material will be supplemented by prioritised platform appearances and attendance at global and regional events of importance in the energy transition sphere. These are likely to include inter alia COP, the Asia Clean Energy Forum, and Singapore International Energy Week.

I: Finance and Programme Management

Funding Envelope To Support The New Strategy

The funding envelope will be determined after the strategy is agreed and as funders are ready to commit. But given the remaining challenges and high demand for ETP support, we have an ambition

of at least doubling the funding envelope over this period. This will allow scaling up and much greater impact within our Strategic Outcomes.

Funding modalities

ETP funders (governments and philanthropies) participate in ETP through:

- **Pooled fund**

Contributions pooled together to finance technical assistance programmes identified by the ETP Secretariat in consultation with governments and relevant partners and approved by the Steering Committee. This remains the preferred modality.

- **Earmarked funds**

Contributions earmarked for projects in a specific country or SO covered by ETP programme or scaling up ongoing projects. The trend of increasing demand for ETP to accept earmarked funding, both from existing and new donors, is expected to continue. ETP policy on earmarked funding will be further elaborated with the Steering Committee.

Prioritisation

At least 80% of ETP's pooled funding will be allocated to high-impact longer term interventions with larger ticket sizes. However, to preserve the responsiveness and flexibility of ETP, which partner governments find to be one of our major comparative advantages, up to 20% may be allocated to smaller, flexible interventions (though still consistent with our strategy) to prepare the ground for a longer-term intervention and/or build relationships and trust.

Prioritisation of long term interventions will be selected according to the following criteria:

- Clear fit with government or regional priorities and on the critical path to their energy and climate targets
- Fully consistent with ETP's strategy and updated Strategic Outcomes
- Optimisation of likely impact on energy and climate targets
- Prospects for sustainability and replicability
- Value for money and reduced transaction costs
- Coordination of effort with other actors in the eco-system

Governance

The ETP Secretariat is engaging with existing funders and potential new funders to mobilize resources for the new strategy 2026-2030. New Asian funders would be especially welcomed.

We will maintain a robust governance structure with balanced representation from government and philanthropic funders whilst being open to some increase in the size of the Steering Committee.

Given the maturity and growth of ETP, the relationship between the Steering Committee and ETP staff should be reviewed to ensure the Steering Committee's role is strategic and staff has sufficient delegated authority to work quickly and efficiently.

ETP Staff And Other Resources

The pace of ETP implementation increased substantially during 2024, with an approved budget allowing for expansion to about 20 in-house staff. For 2026-2030, depending on the volume of funds available for projects, the current staffing level together with additional posts already approved are considered sufficient for now. Any required new staff capacity beyond this will be embedded in future annual budget proposals.

ETP aims to move towards larger interventions (minimum USD 1 million) for the majority of projects. This approach will ensure economies of scale and reduce transaction costs and overheads.

ETP will continue to recruit expert retainers and competitively procure leading consulting firms to deliver technical assistance. We have concluded a tender for long-term agreements with a dozen consulting firms, who will be deployed quickly on individual assignments from 2025 onwards.

UNOPS indirect fees will remain fixed at 3.5%. UNOPS direct fees for services provided from the regional office (procurement, finance, HR, etc) will need to be agreed for the new strategy period.

ANNEX 1: Consolidated Country and Regional Table

Table 1.1: Country-based Impact and Indicators

Impact	Indicator	Philippines		Vietnam		Indonesia	
		Baseline (2020/2025)	Target (2030)	Baseline (2020/2025)	Target (2030)	Baseline (2020/2025)	Target (2030)
Energy GHG Emission Levels	Energy GHG Emission data (2021)	144.38 MT CO2eq	137.10 MT CO2eq	528.4 MT CO2eq	146.3 MT CO2eq - 403.7 MT CO2eq	636.5 MT CO2e (2019)	378 MT CO2e (Indonesia's Enhanced NDC)
Diversity of Energy Supply % - Renewable Energy (RE) Generation	% RE generation (2021)	22%	35% by 2030 50% by 2040 >50% by 2050	21% excluding hydropower	31%-39% excluding hydropower	12% of the total primary energy supply (2020) 14% of the total power generation mix (2020)	23% of the total power generation mix (RUKN as of September 2024)
Installed Capacity of Variable Renewable Energy	MW of installed VRE (2021)	8.4 GW	98.5 GW additional RE capacity by 2050	22.7 GW excluding hydropower	75 GW excluding hydropower	11,580 MW	36,000 MW, 75,000 MW by 2040
Grid Storage Reliability, Flexibility	SAIDI (minutes per year) SAIFI (interruptions per year)	1,700 mins/year 13 interruptions/year	1,200 mins/year 8 interruptions/year	283 mins/year 2.95 interruptions/year	100 mins/year 2.5 interruptions/year	338 mins/year 4.27 interruptions/year	250 mins/year 3 interruptions/year
Energy Intensity Energy Consumption/GDP	Energy Intensity (2021)	174 TOE/ million USD	Reduce by 3% across the planning period until 2040	275 TOE/million USD	400-420 TOE/million USD (2030) 250-280 TOE/million USD (2045)	1,579 TOE/million USD	213.7 - 248.8 TOE/million USD (by 2030)
Energy Transition Index	Index (2021)	49.2	Increase	62.1	Increase	55.1	Increase
Coal Generation (both off grid and on grid)	# of CFPP (on-grid) retired % of CFPP generation reduced (coal phase down) # of CFPP	12.1 GW	<10 GW (Clean Energy Scenario 1)	0 CFPP (on-grid) retired 0% of CFPP generation reduced (as BAU) 0 CFPP (off-grid) cancelled	3 CFPP (on-grid) retired 38% of CFPP generation reduced (as BAU) 5 CFPP (off-grid) cancelled	0 CFPP (on-grid) is retired 13.3 GW of CFPP (on-grid) cancelled	Targets under government review

	(off-grid) cancelled/retired (captive)						
Green Jobs	Number of Green Jobs	106,439	266,137	~233,000 (2023)	350,000 (2030)	630,000 (2023)	1.7 million (2030)
Investment in RE Energy	Investment Cost (USD)	USD 1.34 billion	USD 506 billion	-	USD 135 billion	USD 1.5 billion (2023)	USD 146 billion (2023)

Table 1.2: Regional Impact and Indicators

Impact	Indicator	Regional	
		Baseline (2020/2025)	Target (2030)
Avoided Emissions	MtCO ₂ equivalent avoided due to cross-border interconnections	67,582 MtCO ₂ (2040) AIMS III Base Scenario	90,852 MtCO ₂ (2040) AIMS III ASEAN RE target scenario
Diversity of Energy Supply - %RE generation	Installed RE capacity in ASEAN (in GW)	95 GW (2022) ASEAN	200 GW (2040)
Interconnectivity (cross border power trade)	Total capacity of cross-border power interconnections (in GW)	10.1 GW (2020) ASEAN based on AIMS III	25.8 GW ASEAN, AIMS III ASEAN RE target scenario
Green jobs	Total number of green jobs created	611,000 (2016) - renewables	5.5 million (2050) renewables alone
Generation Cost	Generation cost per kWh	\$0.047/kWh (2020) based on AIMS III	\$0.039/kWh (2030) ASEAN RE target scenario in AIMS III

ANNEXE 2: Country-based Impact and Indicators

INDONESIA

Impact	Indicator	Baseline (2020/2025)	Target (2030)	Activities (2020 - 2024)	2025 - 2030 Action Areas
Energy GHG Emission Levels	Energy GHG emission data (year?)	636.5 MTCO2e (2019)	358 MTCO2e (Indonesia's Enhanced NDC)	All TA's lead to impact on reduced GHG emissions level	All TA's lead to impact on reduced GHG emissions level
Diversity of Energy Supply % of Renewable Energy Generation	% RE generation (2021)	12% of the total primary energy supply (2020) 14% of the total power generation mix (2020)	23% of the total power generation mix (RUKN as of September 2024)	- Streamlining Government of Indonesia Plans as a Pathway to Achieve NZE - Wind Energy Development in Indonesia: Investment Plan 1 GW of Solar PV Investment by 2025: Solar Irradiance Mapping and Development Plan - Innovating New Incentives Mechanism for Energy Transition Projects - Advisory Services on Smart Grid Implementation (PLN Jamali CC) - Decarbonize Captive Power Market for Industrial Decarbonization - Leveraging industrial decarbonisation options in Indonesia by anticipating international carbon tariffs (CBAM)	- Planning and permitting for RE development (e.g., long-term energy plan, de-risking mechanisms) - Early stage project preparation of renewable energy power plants - Risk mitigation and innovative incentive and disincentive mechanisms (e.g., Carbon pricing) - Power system flexibility for RE integration - Smart Grid for RE integration - Energy Storage Integration - Industrial Sector decarbonisation (Fuel conversion for Captive power)
Installed Capacity of Variable Renewable Energy	MW of installed capacity	11,580 MW	36,000 MW, 75,000 MW by 2040	- Streamlining Government of Indonesia Plans as a Pathway to Achieve NZE - Wind Energy Development in Indonesia: Investment Plan 1 GW of Solar PV Investment by 2025: Solar Irradiance Mapping and Development Plan- Innovating New Incentives Mechanism for Energy Transition Projects - Advisory Services on Smart	- Planning and permitting for RE development (e.g., long-term energy plan, de-risking mechanisms) - Pre-feasibility study of renewable energy power plants - Risk mitigation and innovative incentive and disincentive mechanisms (e.g., Carbon pricing) - Power system flexibility for RE integration

				- Grid Implementation (PLN Jamali CC) - Decarbonize Captive Power Market for Industrial Decarbonization - Leveraging industrial decarbonisation options in Indonesia by anticipating international carbon tariffs (CBAM)	- Smart Grid for RE integration - Energy Storage Integration - Industrial Sector decarbonisation (Fuel conversion for Captive power)
Grid Storage Reliability, Flexibility	- AIDI (minutes per year) - SAIFI (interruptions per year)	338 mins/year 4.27 interruptions/year	250 mins/year 3 interruptions/year	- Advisory Services on Smart Grid Implementation (PLN Jamali CC) - Integrating Battery Energy Storage System (BESS) into the Grid for Energy Transition	- Planning and permitting for RE development (e.g., long-term energy plan, de-risking mechanisms) - Power system flexibility for RE integration - Smart Grid for RE integration - Energy Storage Integration
Energy Intensity - Energy Consumption/GDP	Energy Intensity (2021)	1,579 TOE/million USD	213.7 - 248.8 TOE/ million USD (by 2030)	- Catalyzing Energy Efficiency as a Service in Indonesia - Decarbonize Captive Power Market for Industrial Decarbonization - Leveraging industrial decarbonisation options in Indonesia by anticipating international carbon tariffs (CBAM) - JETP Energy Efficiency and Electrification Working Group (E3WG)	- EE Derisking mechanisms (e.g., Guarantee, Insurance) ilo - Pilot project - EE Innovative Business model - pilot project - Industrial Sector decarbonisation (Energy Efficiency and Electrification) - JETP E3WG
Energy Transition Index	Index (2021)	55.1	Increase	All TA's lead to impact on ETI	All TA's lead to impact on ETI
Coal Generation (both off grid and on grid)	# of CFPP (on-grid) retired % of CFPP generation	0 CFPP (on-grid) is retired 13.3 GW of CFPP (on-grid) cancelled	Targets under government review	- Financial Implication of CFPP early retirement - Streamlining Government of Indonesia Plans as a Pathway to Achieve NZE - Decarbonize Captive Power Market for Industrial	- Industrial Decarbonization (Captive power fuel conversion) - Transitioning CFPP in Indonesia (Coal Phase Down)

	reduced (coal phase down) # of CFPP (off-grid) cancelled/retired (captive)			Decarbonization	
Green Jobs	Number of Jobs	630,000 (2023)	1.7 million (2030)	- Energy Transition Business and Change Management Centre of Excellence Capacity Building Program - Specialised Workforce Development to Support Energy Transition - Leveraging industrial decarbonisation options in Indonesia by anticipating international carbon tariffs (CBAM) (Capacity building for industrial sector decarbonization)	- Capacity building on power sector transition - Capacity building on industrial sector decarbonisation
Investments in RE Energy	Annual Investment in RE	USD 1.5 Billion (2023)	USD 146 Billion (2030)	- Wind Energy Development in Indonesia: Investment Plan 1 GW of Solar PV Investment by 2025: Solar Irradiance Mapping and Development Plan - Innovating New Incentives Mechanism for Energy Transition Projects - Decarbonize Captive Power Market for Industrial Decarbonization - Leveraging industrial decarbonisation options in Indonesia by anticipating international carbon tariffs (CBAM)	- Planning and permitting for RE development (e.g., long-term energy plan, de-risking mechanisms) - Pre-feasibility study of renewable energy power plants - Industrial Sector Decarbonisation

PHILIPPINES

Impact	Indicator	Baseline (2020/2025)	Target (2030)	Activities (2020 - 2024)	2025 - 2030 Action Areas
Energy GHG Emission Levels	Energy GHG Emission Data (2021)	144.38 MT CO ₂ eq	137.10 MT CO ₂ eq	All TA's lead to impact on reduced GHG emissions level	All TA's lead to impact on reduced GHG emissions level
Diversity of Energy Supply % of Renewable Energy (RE) Generation	% Renewable Energy generation (2021)	22%	35% by 2030 50% by 2040 > 50% by 2050	- Offshore Wind (OSW) industry development through the OSW Marine Spatial Planning Tool and OSW Permitting and Consenting Project - Stock take of Marine Renewable Energy Potential - Support to the Implementation of the Green Energy Auction Program - Support to Updating Micro Grid System Rules - Review and updating of Price Caps in the Spot Market - Review of the Reserve Market - Sustainable Power Development in the Bangsamoro Autonomous Region for Muslim Mindanao - Updating of Market Mechanisms for Battery Energy Storage Systems (BESS) integration	- Improved permitting process for renewable energy projects - Integrated Sustainable Energy Planning - Enhanced capacity for localized implementation of sustainable energy projects - Established Sustainable Energy Master Plan for the Bangsamoro Autonomous Region in Muslim Mindanao - Voluntary Renewable Energy Market
Installed Capacity of Variable Renewable Energy	MW of installed VRE (2021)	7.9 GW	98.5 MW additional RE capacity by 2050	- Diagnostics for Smart Grid Implementation - Enhanced Viability for Pump Storage Hydro - Updating of Market Mechanisms for BESS integration - Institutionalization of Demand Side Management	- Enhancing Regulations for Grid Governance - Development of BESS Roadmap - Implementation of Demand Side Management through Market Load Research - Voluntary RE Market - Increased investments for Energy

					Efficiency Projects
Grid Storage Reliability, Flexibility	- SAIDI (minutes per year) - SAIFI (interruptions per year)	1,700 mins/year 13 interruptions/year	1,200 mins/year 8 interruptions/year	- Upgrading Energy Regulations for Smart Grid Development and RE Integration - Enhanced Viability for Pump Storage Hydro - Updating of Market Mechanisms for BESS integration - Institutionalization of Demand Side Management	- Enhancing Regulations for Grid Governance - Development of BESS Roadmap - Implementation of Demand Side Management through Market Load Research
Energy Intensity - Energy Consumption/GDP	Energy Intensity (2021)	174 TOE/ million USD	Reduce by 3% across the planning period until 2040	- Institutionalization of Demand Side Management - Energy Efficiency Innovation Window	- Implementation of Demand Side Management through Market Load Research - Transforming the Distribution to Smart Grid - Integrated Sustainable Energy Planning - Localized implementation of sustainable energy projects - Increased investments for Energy Efficiency Projects
Energy Transition Index	Index (2021)	49.2	Increase	Updating the National Renewable Energy Program	- Domestic Energy Transition Supply Chain - Enhanced capacity for localized implementation of sustainable energy projects - Accelerating Clean Energy Scenarios - Transition to End Coal (TransEnd)

Coal Generation (both off grid and on grid)	• # of CFPP (on-grid) retire • % of CFPP generation reduced (coal phase down) • # of CFPP (off-grid) cancelled/retired (captive)	12.1 GW	< 10 GW (Clean energy scenario 1)	• Transition to End Coal (TransEnd) • Accelerating Clean Energy Scenarios	• Transition to End Coal (TransEnd) • Accelerating Clean Energy Scenarios
Green Jobs	Number of Jobs	106,439	266,137	• Sustainable Power Development in the Bangsamoro Autonomous Region for Muslim Mindanao • Legal assessment Review for Carbon Pricing	• Established Sustainable Energy Master Plan for the Bangsamoro Autonomous Region in Muslim Mindanao • Domestic ET Supply Chain • Enhanced capacity for localized implementation of sustainable energy projects
Investment in RE Energy	Investment Cost (USD)	USD 1.34 billion	USD 506 Billion	• Review and updating of Price Caps in the Spot Market • Sustainable Power Development in the Bangsamoro Autonomous Region for Muslim Mindanao	• Increased investments in renewable energy, energy efficiency, and energy efficiency projects • Established Sustainable Energy Master Plan for the Bangsamoro Autonomous Region in Muslim Mindanao • Increased investments for Energy Efficiency Projects • Implementation of the Green Energy Option Program: Empowering Consumers to Choose RE (EC to Choose RE!)

VIETNAM

Impact	Indicator	Baseline (2020/2025)	Target (2030)	Activities (2020 - 2024)	2025 - 2030 Action Areas
Energy GHG Emission Levels	Energy GHG emission data by 2030 (BAU)	927.9 Mt CO ₂ eq	358 MTCO ₂ e (Indonesia's Enhanced NDC)	All TA's lead to impact on reduced GHG emissions level	All TA's lead to impact on reduced GHG emissions level
Diversity of Energy Supply % of Renewable Energy Generation	% RE generation (2021)	21% excluding hydropower	23% of the total power generation mix (RUKN as of September 2024)	- Streamlining Government of Indonesia Plans as a Pathway to Achieve NZE - Wind Energy Development in Indonesia: Investment Plan 1 GW of Solar PV Investment by 2025: Solar Irradiance Mapping and Development Plan - Innovating New Incentives Mechanism for Energy Transition Projects - Advisory Services on Smart Grid Implementation (PLN Jamali CC) - Decarbonize Captive Power Market for Industrial Decarbonization - Leveraging industrial decarbonisation options in Indonesia by anticipating international carbon tariffs (CBAM)	- Planning and permitting for RE development (e.g., long-term energy plan, de-risking mechanisms) - Early stage project preparation of renewable energy power plants - Risk mitigation and innovative incentive and disincentive mechanisms (e.g., Carbon pricing) - Power system flexibility for RE integration - Smart Grid for RE integration - Energy Storage Integration - Industrial Sector decarbonisation (Fuel conversion for Captive power)
Installed Capacity of Variable Renewable Energy	MW of installed VRE (2021)	21 GW excluding hydropower	36,000 MW, 75,000 MW by 2040	- Streamlining Government of Indonesia Plans as a Pathway to Achieve NZE - Wind Energy Development in Indonesia: Investment Plan 1 GW of Solar PV Investment by 2025: Solar Irradiance Mapping and Development Plan- Innovating New Incentives Mechanism for Energy Transition Projects - Advisory Services on Smart Grid Implementation (PLN Jamali CC) - Decarbonize Captive Power Market for Industrial	- Planning and permitting for RE development (e.g., long-term energy plan, de-risking mechanisms) - Pre-feasibility study of renewable energy power plants - Risk mitigation and innovative incentive and disincentive mechanisms (e.g., Carbon pricing) - Power system flexibility for RE integration - Smart Grid for RE integration - Energy Storage Integration - Industrial Sector decarbonisation (Fuel conversion for Captive

				- Decarbonization - Leveraging industrial decarbonisation options in Indonesia by anticipating international carbon tariffs (CBAM)	power)
Grid Storage Reliability, Flexibility	- SAIDI (minutes per year) - SAIFI (interruptions per year)	283 mins/year 2.95 interruptions/year	250 mins/year 3 interruptions/year	- Advisory Services on Smart Grid Implementation (PLN Jamali CC) - Integrating Battery Energy Storage System (BESS) into the Grid for Energy Transition	- Planning and permitting for RE development (e.g., long-term energy plan, de-risking mechanisms) - Power system flexibility for RE integration - Smart Grid for RE integration - Energy Storage Integration
Energy Intensity - Energy Consumption/GDP	Energy Intensity (2021)	376 TOE/million USD	400-420 TOE/ million USD (by 2030)	- Catalyzing Energy Efficiency as a Service in Indonesia - Decarbonize Captive Power Market for Industrial Decarbonization - Leveraging industrial decarbonisation options in Indonesia by anticipating international carbon tariffs (CBAM) - JETP Energy Efficiency and Electrification Working Group (E3WG)	- EE Derisking mechanisms (e.g., Guarantee, Insurance) ilo - Pilot project - EE Innovative Business model - pilot project - Industrial Sector decarbonisation (Energy Efficiency and Electrification) - JETP E3WG
Energy Transition Index	Index (2021)	62.1	Increase	All TA's lead to impact on ETI	All TA's lead to impact on ETI
Coal Generation (both off grid and on grid)	# of CFPP (on-grid) retired % of CFPP generation reduced (coal phase down) # of CFPP (off-grid) cancelled/ retired (captive)	0 CFPP (on-grid) retired 0% of CFPP generation reduced (as BAU) 0 CFPP (off-grid) cancelled	3 CFPP (on-grid) retired 38% of CFPP generation reduced (as BAU) 5 CFPP (off-grid) cancelled	- Coal Abatement Scenarios Study - Net-zero study for Energy Sector in Vietnam - Net-zero roadmap for CMSC and SOEs	- Net-zero investment roadmap for PVN and its corporations - Support individual assets with transaction advisory

Green Jobs	Number of Jobs	~233,000 (2023)	350,000 (2030)	Public awareness campaign on energy transition	- Skilled workforce development capacity building for Electricity and Power University, MOIT - Energy Transition Workforce Demand and National Labor Market System - Capacity building on industrial decarbonisation
Investments in RE Energy	Annual Investment in RE	USD 1.5 Billion	USD 135 Billion	- Dedicated policy framework for investment and sustainable energy infrastructure - Green Finance Landscaping - Private Sector Engagement - Battery Supply Chain Development - Mobilisation of resources using sustainable development mechanism	- Facilitating investment preparation for clean energy projects - Pilot dedicated priority policy - Green and sustainable banking system - Pilot green finance interventions

REGIONAL

Impact	Indicator	Baseline (2020/2025)	Target (2030)	Activities (2020 - 2024)	2025 - 2030 Action Areas
Avoided Emissions	CO2 missions intensity per unit of electricity generation in the grid system	67,582 MtCO ₂ (2040) AIMS III Base Scenario	90,852 MtCO ₂ (2040) AIMS III ASEAN RE target scenario	- Facilitating regional dialogue and capacity building on RE and EE policy - Diagnostic Review of and Analysis of Energy Efficiency Development in South East Asia - Diagnostic for Competitive Arrangements for Energy Transition - Energy Transition Roundtables - Roadmap for multilateral power trade pilot in the ASEAN Power Grid	- Completing ASEAN Interconnection Masterplan Studies (AIMS III) Phase 3 - Facilitating multilateral power trade pilot project - Scaling coal phaseout/phasedown
Diversity of Energy Supply % of Renewable Energy Generation	% RE against total	95 GW (2022) ASEAN	200 GW (2040)	- Facilitating regional dialogue and capacity building on RE and EE policy - Diagnostic Review of and Analysis of Energy Efficiency Development in South East Asia - Diagnostic for Competitive Arrangements for Energy Transition - Energy Transition Roundtables - Roadmap for multilateral power trade pilot in the ASEAN Power Grid	- Facilitating regional dialogue and capacity building on RE and EE policy - Strengthening cooperation on supply chains - Scaling coal phaseout/phasedown - Completing ASEAN Interconnection Masterplan Studies (AIMS III) Phase 3 - Facilitating multilateral power trade pilot project
Interconnectivity (cross border power trade)	Intermediate outcome indicator	10.1 GW (2020) ASEAN based on AIMS III	25.8 GW ASEAN, AIMS III ASEAN RE target scenario	Roadmap for multilateral power trade pilot in the ASEAN Power Grid	- Completing ASEAN Interconnection Masterplan Studies (AIMS III) Phase 3 - Facilitating multilateral power trade pilot project
Green Jobs	Number of Jobs	611,000 (2016) - renewables	5.5 million (2050) renewables alone	Capacity building of key actors and policy makers to	Strengthening capacity building and regional

				- support a Just Transition (Just Coal Transition Platform) - Empowering policy makers and facilitating dialogue to elevate capacity (SPARK) - Decarbonization at the sub-national and commercial sectors (Twinning) - Increasing knowledge base on energy transition (Thematic Reports)	- exchanges/dialogues - Building workforce for the energy transition - Contributing to economic diversification in critical areas transitioning away from coal - Expanding knowledge on just energy transition including emerging issues and technologies
Generation Cost	Average Levelized Cost of Energy (LCOE) generation	\$0.047/kWh (2020) based on AIMS III	\$0.039/kWh (2030) ASEAN RE target scenario in AIMS III	- Roadmap for multilateral power trade pilot in the ASEAN Power Grid - Coal phaseout/phasedown	- Completing ASEAN Interconnection Masterplan Studies (AIMS III) Phase 3 - Facilitating multilateral power trade pilot project - Scaling coal phaseout/phasedown



ENERGY
TRANSITION
PARTNERSHIP



UNOPS



sea.etp.org



[@sea_etp_org](https://twitter.com/sea_etp_org)



southeast-asia-energy-transition-partnership



energytransitionpartnership.org

The Southeast Asia Energy Transition Partnership is managed by the United Nations Office for Project Services.

Secretariat: 14th Floor, 208 Wireless Road, Bangkok, Thailand
etp@unops.org