



Background Paper

Acceleration of the Energy Transition in Indonesia

**Achieving an equitable transition through the Just Energy
Transition Partnership and other Financing Strategies**

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Solar power plant panel in Likupang Indonesia



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Wind farm turbine installed in Jenepono Regency, South Sulawesi, Indonesia

One of the initiatives that emerged from the 26th annual meeting of the United Nations Framework Convention on Climate Change Conference of the Parties (COP) held in 2021 in Glasgow, UK, was the Just Energy Transition Partnership, or JETP. JETP is a form of financial funding programme that was initially created as a partnership with South Africa, supported by the governments of France, Germany, the United Kingdom, the United States, and the European Union as members of the International Partners Group (IPG). A vital feature of the JETP is the emphasis on an equitable shift in its investment plans and financing. The JETP with South Africa is expected to serve as a model that can be replicated in other developing countries, especially those highly dependent on fossil fuels for economic development.

At G20 Summit, in Bali, Indonesia, the partnership programme was launched for Indonesia, with US\$ 20 billion combined public and private financing. Similarly, a Vietnamese JETP was announced in December 2022, with a value worth more than US\$15 billion.

To take advantage of JETP and other funding opportunities for Indonesia, the country must identify what it needs to enable the right environment for cooperation that does not violate applicable principles. Simultaneously, Indonesia must encourage ambitious and proper use of funding to accelerate the energy transition towards fossil-free alternatives.

1

Indonesia's energy transition plan

Indonesia expressed its commitment to support the Paris Agreement through its first Nationally Determined Contribution (NDC)¹, which states that Indonesia will reduce greenhouse gas (GHG) emissions through its own efforts by 29%. However, with international assistance, Indonesia can achieve GHG emission reductions of 41%. Indonesia also expressed its willingness to support joint efforts to prevent the increase in the global average temperature from exceeding 2°C, even striving not to

exceed 1.5°C. Indonesia's first NDC aims to reduce around 314 to 446 million tons of CO₂-eq by 2030² by developing renewable energy, implementing energy efficiency measures and conversion, and installing clean energy technology. To do so, a total of 8,770 MW of coal-fired power plant projects have been cancelled, with an estimated GHG emission reduction equivalent to 64.5 million tons of CO₂/year (DJK, 2022) (see Figure 1).

Distribution of Cancelled Coal Power Plant Projects As Part of The Energy Transition Plan

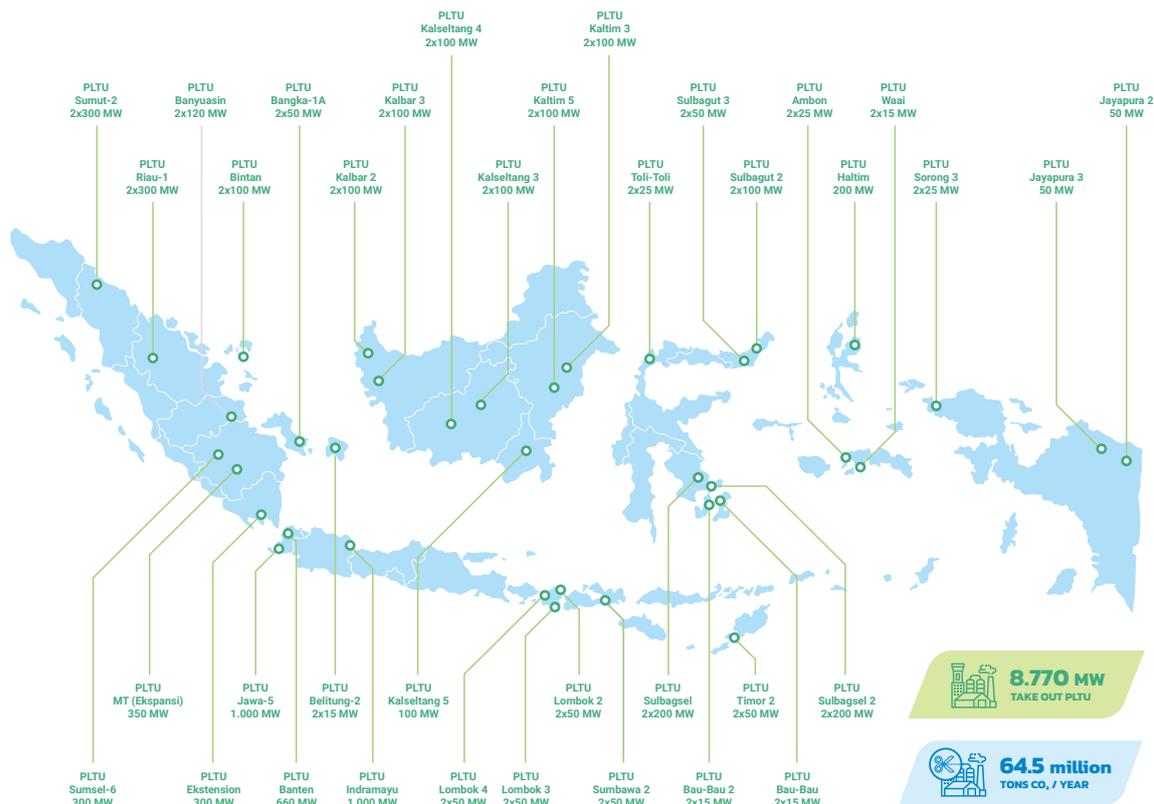


Figure 1
Distribution of cancelled coal power plant (PLTU) projects as part of the energy transition plan (Wanhar, 2022)

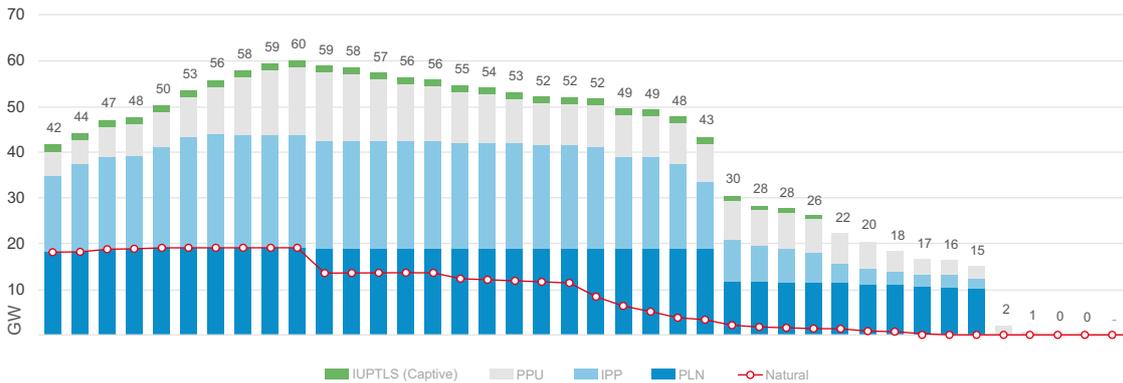
1 On 23 September 2022, Indonesia issued its Enhanced Nationally Determined Contribution (ENDC), in which it pledged to reduce its greenhouse gas emissions by 31% by its own efforts, and 43% with international support, by 2030.

2 In the ENDC, the target for reducing greenhouse gas emissions in the energy sector is 358-466 million tonnes CO₂-eq

In addition to the cancellations, the state electricity company (PLN) must also consider the retirement of coal power plants, as shown in Figure 2.

Coal Power Plant Retirement Scenario

PLN has taken into account an asset revaluation with a plant lifetime extension of 30 to 40 years since 2016



Note: IUPTLS: Izin Usaha Penyediaan Tenaga Listrik untuk kepentingan Sendiri (Business Licence for Own Electricity Production); PPU: private power utility company; IPP: independent power producer.

Figure 2
Coal power plant retirement scenario

The calculation shown in Figure 2 considers the following points:

- The calculated coal power plant capacity includes existing and active coal power plants in all PLN and non-PLN operating areas.
- The increase in coal power plant capacity follows the projects listed in the electricity business plan (Rencana Usaha Penyedia Tenaga Listrik (RUPTL)).
- The retirement of coal power plants significantly reduces emissions from the power generation sector.

The lifetime of PLN's coal power plants, according to asset revaluation and a PPU, is a maximum of 30 years, whereas for IPPs, it is 25 to 30 years, according to the Power Purchase Agreement (PPA).

Figure 2 also provides an overview of the preparation when phasing out and retiring coal power plants:

- The legal basis (in the form of government regulation and presidential regulation) will need to be created so that the retirement can be carried out by business entities and is sustainable until completion.
- Phasing out PLN's coal power plant before 2046 requires thorough study because there is an issue of revaluation of the assets.
- IPP coal power plants are only in operation until the end of the PPA and are non-extendable.
- Coal power plants outside the PLN working area and coal power plants licensed to supply electricity for businesses' own use (IUPTLS) must follow the phasing out programme.
- Not adding new coal power plants except those already listed in the RUPTL applies to all business areas and plants licensed to supply electricity for businesses' own use (IUPTLS).



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Large coal fired power plant in Indonesia

The Ministry of Energy and Mineral Resources (MEMR) has developed three scenarios for coal power plant retirement: the Business as Usual Scenario, the Zero Emission Scenario (ZES), and the Net Zero Emission (NZE) Scenario. To achieve NZE in the energy sector by 2060, net emissions in the generation sector must reach zero. In this regard, the ZES has been selected for implementation.

To achieve the aforementioned ZES, the following should be done:

- **Coal/combined cycle gas turbine power plants:** additional coal power plants can only be completed in the construction period. IPP coal power plants will be retired after the end of the PPA, while combined cycle gas turbine power plants will be retired after 30 years.
- **Renewable energy:** additional electricity generation after 2030 will only be from renewable energy. Solar energy will start being developed from 2030, followed by both onshore and offshore wind power in 2037.
- **Geothermal power plants:** output will be gradually maximised to 22 GW through the development of an advanced geothermal system and other non-conventional geothermal systems.
- **Hydropower:** this will be optimised and the electricity sent to load centres on other islands. Hydropower also provides balance by acting as a base load/service gap filler for renewable energy plants.
- **Nuclear power plants:** gradual operation will start in 2039 to maintain system reliability. By 2060, nuclear power plants are expected to reach 31 GW.
- **Storage:** pump storage implementation will start in 2025. Battery storage is expected to begin in 2034. Meanwhile, hydrogen produced from renewable electricity (Green Hydrogen) will start in 2031 for the non-generation sector.

The MEMR also noted that the investment needs for generation and transmission towards NZE utilising the ZES in the energy sector would reach US\$1,108 billion in 2060, of which US\$995 billion will be for generation and the other US\$113 billion for transmission. This means that Indonesia needs US\$28 billion annually to achieve NZE in the energy sector.

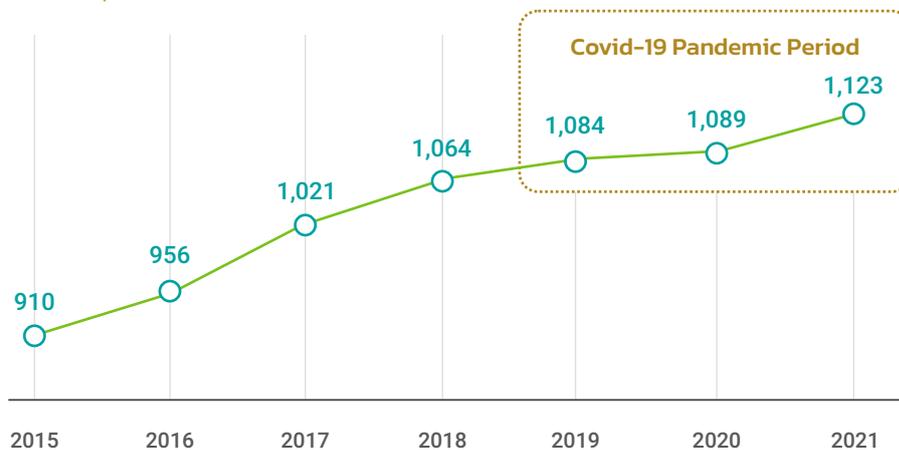
The readiness of Indonesia's renewable energy sector

Indonesia has enormous renewable energy potential. There is an estimated 3,686 GW from solar, hydro, bioenergy, wind, geothermal and marine sources. However, Indonesia's utilisation of renewable energy is minimal, at 11,612 MW as of June 2022, or around 0.3% of the total potential (Iswahyudi and Kusdiana, 2022).

The Potential of New and Renewable Energy in Indonesia

Electricity Consumption

Unit: kWh/Capita

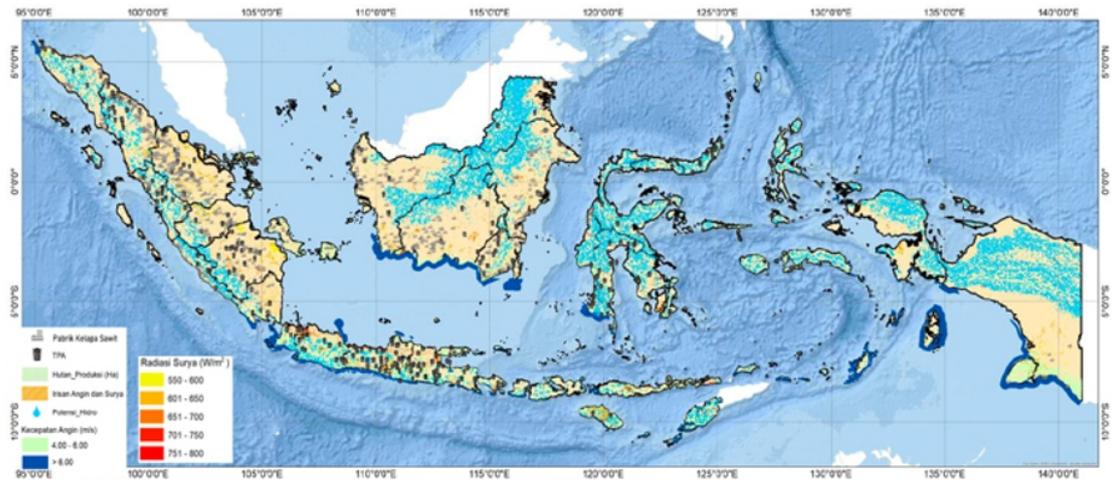


NEW AND RENEWABLE ENERGY POTENTIAL AND UTILISATION

ENERGY SOURCE	POTENTIAL (GW)	UTILIZATION (MW)
Solar	3,295	221
Hybrid	95	6,660
Bioenergy	57	2,284
Wind	155	154
Geothermal	24	2,293
Ocean	60	0
Total	3,686	11,612

Note: Realisation in June 2022. Nuclear potential: Uranium 89,483 tons and Thorium 143,234 tons

Indonesia has large, dispersed, and diverse new and renewable energy potential to boost national energy security and achieve the NRE target in the energy mix targets



“ With 0.3% of the total potential already utilised, there is a huge opportunity for new and renewable energy development, especially due to the environmental issues, climate change, and the increasing electricity consumption per capita.

- Hydro potential is widespread throughout Indonesia, especially in Kaltara, Aceh, West and North Sumatera, and Papua.
- Solar potential is widespread throughout Indonesia, especially in East Nusa Tenggara, West Kalimantan, and Riau, all of which have high solar radiation.
- Wind potential (>6m/s) is found in East Nusa Tenggara, South Kalimantan, West Java, Aceh, South Sulawesi, and Papua.
- Ocean energy potential is widespread throughout Indonesia, especially in Maluku, Bali, and East and West Nusa Tenggara.
- Geothermal potential is found in the ring of fire regions including Java, Sumatera, Bali, Nusa Tenggara, Sulawesi, and Maluku.

Figure 3 Potential of new and renewable energy in Indonesia (Iswahyudi dan Kusdiana, 2022)

Renewable energy development must be carried out even more extensively for Indonesia to achieve its GHG reduction target of NZE in 2060 or earlier. The EBTKE³ estimates that in 2060, to reach NZE, electricity generation from new renewable energy will be split as follows: 421 GW from solar power, 94 GW from wind power, 72 GW from hydropower, 60 GW from bioenergy power, 31 GW from nuclear power plants⁴, 22 GW from geothermal power, and 8 GW from tidal power⁵. Meanwhile, storage technology⁶ will consist of 4.2 GW of pumped storage and 56 GW of battery storage.

NZE Power Generation Capacity | GW

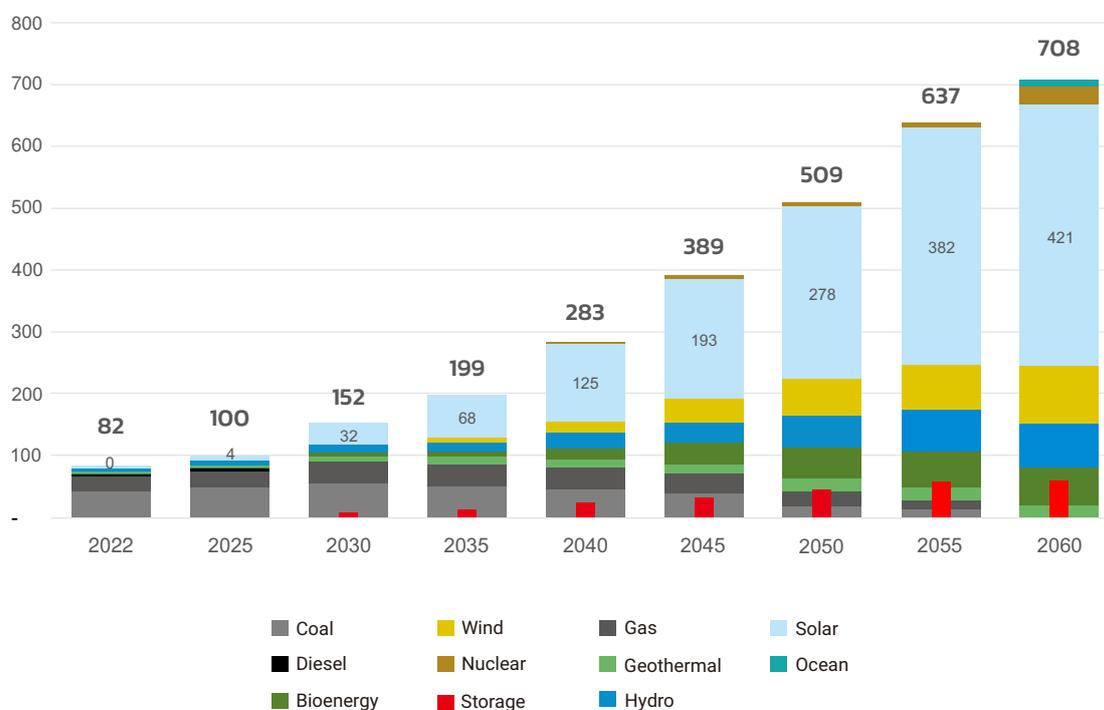


Figure 4 Generation capacity under NZE conditions in 2060 (GW) (Iswahyudi dan Kusdiana, 2022)

In terms of infrastructure, Indonesia needs to strengthen its existing grid. The national grid is a crucial factor for NZE in the generation sector, especially with the plan to integrate inter-island grids.

3 The Direktorat Jenderal Energi Baru Terbarukan dan Konservasi Energi, known in English as the Directorate General of New Renewable Energy and Energy Conservation, is a suborganisation directly under the MEMR.
 4 The nuclear power plant is expected start operating in 2039 and to come online in 2040, (Iswahyudi and Kusdiana, 2022).
 5 Tidal power plants are expected to be commissioned around 2055, and by 2060 are expected to reach 8 GW.
 6 Large-scale storage is expected to be available in 2031.

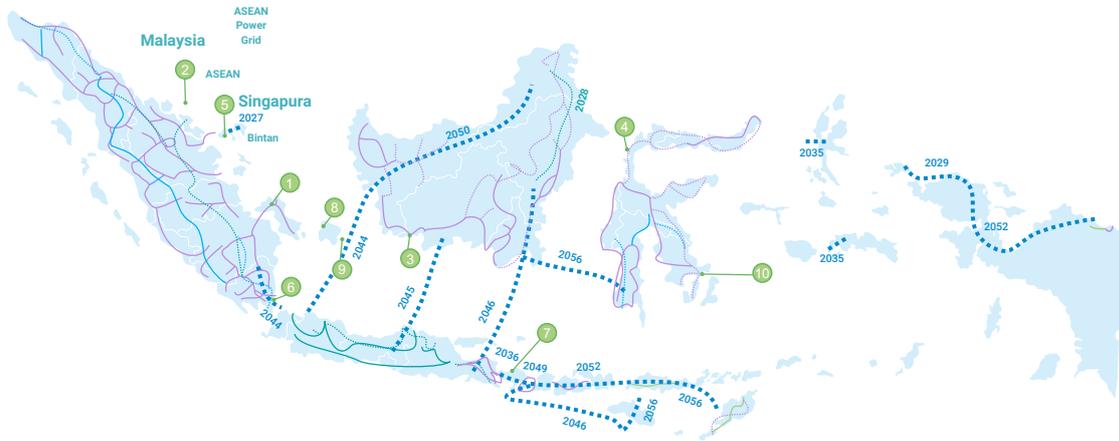


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Geothermal power plants that are fully utilised by local residents, Dieng, Central Java, Indonesia.

Development Of Electricity Infrastructure

Super grid is the key factor to achieve Zero Emission in power sector



SUMATERA	Cap (GW)	JAMALI	Cap (GW)	KALIMANTAN	Cap (GW)	SULAWESI	Cap (GW)	MPNT	Cap (GW)
Bioenergy	19	Bioenergy	16	Bioenergy	10	Bioenergy	9	Bioenergy	6
Geothermal	9	Geothermal	8	Geothermal	0,2	Geothermal	3	Geothermal	1
Hydro	8	Hydro	3	Hydro	54	Hydro	5	Hydro	2
Solar	146	Solar	109	Solar	69	Solar	27	Solar	71
Wind	10	Wind	40	Wind	17	Wind	11	Wind	16
Ocean currents	7	Ocean currents	1	Nuclear	26				
Nuclear	6								
TOTAL	205	TOTAL	178	TOTAL	175	TOTAL	54	TOTAL	96

<p>Note:</p> <p>JAMALI : Java-Madura-Bali</p> <p>MPNT : Maluku-Papua-Nusa Tenggara</p> <p>ASEAN : Association of Southeast Asian Nation</p>	<p>A. Have been included in the RUPTL project list:</p> <ol style="list-style-type: none"> 150 kV Sumatera-Bangka Interconnection (2022); 500 kV Sumatera-Malaysia Interconnection (2030), supporting ASEAN power grid cooperation; 150 kV Kalimantan Interconnection (2023); 150 kV Sulbagut-Sulbagsel Interconnection (Tambu-Bangkir COD 2024). 	<p>National</p> <p>Capacity in 2060 (GW)</p>
	<p>B. Included in the RUPTL draft but need further review:</p> <ol style="list-style-type: none"> Sumatera-Singapore Interconnection (including Sumatera-Bintan interconnection), to support ASEAN power grid cooperation, further riviw is required; 500 kV Sumatera-Java Interconnection (further review is required by taking intro consideration demand and supply); 150kV Bali-Lombok Interconnection (further review is required to support the Java-Nusa Tenggara interconnection plan); 150 kV Bangka-Belitung Interconnection (further review is required to support the Sumatera-Kalimantan interconnection plan); Belitung-Kalimantan interconnection (further review is required as a part of the Supergrid Nusantara program); 150 kV Baubau-Sulbagsel Interconnection (further review is required to improve the reliability of Bau-Bau). 	<p>Bioenergy</p> <p>60</p> <p>Geothermal</p> <p>22</p> <p>Hydro</p> <p>72</p> <p>Solar</p> <p>421</p> <p>Wind</p> <p>94</p> <p>Ocean currents</p> <p>8</p> <p>Nuclear</p> <p>31</p> <p>TOTAL</p> <p>708</p>
<p>Color</p> <ul style="list-style-type: none"> 70kv 150kv 275kv 500kv <p>Type</p> <ul style="list-style-type: none"> Existing Plan NZE (Supergrid) 	<p>Interconnection investment will decrease if Renewable Energy Based Industrial Development (REBID) is implemented</p>	

Figure 5 Development of electricity infrastructure (Iswahyudi, 2022)



Enabling conditions for an equitable energy transition in Indonesia

Policies that enable conditions for an equitable energy transition are essential for phasing out fossil fuels and developing the renewable energy sector. Aside from Indonesia's commitment to supporting the Paris Agreement, as stated in Indonesian Bill No. 16/2016, Indonesia must also create other enabling conditions so that the transition from fossil fuels to renewable energy technologies can run well.

Some of the enabling conditions that can form the basis for Indonesia's energy transition are as follows:

- The government of Indonesia submitted an ENDC document on 23 September 2022, with a target of reducing GHG emissions through the country's own efforts by 31.89%, and by 43.20% with international support. The reduction of GHG emissions in the energy sector through its own efforts is expected to reach a minimum of 358 million tons of CO₂-eq, up from the previous estimate of 314 million tons of CO₂-eq.
- The *Long-term Strategy for Low Carbon and Climate Resilience 2050* aims towards an NZE state by 2060 or sooner.
- Through the Financial Services Authority (Otoritas Jasa Keuangan, 2022), Indonesia launched the Green Taxonomy in 2022. This Green Taxonomy is expected to support efforts to protect and manage the environment as well as mitigate and adapt to climate change.
- Indonesia launched the 2022 Presidential Regulation number 112 on 13 September 2022 to accelerate renewable energy development. This mandates the MEMR to prepare a roadmap to limit the operational period of coal power plants and the prohibition of new coal power plant developments unless it fulfils certain exceptional conditions. The same regulation also states that the government can provide fiscal support through a funding and financing framework, including blended finance sources from the state budget and other legitimate sources to accelerate the energy transition.
- Indonesia is currently drafting a New Energy and Renewable Energy Bill (Rancangan Undang-Undang Energi Baru dan Energi Terbarukan (RUU EBET)) to strengthen the renewable energy sector in Indonesia. The goal of the RUU EBET will be to:
 - **provide legal certainty for new and renewable energy development in Indonesia;**
 - **strengthen the institutional framework and governance of new and renewable energy development in Indonesia;**
 - **create a conducive investment climate for new and renewable energy investors; and**
 - **optimise new and renewable energy resources to support national industrial and economic development.**

3

Leveraging finance for the energy transition in Indonesia

Indonesia's energy transition plan to move away from fossil fuel power plants, such as coal, requires considerable funding. Based on MEMR calculations¹, Indonesia needs at least US\$28 billion annually to abandon coal and decarbonise by 2060. This only accounts for coal-based electricity generation and transmission. However, the development of renewable energy as a new energy source and the socioeconomic impacts caused by this transition remain unaccounted for.

Several financial tools are currently geared towards funding the energy transition, particularly the shift from coal to renewable energy. The JETP is one funding model presently receiving much attention. Other funding platforms, such as the Climate Investment Fund, are also available for Indonesia to decarbonise. The questions to address are how Indonesia will implement these funds and what restrictions this international aid should adhere to, to help Indonesia shift from fossil fuels to renewable energy without causing any harm.



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Turbine on the hill for energy generation, Sidrap, Indonesia

1. Current funding initiatives to support Indonesia's Just Energy Transition

Currently, two funding initiatives are being discussed for implementation in Indonesia. The first is the Energy Transition Mechanism (ETM), which comes from the Climate Investment Fund channelled through the Asian Development Bank. The second is the JETP, a funding model similar to the JETP in South Africa.

• Energy Transition Mechanism

Announced at COP26 Glasgow in 2021, the ETM Southeast Asia Partnership is the first financial programme of its kind in the Asia-Pacific to accelerate Southeast Asia's transition to clean energy. ETM has a blended finance approach to retire coal-fired power plants and accelerate their retirement schedule, replacing them with plants powered by cleaner alternatives. Apart from the early retirement of coal-fired power plants, the mechanism also allows the repurposing of plants in a faster timeframe. This instrument focuses on clean energy investments in generation, storage and grid performance. Contributions from development banks, private investors, philanthropists and long-term investors will provide the capital for the ETM.

The Asian Development Bank's implementation of ETM will support national governments to finalise relevant policies and businesses, thereby improving programme

governance, emissions reductions, and equitable transition objectives.

Most recently, at the 2022 G20 summit, Indonesia announced their ETM Country Platform, where PT SMI, a state-owned enterprise, will act as the fund manager for all funding related to an equitable energy transition in the form of blended finance. They will be supported by the think tank Climate Policy Initiative, which will conduct policy analysis, stakeholder convening and provide recommendations to ensure a clean energy transition.

The ETM Country Platform is designed to have two types of funding: Clean Energy Fund to fund renewable energy projects and Carbon Reduction Fund to fund coal phase-out. The first coal power plant to be retired under this initiative will be the 600 MW Cirebon-1 coal-powered steam turbine power plant in West Java.

• Just Energy Transition Partnership

At COP26 in Glasgow, UK, in 2021, the South African government, together with the governments of France, Germany, the United Kingdom, the United States and the European Union, also known as the IPG, announced a partnership called the JETP. The South African JETP is an effort to mobilise US\$8.5 billion over the next three to five years to assist South Africa in its decarbonisation efforts. The JETP emphasises an equitable transition in the structure of the investment plan and its financing component (UK Cabinet Office, 2022). The Just Energy Transition Investment Plan (JET IP) of South Africa was published in November 2022 and provides detailed information about the timeframe, targets and distribution of the US\$8.5 billion fund (The Presidency Republic of South Africa, 2022).

A funding mechanism such as the JETP is expected to be applied to other developing countries with energy-intensive economies. This mechanism explicitly demonstrates that developing countries with energy-intensive economies incorporate their decarbonisation

commitments into their NDCs. To achieve this, developed countries provide funds to support developing countries in implementing their decarbonisation efforts. The success of this cooperative mechanism will indicate that an equitable transition is feasible and fundable and can be a catalyst for inclusive development, where no one is left behind.

At the Bali G20 Summit in November 2022, it was announced that, for Indonesia, the JETP would allocate US\$20 billion in funding while the ETM would allocate US\$500 million in concessional funding (Ministry of Finance, 2022). Concerning the JETP, the US\$20 billion funding will be mobilised in two ways: US\$10 billion will be mobilised by members of the IPG, and the other US\$10 billion will be provided by the Glasgow Financial Alliance for Net Zero Working Group in collaboration with the government of Indonesia and the IPG (European Commission, 2022).

2. Funding principles for the energy transition in Indonesia

Learning from the development of South Africa's Just Transition Framework, it is appropriate for Indonesia to have basic principles that must be adhered to in order to realise an equitable energy transition. Based on the Indonesian constitution from 1945, there are seven principles that must be implemented to realise Indonesia's Just Energy transition. These seven principles are justice, legal certainty, expediency, human rights, environmental protection (including the utilisation of sustainable environmental management, equitable efficiency and energy independence), transparency (including public participation and information disclosure), and the principle to collaborate in the drafting of policies and regulations.

A Principle of justice

The principle of justice implies that everyone in Indonesia has the same rights and obligations in all aspects of life. This means that everyone has the right to equal opportunities to improve their economic standard of living without discriminatory treatment from any party. Everyone also has the right to obtain fair and decent compensation and treatment in labour relations and fair legal certainty by getting equal treatment before the law.

This principle also states that the government has an obligation to deliver social justice through the empowerment of weak and economically underprivileged people in accordance with human dignity through the provision of social security and public facilities, as well as proper health.

This principle is applied in the following ways with the aim of realising an equitable energy transition in Indonesia:

- I. It balances the rights and obligations of stakeholders who benefit from and stakeholders negatively affected by regulations/policies.
- II. It accommodates the needs of the government in carrying out its obligations to ensure access to energy for weak and underprivileged people.

B Principle of legal certainty

This principle is applied in the following ways:

- The regulations can be formulated clearly and do not have multi-interpretation legal narratives related to the rights and obligations of business citizens (business actors, the wider community, indigenous peoples) or the responsibilities and authorities of the central and regional governments in relation to the provision of incentives and sanctions for violations or failure to fulfil obligations.
- The regulations are based on mandates from higher laws and regulations and do not regulate matters that conflict with the provisions of higher laws and regulations.

C Principle of expediency

The principle of expediency regulates that all forms of national economic activity, including the utilisation of the natural resources contained therein, must provide maximum benefit to the people as the main objective of every form of use and management of natural resources and energy in Indonesia.

The use and management of natural resources and energy in Indonesia that are important to the state and affect people's livelihoods must be controlled by the state. However, the constitution does not mandate state control over the use of natural resources and energy that do not have an important impact on the state or the lives of many people (for example, the generation, utilisation and distribution of renewable energy).

The application of this principle in regulations and cooperation agreements related to equitable energy transition means that the results of any regulations and cooperation must provide maximum benefits for the wider community, and not just for some people.

D Principle of human rights

This principle states that the government is obliged to guarantee the human rights of every Indonesian citizen, including those related to marriage; citizenship and political asylum from other countries; health services; protection from violence and discrimination; access to education, association, assembly and opinion; access to information and communication; cultural identity and traditional community rights; private property rights; the right to a good and healthy environment; improvement of the same quality of life; guarantees of protection and legal certainty; the right not to be prosecuted on the basis of retroactive laws; and access to employment. In realising the above individual rights that give rise to obligations or restrictions for others, it must be stipulated by law.

The application of this principle to the regulations and cooperation carried out related to the equitable energy transition means that the equitable energy transition can protect human rights affected during the implementation of the regulations and cooperation in question.

E Principles of environmental protection, including the utilisation of sustainable management of nature, fair efficiency and energy independence

This principle is a non-economic principle that requires every formation and implementation of the national economy to ensure environmental protection, sustainable use of natural management, equitable efficiency and energy independence.

Included in this principle is the restoration of the environment damaged by the operational impacts of fossil fuel power plants.

F Principle of transparency, including public participation and information disclosure

This principle shows the importance of public involvement in any public policy-making based on access to information in government decision-making processes that are carried out in an inclusive manner.

This principle ensures public involvement in establishing the basis for implementing an equitable energy transition programme.

G Principle of collaborative policy-making

This principle emphasises the importance of cross-ministerial collaboration and state institutions in formulating plans to develop the national economy (including the use and management of natural resources and energy) based on the principle of togetherness.

The application of this principle in regulations and cooperation related to an equitable energy transition is to ensure effective coordination and collaboration between ministries/agencies both in policy formulation and implementation.

4

Civil society organisations' views on the principles that need to be applied for an equitable energy transition



Solar power plant in the middle of the sea village, Bontang, Indonesia

Firstly, some civil society organisations (CSOs) see that the just energy transition still has lots of work ahead, especially after looking at the lessons learnt from the JETP initiative in South Africa. Some of the concerns raised by CSOs are related to the definition of the 'Just' element in the energy transition. A shared understanding of the definition will help Indonesia ensure equitable cooperation with other stakeholders.

Secondly, it is important to have a platform for information exchange and the involvement of CSOs. Indonesian CSOs are concerned with the lack of public consultation in the sustainable energy transition processes. This planned platform can be used as a source of information that can be updated regularly and accessed by the public.

Thirdly, it is crucial that this blueprint includes and considers environmental and human rights in the energy transition planning stage. CSOs see that documents such as the *Kajian Lingkungan Hidup Strategis* (KLHS; Strategic Environmental Assessment) should be optimised in the planning process. The KLHS is vital because it can be used to internalise the values of environmental, social, cultural and economic considerations, starting at the planning stage.

Other issues include environmental restoration and applying the Polluter Pays Principle, especially for damages incurred while fossil-based power plants are still in operation.

CSOs also stated that an equitable energy transition is linked to the choices that are made moving away from those that still use fossil fuels and looking at how those choices eliminate conflict and do not marginalise those communities.

5

Key takeaways

All of the points above describe the long process towards NZE to combat climate change from the planning and financial perspective for Indonesia. Here are the main takeaways:



To achieve NZE levels, Indonesia needs to increase its decarbonisation efforts in the energy sector. Indonesia is currently developing a scenario to phase down/out coal-fired power plants. However, it is essential to remember that when Indonesia does this, the electricity supply must be met from non-fossil-fuel power plants. Thus, there is a need to develop a phase-in scenario for renewable energy to fulfil the electricity supply previously supplied by fossil fuels. Indonesia also needs to strengthen the existing grid, to ensure access to electricity is well distributed.



Regarding the phase down/out of fossil fuel power plants and the phase-in of renewable energy, social impacts must also receive the same attention as the technical aspects. This not only relates to the social impact on workers from fossil fuel power plants but also to how Indonesia can prepare a renewable energy workforce to ensure continued electricity supply and also to provide certainty of survival for the affected community in the form of adequate employment.



There are currently two forms of funding to finance the equitable energy transition: the ETM and the JETP. The JETP, currently being implemented in South Africa, is expected to be a cooperation and funding model to assist developing countries in decarbonisation efforts such as phasing down/out coal-based power plants.



Indonesia must apply several principles in regulations and cooperation with other parties to establish an equitable energy transition:

- **Fairness**
- **Legal certainty**
- **Expediency**
- **Human rights**
- **Environmental protection, including sustainable use of natural management, equitable efficiency and energy independence**
- **Transparency, including public participation and information disclosure**
- **Collaborative drafting of regulatory policies.**



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Sunset in Teknologi Indonesia Electric

For Indonesia to adequately address the emerging opportunities associated with an equitable energy transition, the following recommendations can be considered:



Indonesia needs to have a definition and perception of the Just Energy Transition which is understandable and applicable to all parties. Indonesia can develop a Just Energy Transition Framework that can then be applied with consideration of other sectors outside the energy sector.



Indonesia needs a solid institutional arrangement at the national level related to an equitable energy transition.



Indonesia needs a platform that all Indonesians can use to share information related to an equitable energy transition specific to Indonesia. This platform is expected to facilitate and actualise practical and participatory public consultation.

References

Anindarini, G. (2022). Enabling Conditions for an Equitable Energy Transition (CSO Views on Coal Phase-Out Strategy and Renewable Energy Readiness in Indonesia). IRID.

Birry, A.A. (2022). Key Principles in Coal Phase-Out (IRID FGD 'CSO Views on Coal Phase-Out Strategy and Renewable Energy Readiness in Indonesia'). Trend Asia.

European Commission. (2022). Joint Statement by the Government of the Republic of Indonesia and International Partners Group members on the Indonesia Just Energy Transition Plan. European Commission. https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_22_6892

Indonesia. (2015). Undang-Undang Dasar Negara Republik Indonesia tahun 1945. <https://www.dpr.go.id/jdih/uu1945>

Iswahyudi, H. and Kusdiana, D. (2022). Renewable Energy Development in Energy Transition (IRID FGD 'Indonesia's Readiness to Phase-Out Coal Power Plant'). EBTKE, MEMR.

Ministry of Finance. (14 November 2022). Indonesia Luncurkan ETM Country Platform untuk Percepat Transisi Energi yang Adil dan Terjangkau. <https://media.kemenkeu.go.id/getmedia/1aca92dd-9cb7-4456-81cd-eae6e63ce355/SP-172-Indonesia-Luncurkan-ETM-Country-Platform-untuk-Percepat-Transisi-Energi-yang-Adil-dan-Terjangkau?ext=.pdf>

Otoritas Jasa Keuangan. (2022). Taksonomi Hijau Indonesia / Indonesia Green Taxonomy. <https://ojk.go.id/id/berita-dan-kegiatan/info-terkini/Documents/Pages/Taksonomi-Hijau-Indonesia-Edisi-1---2022/Taksonomi%20Hijau%20Edisi%201.0%20-%202022.pdf>

The Presidency Republic of South Africa. (2022). South Africa's Just Energy Transition Investment Plan (JET IP). <https://www.thepresidency.gov.za>

UK Cabinet Office. (2022). Six-Month Update on Progress in Advancing the Just Energy Transition Partnership (JETP). <https://ukcop26.org/six-month-update-on-progress-in-advancing-the-just-energy-transition-partnership-jetp/>

Wanhar. (2022). Net Zero Emission Scenario for Electricity Generation Sector (IRID FGD 'Indonesia's Readiness to Phase-Out Coal Power Plant'). DJK, MEMR.

Acronyms and abbreviations:

COP	Conference of the Parties
CSO	Civil Society Organisations
EBTKE	Direktorat Jenderal Energi Baru Terbarukan dan Konservasi Energi (Directorate General of New Renewable Energy and Energy Conservation)
ENDC	Enhanced Nationally Determined Contribution
ETM	Energy Transition Mechanism
GHG	Greenhouse Gas
IPG	International Partners Group
IPP	Independent Power Producer
IUPTLS	Izin Usaha Penyediaan Tenaga Listrik untuk kepentingan Sendiri (Business Licence for Own Electricity Production)
JETP	Just Energy Transition Partnership
KLHS	Kajian Lingkungan Hidup Strategis (Strategic Environmental Assessment)
MEMR	Ministry of Energy and Mineral Resources
NDC	Nationally Determined Contribution
NZE	Net Zero Emission
PLN	Perusahaan Listrik Negara (State Electricity Company)
PPA	Power Purchase Agreement
PPU	Private Power Utility company
RUPTL	Rencana Usaha Penyedia Tenaga Listrik (National Electricity Generation Plan)
RUU EBET	Rancangan Undang-Undang Energi Baru dan Energi Terbarukan (Law Draft Law for New and Renewable Energy)
ZES	Zero Emission Scenario



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Scenic Aerial View of Cirata Dam, Hydro Electric Power for Java and Bali, Cianjur, West Java, Indonesia



G7 | G20 TRACK 2 DIALOGUE

G7 | G20 Track 2 Project is a channel to allow 'trickle-down / bottom-up' dialogues between civil society and governments to discuss climate change policies in the context of G20. Our partner CSOs in each country represent the global south countries in these dialogues.



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