

CAN JETP'S INVESTMENT AND POLICY PLAN PROMOTE A JUST

AND AMBITIOUS ENERGY TRANSITION IN INDONESIA?

A White Paper Prepared by Civil Society
Organizations to Address the Energy
Transition in Indonesia through JETP
Partnership

October 2023



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FOREWORD

“The lack of transparency and limited space for public participation, as well as the unavailability of CIPP documents to the public, has made that responses and input on investment plans and JETP policies cannot be carried out specifically as stated in the CIPP documents. ”

Indonesia and countries of the International Partners Group (IPG) launched the Just Energy Transition Partnership (JETP) at the Partnership for Global Infrastructure and Investment (PGII) at the G20 Summit in November 2022 in Bali, Indonesia. In a Joint Statement, Indonesia and IPG partner countries announced a commitment of USD 20 billion (approximately IDR 310 trillion) to support Indonesia in a just and ambitious energy transition, in line with the goals of the Paris Agreement and contributing to keeping global warming limits below 1,5°C.

This partnership would then followed by the establishment of JETP Indonesia Secretariat in February, 2023, where the Indonesian Government will develop an investment and cooperation plan with its international partner countries. With this commitment, JETP is expected to be able to accelerate a just energy transition policy in Indonesia. The JETP investment plan is outlined in a Comprehensive Investment Policy and Plan (CIPP), which was developed to include on-grid electricity as well as captive electricity system for industrial purposes.

The JETP Agreement has set several joint targets for electricity sector as follow:

- Peak power sector emissions in 2030 with an absolute value of no more than 290 million tonnes of CO₂e (down from the 2030 baseline of 357 million tonnes of CO₂e) and proceed to immediately reducing it with ambitious target of clean zero emission in electricity sector post 2050.
- Accelerate the use of renewable energy so that the renewable energy covers at least 34% of all power plants in 2030.
- Accelerate the early retirements of coal power plants as an important element to reach the above targets with international support.

The JETP Secretariat has postponed the release of CIPP to the public as they planned on 16 August 2023, and only submitted the CIPP draft to the Indonesian government and IPG partners for feedback. Through its official statement, the JETP Secretariat stated that it still needed time to complete the data in developing a pathway to reduce peak emissions of 290 million tonnes from 357 million tonnes of CO₂e in 2030. This is because the scenario has not taken into account the emission of captive coal power plant. By including the captive coal, the 2030 emission reduction target becomes much higher than the peak emission of 290 million tonnes of CO₂e target. Beside the need to revise the emission peak target, other crucial issues that emerged during the negotiations included, among others, the composition and nature of USD 20 billion funding, as well as the target of early retirement of coal power plants.

The lack of transparency and limited space for public participation, as well as the unavailability of CIPP documents to the public, has made that responses and input on investment plans and JETP policies cannot be carried out specifically as stated in the CIPP documents. This white paper document was prepared to provide a response to the process of preparing and investing plans prepared in CIPP as well as recommendations for the process of preparing and implementing JETP in the energy transition in Indonesia.

Jakarta, October 12th, 2023

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BACKGROUND

In 2015, when the Paris Agreement was agreed upon by the parties that ratified the Climate Change Convention, the Intergovernmental Panel on Climate Change (IPCC) was invited to prepare a special report regarding the increase of average global temperatures so that it does not exceed 1,5°C (paragraph 21 Decision 1/CP.21). Report launched in 2018 stated that to prevent an average increase in global temperature not to exceed 1,5°C, the net anthropogenic emission (greenhouse gas emissions produced by human activities), should decrease by around 45% of the 2010 emission level, in 2030, to then reach zero in 2050 (IPCC SR 1,5 Summary for Policymakers part C.1). In the energy sector, this provides a signal for a transition on the power plant system, considering that electricity is the largest contributor to emissions in the energy sector. In 2022, the global electricity sector reached its highest peak emission of 14.6 Gross tonnes CO₂e (IEA,2023).

The sixth IPCC report, Second Working Group (WG II) emphasized that the impact of climate change that has occurred in all parts of the world is caused by greenhouse gases produced by humans or anthropogenic emissions (IPCC, 2022). The Synthesis Report issued by the IPCC in 2023, again

emphasizes the importance of achieving the global emissions reduction target until 2050. This was reinforced by several findings in the report which note that in the 2011-2020 period, global surface temperatures have reached 1,1°C above pre-industrial level. If the temperature increase is to be limited to 1,5°C, then current emissions should have decreased and has been reduced by almost half by 2030 (IPCC, 2023).

However, to prevent the increase in global average temperature from exceeding 1,5°C, efforts made should apply the principles of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC) in the context of national conditions, as stated in Article 2.2 of the Paris Agreement. This means that **developed countries which have more capacities than developing countries, should carry out climate actions in the form of decarbonization efforts** (Article 4.of the Paris Agreement), and at the same time, provide funding to increase the capacity of developing countries to carry out their climate actions (Article 4.5, Article 9.1 and Article 9.3 of Paris Agreement).

Currently, there are several energy transition financing schemes running in Indonesia, namely:

- 1) CIF-ACT financing through the Asian Development Bank and World Bank Group amounting to 500 million USD for the retirement of 2 GW Power Plants in 5 - 10 years and 400 MW of installed renewable energy capacity and 90 MW of storage;
- 2) Energy Transition Mechanism managed by PT Sarana Multi Infrastruktur which targets the retirement of 15 GW Power Plants through blended finance; and
- 3) Just Energy Transition Partnership via the International Partner Group amounting to 20 billion USD with a peak emission target of 290 million tonnes of CO₂e and 34% renewable energy mix in 2030.





Apart from these three schemes, both PLN (State Electricity Company) and the Indonesian Investment Authority (INA) also have their own

financing plans, with PLN targeting the retirement of 6.7 GW of PLN's coal power plant and 16 GW of renewable generation by 2030 while INA targets the retirement of 1.5 GW Power Plants.

As a collaborative effort, the Just Energy Transition Partnership (JETP) has the intention of realizing the goals of the Paris Agreement as stated in Article 2 of the Paris Agreement. JETP was first announced at COP 26 Glasgow, where countries that are members of the International Partners Group (IPG) made an agreement with South Africa, by providing a funding commitment worth USD 8.5 billion (around IDR 129 trillion) to help South Africa carry out energy transition. It is hoped that the JETP cooperation scheme can become an effective model of cooperation, to help developing countries carry out decarbonization efforts, so that they can contribute to preventing an increase in global average temperature from exceeding 1.5°C.

JETP INDONESIA

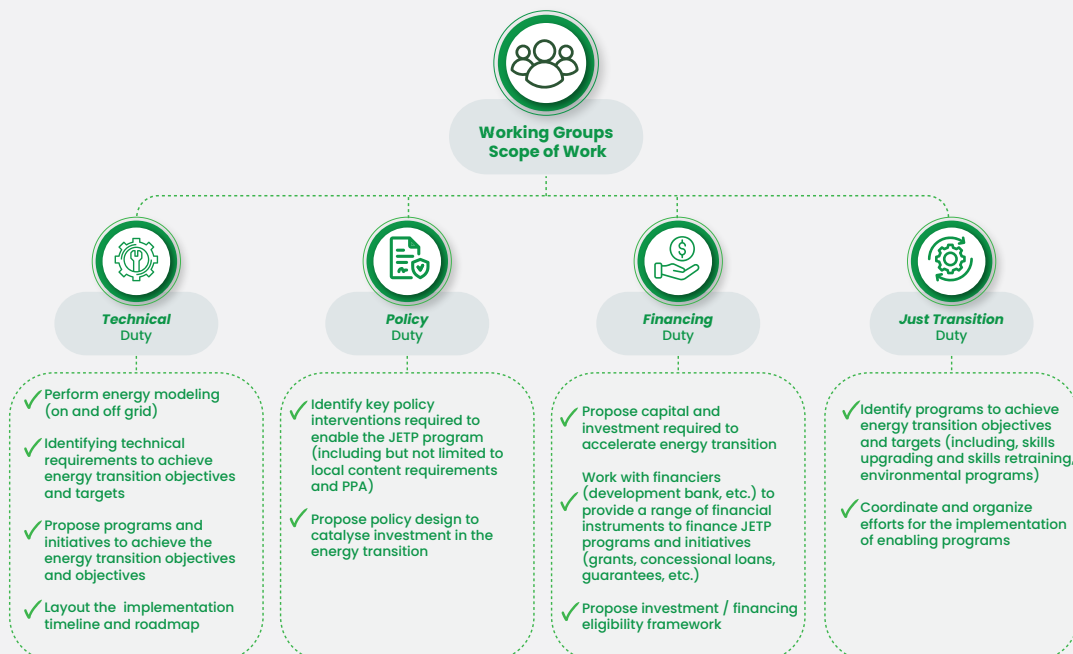
At the end of 2022, together with IPG countries, Indonesia had agreed to develop a JETP partnership in Indonesia, where international partners pledged a funding commitment of USD 20 billion (equivalent to IDR 310 trillion) which will be mobilized through public funding (at the amount of USD 10 billion) and private funding (at the amount of USD 10 billion) – this private funding will be coordinated by the Glasgow Financial Alliance for Net Zero (GFANZ). All provisions regarding the implementation of JETP in Indonesia, are contained in the Joint Statement between Indonesia and IPG countries. The joint statement includes plans in preparing the Comprehensive Investment and Policy Plan (CIPP) which includes:

			
Indonesia must prepare a CIPP which describes the efforts that Indonesia must undertake to achieve NZE in the electricity sector by 2050, and reach peak electricity sector emissions of 290 million tonnes of CO ₂ e in 2030;	These efforts must be able to ensure the installed renewable energy composition is 34% in 2030;	In its preparation, it is necessary to take into account a fair components that includes the affected workers and local communities, including holding consultations with these parties	CIPP must also be able to describe the acceleration of early retirement of coal-based power plants, with the help of IPG countries..

JETP SECRETARIAT AND WORKING GROUP

Indonesia established the JETP Secretariat which was inaugurated on February 16, 2023, hosted by the Ministry of Energy and Mineral Resources (KESDM). This secretariat coordinates planning and implementation techniques including projects and funding through the JETP Indonesia scheme. Simultaneously with the inauguration of the Secretariat, the process of CIPP formulation of JETP Indonesia then began.

Currently, the JETP Secretariat has 4 working group, consisting of (i) Technical Working Group; (ii) Policy Working Group; (iii) Finance Working Group; and (iv) Just Transition Working Group.



INDONESIA'S ENERGY TRANSITION

WHY INDONESIA'S ENERGY TRANSITION IS URGENT

Currently, Indonesia's electricity system is dominated by coal plants, which contribute around 67% of total electricity generation, followed by gas at 16%, and renewable energy generation at 14% (MEMR, 2023). Greenhouse gas (GRK) emissions from electricity generation continue to increase every year from 62 million tonnes of CO₂e in 2000 to 293 million tonnes of CO₂e in 2020 (MEF, 2022). In fact, to be in line with the global agreement to keep the increase in earth temperature below 1.5°C, Indonesia needs to achieve zero emissions in the electricity sector by 2040 (IEA, 2021).

Some modeling currently carried out indicates that Indonesia is technically capable of achieving reduced emissions in the electricity sector, even achieving zero emissions by 2050. However, significant investment is needed to achieve this. Modeling carried out by IESR (2020), for example, shows that the Indonesian energy system can achieve zero emissions by 2050 by relying on 100% renewable energy with total cumulative system costs around 20% lower than fossil energy-based systems. However, it should be noted that system costs will experience a slight increase in the short term (until 2030), since the cost of renewable energy is still relatively high. The Indonesian government must ensure people's affordable access to energy and maintain their purchasing power for other basic needs.

In the electricity sector specifically, IESR (2022) estimates that the total cumulative investment requirement to achieve zero emissions in 2045 is USD 135 billion by 2030, and USD 1,200 billion by



2050. Around 75% of this investment is for power plants and storage technology, while investment in transmission and distribution networks is around 19% and investment in energy efficiency technology is around 5%.

The growth of coal power plants, which is faster than the growth in electricity demand, has resulted in over capacity in several grid system, especially in Java-Bali system, which in 2021 is estimated to have reserve margin around 50% (Bagaskara et al., 2023). Furthermore, the Electricity Sales and Purchase Agreement (PJBL) done by IPP's power plants uses a take-or-pay payment scheme that PLN will prioritize electricity generation from IPP's power plants. As a result, it becomes difficult for renewable energy generation to enter the system. Early retirement is necessary for coal power plants to be able to accelerate the adoption of renewable energy in Indonesia.

In addition to national climate and economic imperatives, the negative impacts of fossil coal energy from mining to combustion in coal-fired power plants that have caused daily economic, social and environmental crises for affected communities, must also be a moral impetus for Indonesia to transition to cleaner energy, immediately.

EARLY RETIREMENT OF COAL POWER PLANTS

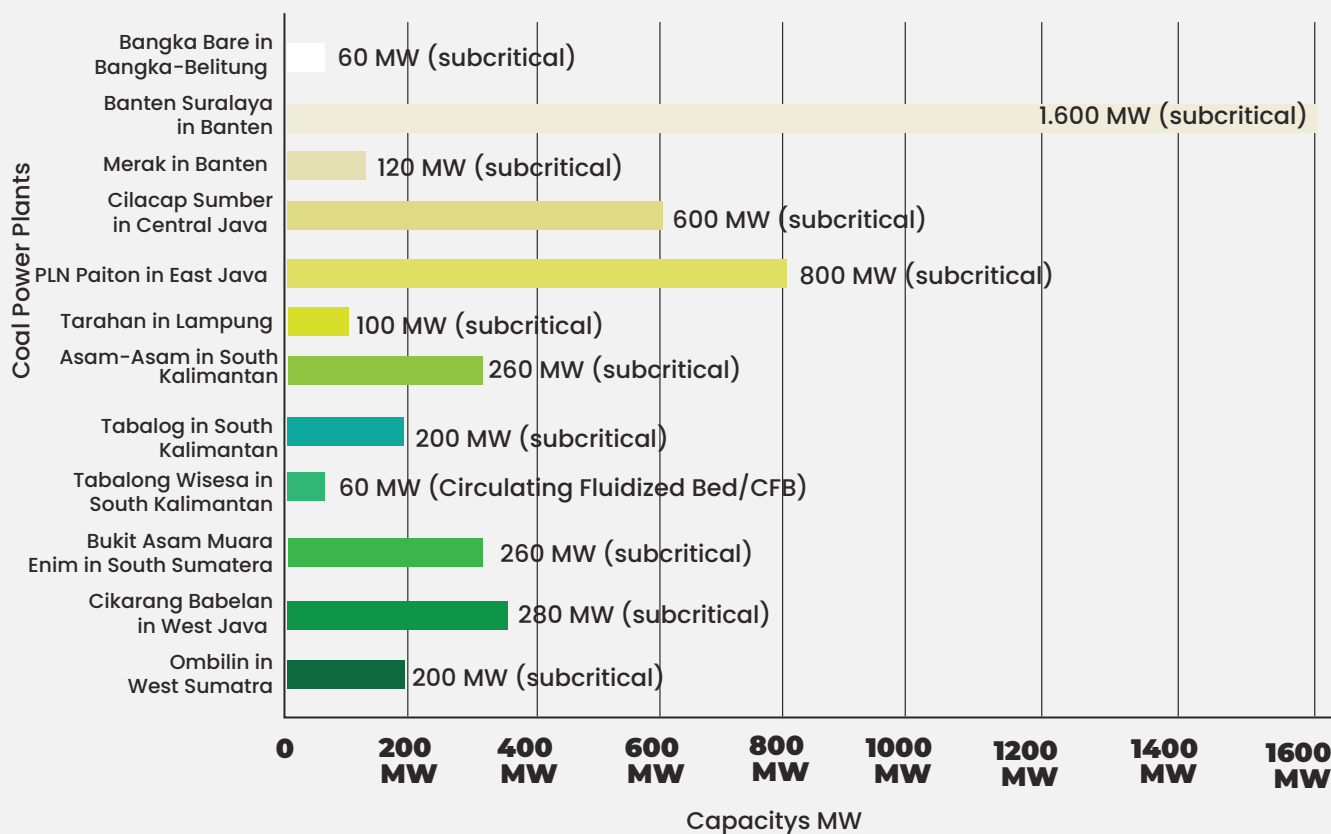
A study by IESR (2022) concluded that to be in line with Paris Agreement, Indonesia needs to retire 9 GW Power Plants (owned by PLN and IPP) before 2030, 22 GW between 2030-2040, and 12,5 GW by 2045. The retirement of the power plants will need a cost of USD 4.6 billion until 2030, USD 13.3 billion between 2030-2040, and USD 9.6 billion after 2030, or around USD 600 million per GW on average. The amount of this cost takes into account the remaining life costs of power plants (around 70%), decommissioning costs, and the decrease of non-tax revenue (PNBP) from coal sales, and

worker transition costs.

According to above study, there are 12 power plants consisting of 30 units with a total of 4.5 GW which could be retired early before 2025 (low hanging fruit) due to their poor performance in terms of technical, economic and environmental aspects. Some power plants are very old, such as Paiton, Suralaya, Bukit Asam, and Asam-Asam. Others have problems because their location is very close to residential areas, such as Cilacap and Ombilin.



The list of low hanging fruit Coal Power Plants is as follows:



Another study published by Transition Zero (2023) shows that early retirement of 21,7 GW power plants with the worst economic performance can reduce cumulative emissions by 137 billion tonnes of CO₂e by 2030 with an estimated mitigation cost of USD 16 per ton of CO₂. In this scenario, it is assumed that the 13 GW power plants that are already in the development process (based on the 2021-2030 National Electricity Supply Business Plan (RUPTL)) will continue to operate, but no new power plant will be built after 2030 due to the increasing difficulty in finding financing. Cumulative emission reductions in this scenario are estimated to reach 2.2 billion tons of CO₂e by 2060. In fact, if the country utilizes funding from JETP of USD 20 billion, the mitigation costs can be reduced to USD 2 per ton of CO₂, or result in cost savings compared to the BAU scenario.

Another study from Transition Zero (2022), shows that the selection criteria for closed coal power plants will determine how much emission reduction can be produced and the costs required. The study states that by prioritizing the least economically profitable power plants, 21.7 GW power plants could be retired earlier at a cost of USD 20 billion. In another scenario that prioritizes closing power plants that have the greatest environmental impact (such as air pollution and water shortages), the same funds can only be used to close around 15 GW). Therefore, transparency in the criteria for early retirement of power plants, especially those funded using public funds, is a crucial aspect.

Currently, the Indonesian government, through Presidential Decree 112/2022, has limited the construction of new on-grid coal power plants to only projects that have been listed in the 2021-2030 RUPTL. However, in fact it still opens the way for power plants intended for its own needs in industry (captive power plant), which basically extends the use of fossils in the industrial sector on a large scale. The capacity of captive power plant in industry operating in 2023 has increased more than eight times, namely from 1.4 to 10.8 GW compared to 2013 (CREA, 2023). Moreover, CREA (2023) also notes that there are still 14.4 GW of captive power plants that are already in planning, especially to support nickel downstream projects. Captive power plant has become the heart of country's contradiction of the energy transition.



ACCELERATION OF RENEWABLE ENERGY DEVELOPMENT

Based on the latest IPCC Report (IPCC, 2023) to avoid the risk of the climate crisis, the mitigation that must be carried out is sustainable development in synergy between energy efficiency and renewable energy. In the same report, it is stated that greenhouse gas emissions in the world are dominated by the energy sector, so it is recognized that the use of renewable energy will reduce the impact of global warming that is currently occurring. However, accelerating the development of renewable energy needs to be carried out with the principles of respecting the rights and consent of local communities.

According to IESR modeling results (2021), renewable energy can supply 100% of Indonesia's energy needs in 2050, even 100% of electricity generation needs 5 years earlier. Solar energy is expected to contribute to 88% of electricity generation in 2045, while the remainder is dominated by water and geothermal energy. The need for electricity consumption will increase rapidly, driven by electrification in the user sectors (households, transportation and industry). In

addition, the need for storage technologies such as batteries, hydrogen, pumped-hydro, etc. will also increase to support greater use of variable renewable energy. Storage technology is projected to supply around 29% of electricity needs in 2045. The installed capacity of solar plants in 2050 is projected to reach 1,492 GW, followed by hydro at 40 GW and geothermal at 19 GW.

Modeling carried out by the IEA (2022) for a net-zero scenario in 2050 also provides a similar picture, with a more limited role for solar energy. In that scenario, solar and wind energy account for 55% of electricity generation in 2040, when net-zero in the electricity sector is achieved. The installed capacity of solar and wind plants is projected to reach 500 GW in 2050, hydro to reach almost 80 GW, biomass around 30 GW, and geothermal around 25 GW.

JETP funding to accelerate the development of renewable energy needs to ensure affordable access, economic strengthening and sustainable energy, especially for regions that have been dependent on fossil extractive resources. The



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development of renewable energy-based power plants must be able to ensure the fulfillment of the principle of justice with continuous energy availability and ensure that its development does not violate access and community rights.

The development of renewable energy should not cause conflict or appropriation of people's land and their livelihoods. However, in reality, renewable energy projects still often compromise the rights of indigenous peoples and local communities, as is the case with the Kayan hydropower project which is not yet operational but will submerge two villages, or the Poso hydropower plant which has left conflicts with local farmers. Similarly, the plan for a floating solar power plant in Batam City could be related to conflicts over the development of an industrial area in Rempang, which is planned to be the location of a solar panel factory that might supply

the project. Various conflicts that occurred in several geothermal power plants such as in Mandailing Natal North Sumatra, Dieng Central Java, and Flores Island, should be a lesson for changes in the direction of renewable energy development in Indonesia.

In various regions in Indonesia, communities have begun to develop and utilize renewable energy (RE community) to meet their daily needs. However, these community efforts often receive little attention and appreciation from the state in the form of capacity development, institutional strengthening and financial support. The use of renewable energy is also hampered by incoherent policies regarding the development and potential of existing energy in the regions. As a result, several renewable energies that already exist and are managed by communities fail along the way.



Credit: Dokumentasi CELIOS

REJECTING FALSE SOLUTION IN ENERGY TRANSITION

Energy transition should leave fossil energy behind and leap into a clean, renewable energy future. However, various technologies and energy solutions still hold us back from the interests of fossil energy. Various false solutions are promoted through big scale various technologies such as wood-based bioenergy, coal down streaming, the application of carbon capture and storage, and others. Various

forms of false solutions extend the lifespan of fossil energy, encourage land grabbing, increase ecological degradation, and deplete people's economic resources.

We reject efforts to promote technology and interest in false solutions in energy transition in Indonesia, including, but are not limited to:

Extension on the life of the Power Plant through Co-firing

Biomass co-firing is a new way for PLN that claims to be able to reduce power plant emission. There are 144 units in 52 coal power plants that are targets

for biomass co-firing with a biomass mixture level of around 5%. Types of biomass for co-firing include wood pellets, sawdust, palm shells, solid



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recovered fuel (SRF) waste, rice husks, wood chips, corn cobs, and coconut shells. The need for wood pellets for co-firing, among others, comes from energy plantation forests. The need for wood pellets reaches 5 million tons per year or 738,000 tons of wood pellet waste per year to meet the need for 1% co-firing per year at the 18 GW coal power plant included in the target.

Trend Asia estimates that biomass co-firing of 10% at least on 107 power plant units adds emission of about 26.5 million tonnes of CO₂ per year. Emissions due to biomass co-firing are not only from burning biomass with coal, but also from emissions caused by deforestation due to cutting down trees for wood pellets. The difference in net emissions is estimated to be around 6.8 million to 11.3 million tons of CO₂e per year. Biomass claims for reducing greenhouse gas emissions from the power sector will not be achieved because this co-firing releases emissions from changes in land use.

Ammonia and hydrogen are also included in the energy transition plan for co-firing power plants. These two forms of co-firing have never been implemented outside the proposing countries such as Japan and South Korea for the generation sector. This will create dependence on import needs for both at high costs. A number of co-firing plans have been announced, namely ammonia co-firing for Java coal power plant 9-10, Suralaya coal power plant Unit 5-7, Gresik coal power plant Unit 1-2. Meanwhile, the co-firing of ammonia and hydrogen in the plans for Batang coal power plant and Muara

Karang Tanjung Priok coal power plant will be co-firing with hydrogen. The IEA study (2022) estimates that generating electricity from ammonia co-firing will cost about USD 180/MWh or require a carbon price of USD 170/ton of CO₂e to be able to compete with the cost of generating electricity from a regular power plant.

The use of co-firing will only extend the life of coal power plants, especially coal power plants that are supposed to be retired. On the other hand, ammonia can also be produced from coal. A private coal company in Indonesia plans to downstream coal into ammonia after plans to downstream coal into dimethyl ether (DME) failed. By ammonia co-firing, the coal cycle will gain ground, so that using it for co-firing will result in a false solution.

Apart from that, the use of co-firing, either with biomass, hydrogen or ammonia, in coal-fired power plants will not be able to reduce air pollution, one of the significant negative impacts of coal-fired power plants. A study by CREA (2023) shows that using a 20% biomass mixture for all PLN's power plants will only reduce air pollutant emissions by 1.5-2.4%. Co-firing with ammonia, according to the same report, even has the potential to worsen air pollution due to the release of ammonia emissions during transportation on ships and combustion in power plants. In fact, according to the study, air pollution due to power plants estimated to cause around 10,500 deaths per year, and will increase to 16,600 per year as power plants are added according to current plans.

Coal Down streaming such as Liquefied Coal and Coal Gasification



Coal downstreaming is a mandate from the Mineral and Coal Law which is intended for the Coal Contracts for Work (PKP2B) when it will upgrade its status to a company with a Special Mining Business License (IUPK). This policy received support from Government Regulation in lieu of the Law Number 2 of 2002 concerning Job Creation (a replacement for the Job Creation Law) by providing incentives in the form of 0% coal royalties.

In Trend Asia's research, which was based from various sources, it shows that there are 13 projects in the coal downstream plan for gasification, liquefied coal, and coal methane gas. Of that number, only two projects are in construction status. The rest is in the pre-construction stage, starting from announcement to feasibility study. Two projects under construction, PT Bukit Asam in South Sumatra and PT Kaltim Prima Coal in East Kalimantan, are facing funding challenges. Two of the pillars of coal downstreaming are funding and technology. To get both, collaboration has been established with companies from the United States. In development, this company, namely Air Products and Chemicals Inc., stated that it was withdrawing without clear reasons to the public.

Behind the failure of this business partnership there are complex problems in the coal downstream business scheme. Air Product and Chemicals collaboration with PTBA and KPC is part in the National Strategic Projects (PSN) and the product is targeted to be able to produce gas to replace gas for LPG, where in this context Pertamina is involved. In its progress, the project has stalled since it was inaugurated by President Joko Widodo in January 2022. The Financial and Development Supervisory Agency (BPKP) found that the three entities, namely PTBA, Air Product and Pertamina, had not agreed on future investment and business

calculations. Apart from that, this down streaming will be accompanied by a Carbon Capture, Utilization and Storage (CCUS) project which is expensive and inefficient because it can only reduce 30% of carbon dioxide.

The failure of this project confirms that from a business perspective, downstream coal in the form of gasification is not feasible. Studies from IEEFA (2020), and IESR (2021) conclude that even without taking into account the costs of carbon capture, coal downstream projects will not be economical without subsidies from the government. The coal gasification project is also considered to be detrimental to the State's finances in the form of potential lost non-tax state revenues due to the provision of 0% royalty incentives (CELIOS, 2023). On the other hand, gasification will only maintain fossil energy to continue to be used for development. This effort is visible in the draft New Energy and Renewable Energy Bill by including coal gasification and the like as part of new energy. For this reason, coal down streaming is a form of false solution in the energy transition.

Application of Carbon Capture and Storage

Carbon Capture, Utilization, and Storage (CCUS) technology is one of the government's strategies to reduce carbon dioxide directly from the pollutant source. This way, the government is targeting a reduction in carbon dioxide emissions of up to 6 million tonnes per year in 2030 and increasing to 190 million tonnes per year in 2060 to achieve Net Zero Emissions (NZE).

The number of CCUS project pipelines continues to grow. In 2022, there are ten projects in the pipeline. Then in early 2023, it will be reported to be 16 projects. CCUS targets include the power generation, oil and gas, coal gasification and pulp and paper sectors. The implementation of



Credit: Sukarman / Dreamstime.com



CCUS in coal-fired power plants is still in the development stage and is being carried out through collaboration between Indonesia and Japan.

CCUS for coal power plants faces many challenges. A study conducted by the World Bank and PLN in 2015 showed that improving technology to achieve CO₂ capture of 90% required very high costs in two coal power plant study cases in West Java and South Sumatra. The leveled cost of electricity (LCOE) for the two coal-fired power plants with CCUS is double compared to without CCUS.

In addition, the use of CCUS technology can reduce generating capacity by around 20% to 30%. For example, with a CO₂ capture scenario of 90%, power plant capacity in West Java falls from 2,000 MW to 1,449 MW, while power plant capacity in South Sumatra falls from 600 MW to 415 MW.

In practice, to date there has been no case of successful commercial use of CCUS for coal-fired power plants throughout the world. One of two power plants + CCS commercial projects of 600 MW in Petra Nova, United States, was closed in 2020, before being reactivated in 2023. During operation from 2017-2020, this plant

experienced 367 outages, mainly caused by the CCS-system. Apart from that, this project with an investment of USD 1 billion also only succeeded in capturing around 3.8 million tons of CO₂, lower than the initial plan to capture 4.6 million tons of CO₂ (IESR, 2021, Reuters, 2023). This study shows the very high costs of developing this technology. If the government sees greater interest, fees for CCUS could have the opportunity to fund renewable energy development. CCUS also has the opportunity to maintain coal use in Indonesia.

Within the JETP policy framework, the ministry had proposed funding the CCUS project, but this plan was later withdrawn because the ministry saw financing opportunities from other alliances. Even though this project has the opportunity to receive funding support from other groups, the ministry should withdraw it because the costs are expensive and the technology for CCUS in Indonesia is still relatively new, so it does not yet have a track record of success in reducing CO₂ significantly. Aid funds should be maximized for the development of renewable energy.



Credit: Alexey Kornilyev / Dreamstime.com

Dirty Technology transfer from developed countries (G7)

The energy transition should be a transition towards sustainable and renewable energy based on the needs and consensus of local communities. We have great concern about the energy transition and the assistance to developing countries offered by industrialized countries where we pay particular attention to the United States and Japan leading the JETP partnership negotiations.

Several companies such as Mitsubishi Heavy Industries have submitted a proposal to the Indonesian government to promote the application of biomass co-firing at a coal-fired power plant in Suralaya, Banten for a pilot study. In addition, a feasibility study regarding co-firing ammonia at a

coal-fired power plant in Suralaya is being carried out by MHI, Mitsubishi Corporation and Nippon Koei. Since the first unit of coal power plant Suralaya operated in 1984 (currently operating eight units with a total of 4,025 MW), residents have complained about health problems and disruption to livelihoods such as fishing, caused by ash and dust. By operating longer with biomass fuel or/and ammonia, it will prolong the suffering of residents. Rather than supporting co-firing of biomass and/or ammonia, JETP funding should support an early retirement of power plant Suralaya.

We also concern about Japan's initiative such as "Asia Zero Emission Community (AZEC)". Although it is said to support ASEAN partners' decarbonization efforts, these initiatives are, however, a means of promoting Japan's so-called "Green Transformation" strategy, which relies heavily on fossil fuels and fossil fuel-based technologies. Japan's plan emphasizes the development of liquefied natural gas (LNG), fossil hydrogen, carbon capture and storage (CCS), and co-firing of ammonia and biomass in coal-fired power plants. These technologies will not help Indonesia reduce emissions.

Revised Green Taxonomy for Coal Power Plants

In January 2022, the Financial Services Authority (OJK) issued an instrument used to classify a list of economic activities that are sustainable and environmentally friendly for investment purposes. This instrument is known as "Green Taxonomy 1.0" which contains 2,733 classifications and 919 economic sectors and sub-sectors which are in line with the Standard Classification of Indonesian Business Fields (KLBI) standards. Green Taxonomy 1.0 is the main focus of OJK as the implementation of the Sustainable Finance Roadmap Volume II (2021-2025). The Sustainable Finance Roadmap Volume I (2015-2019) document itself prompted the issuance of Financial Services Authority Regulation (POJK) Number 51/2017 which defines what is included in sustainable financing, with 11 categories of green financing and 1 category of financing for Micro, Small and Medium Enterprises (MSME).

Green Taxonomy 1.0 uses a "traffic light" classification of red, yellow, and green to indicate its impact on the environment. This classification system adopts the ASEAN Taxonomy which uses the same system.



Explanation Table regarding color classification in Green Taxonomy 1.0 issued by OJK (Source: Green Taxonomy 1,0 Document, OJK)

Analysis released by Climate Policy Initiative (2022) shows that of the 919 sectors and sub-sectors studied in the Green Taxonomy 1.0, there are only 15 sub-sectors that are included in the green classification and in line with the green taxonomy criteria, 442 sub-sectors are included in yellow classification and still in the transition period, but not yet in line with the green taxonomy criteria, and 482 or more than 50% of sub-sectors are classified as red and not in line with Indonesia's emissions and climate change targets.

Green Taxonomy 1.0 was criticized by various parties in Indonesia because it included coal in the yellow classification. Several categories such as anthracite and bituminous coal, power plants that use Carbon, Capture and Storage (CCS), and having a reclamation guarantee are considered sufficient by the OJK for this sector to be included in the yellow classification. This certainly doesn't make sense because the Green Taxonomy is expected to encourage Indonesia to realize its commitment to achieving its zero emissions target. OJK itself stated that the Green Taxonomy 1.0 is a living document that will still be revised and receives input for improvement for the next version.

In line with the updating of the ASEAN Taxonomy (Taxonomy for Sustainable Finance Version 2) which was launched in March 2023, OJK plans to update the Green Taxonomy 1.0 following what is in the Southeast Asian region's taxonomy. In the ASEAN Taxonomy version 2, coal phase out is included in activities that can be labeled as green or yellow, following the Plus Standard (PS) Framework in this taxonomy. PS itself has technical screening criteria which has six focus sectors and three enabling sectors. Carbon Capture, Utilization, and Storage (CCUS) is included in one of the enabling sectors

In early September 2023, Chairman of the OJK Board of Commissioners, Mahendra Siregar, stated that there was a possibility for coal-fired power plants to obtain green financing.

Financing will be provided to coal power plants that are in the transition process, captive power plants, and power plants that are used for electric vehicle purposes. As of early October, there had been no progress on the revision process for the Indonesian Green Taxonomy. However, the possibility of coal being given a green label shows that the OJK actually supports green washing practices which could endanger investment in Indonesia's energy transition because the classification carried out by the

Indonesian side could be considered irrelevant and untrustworthy by donors and investors from abroad. Apart from that, it is feared that there will be a crowding out of funding that should go to renewable energy, instead people are more interested in funding power plant projects in industrial areas. Therefore, it would be best for the OJK not to continue discussing taxonomy revisions that would give a green label to captive power plants.



IMPLEMENTATION OF JETP AND INDONESIA'S ENERGY TRANSITION

Since it was agreed at the G20 Summit in 2022 until now, the Indonesia JETP planning processes has been carried out without meaningful and open public participation. This is reflected in the limited information regarding the CIPP document made available for public discussions. Apart from that, the ongoing consultation process is also very limited and has only been carried out once since the formation of the JETP Secretariat.

JETP should be a momentum to encourage public participation for a just energy transition in Indonesia. The energy transition will have impacts, both positive and negative, on various parties with different backgrounds and abilities to deal with these impacts. Therefore, it is important to recognize the existence of various vulnerable groups, such as communities around mining, mining workers, women, children, people with disabilities, indigenous peoples as parties whose rights, needs and interests are important to recognize.

Furthermore, there is a need for meaningful involvement in decision making and policies related to the energy transition, especially with the involvement of vulnerable groups. Not only that the energy transitioned needs to ensure that the burdens and benefits of this energy transition can be distributed evenly according to capabilities, opportunities and levels of vulnerability. Therefore, in its implementation, JETP funding needs to be carried out in an inclusive manner.

FOUR PILLARS IN THE JUST ENERGY TRANSITION

Although there is no specific definition of just energy transition, there are at least four pillars of justice that can serve as the basis for implementing a just energy transition, they are:

A. RECOGNITION JUSTICE	Recognition justice emphasizes recognition of the existence of various vulnerable groups. In addition, it recognizes that each group or stakeholder has different rights and needs, as well as the different abilities of the various stakeholders to adapt to their respective vulnerabilities (especially marginalized groups).
B. DISTRIBUTIVE JUSTICE	Distributive justice emphasizes the fair and equitable distribution of benefits and reduces the burden/risk of related parties, especially the most affected groups. In the context of energy transition, it emphasizes the distribution of benefits and burdens related to revenue management, social and environmental impacts, and taxation.
C. PROCEDURAL JUSTICE	Procedural justice focuses on guaranteeing, fulfilling and providing protection for everyone to be able to participate meaningfully, gain access to information, and access justice in every decision and policy related to energy transition. Procedural justice can be realized by actively and meaningfully involving all parties in decision-making, especially vulnerable groups (affected workers, communities affected by energy transition, and others), providing assistance to communities in understanding the direction of energy transition development and discussing its impact on them, to the existence of a platform for complaints or dispute resolution that is transparent and can be accessed easily and adequately by the community.
D. RESTORATIVE JUSTICE	Restorative justice focuses on protecting victims from harmful activities and restoring them to their original state. This principle focuses on the needs of victims, who are not only citizens/communities, but also the state and the environment itself. In the context of the energy transition, this includes efforts to restore victims from the damage/harm that has been caused by fossil energy and others that have occurred. In this case, several efforts need to be made, including responsibility for decommissioning, environmental restoration, land reclamation, and even restoring the losses of affected communities.

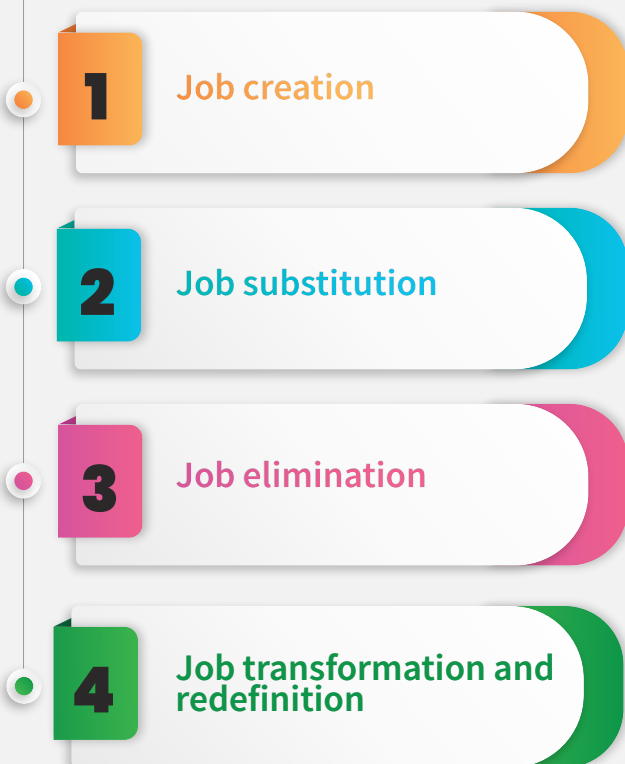
JUST ENERGY TRANSITION IN EMPLOYMENT ISSUES

In the effort to implement climate policies - one of which is the energy transition - there are several impacts, one of which is in terms of employment. There will be jobs that are completely lost, replaced, transformed, or new jobs that emerge due to energy transition efforts. However, it must be ensured that the affected workforce can be employed in available and decent jobs, to minimize the risk of unemployment.

it is important for Indonesia to smooth this transformation by developing just transition policies for affected workers, businesses and communities. The risk of job losses should be anticipated and not underestimated. Potential job losses are expected in economic sectors, regions and communities that are highly dependent on fossil resources and have limited opportunities for economic diversification.

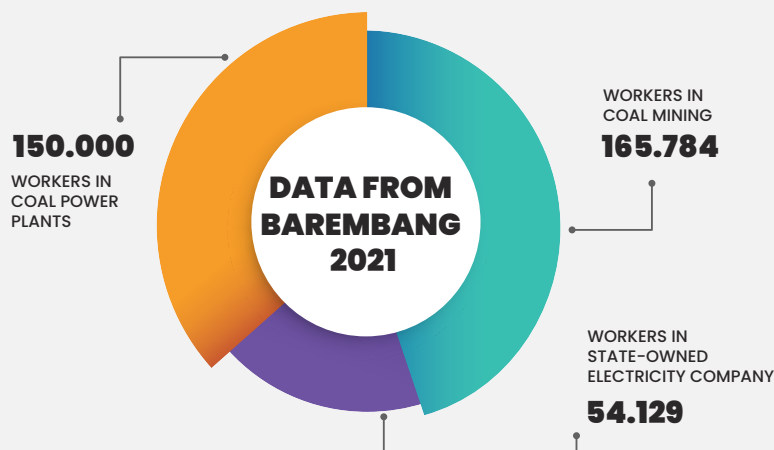
The NZE Roadmap for Indonesia's Energy Sector to 2060, launched by the Ministry of Energy and Mineral Resources, includes a scenario of early retirement of coal power plants and accelerated development of renewable power plants. The implementation of this scenario is important to note, given that there will be jobs lost or replaced and new job opportunities that arise. Data from Barembang (2021) shows that at least 165,784 workers in coal mining, 54,129 workers in state-owned electricity company, and 150,000 workers in coal power plants will be directly affected by the early retirement of coal-fired power plants. At least 1.2 million workers in industrial sectors

Qualitative impacts of climate policies on employment



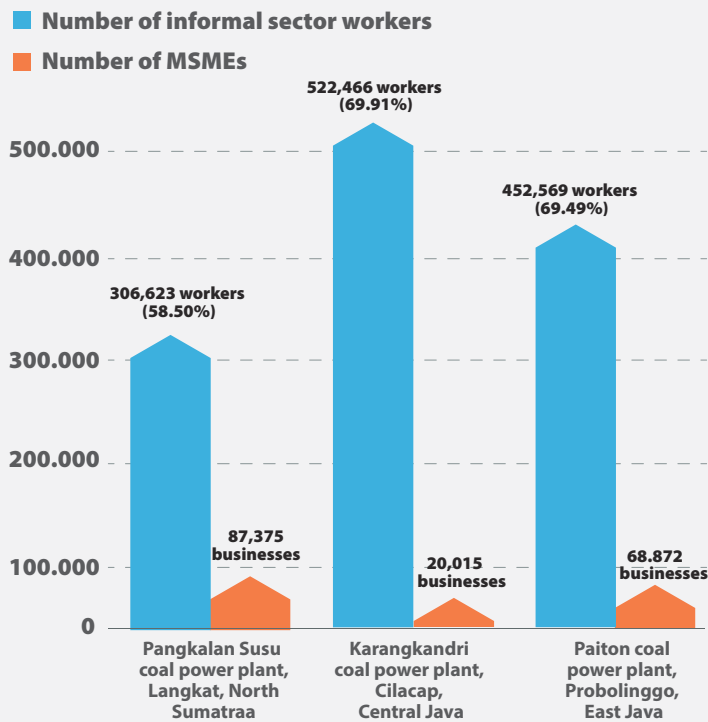
Quantitative impact of climate policies on employment (UNFCCC, 2020).

UNFCCC (2020) notes that the scale and scope of the changes that will occur in labor as a result of climate policies will depend largely on the speed and extent of technological and market changes of the green transformation. Therefore,



that use coal as a production material, other sectors around coal communities that will be closed, including the supply chain will also be indirectly affected (Eminent, 2023).

This data is reinforced by the findings of the Indonesia CERAH and CELIOS studies (2023) that the plan for early retirement of coal-fired coal power plant will not only have an impact on permanent and non-permanent workers at the coal power plant, but also on informal sector workers including MSMEs around the coal power plant area. Field studies conducted at three coal power plants, consisting of:



These informal workers and business owners in the SME sector have been dependent on the coal power plant operations for their income and are likely to be affected by the early retirement of the coal power plant.

In the labor aspect, the CERAH and PSHK study (2023) shows that the regulatory framework on the labor aspect and the affected community aspect is adequate, but to achieve equitable and sustainable protection, the regulatory framework is not yet comprehensive. There are potential problems in implementing regulations due to the absence of recognition and protection of the rights of affected communities. This will have an impact on implementation gaps in the right to participate and the right to information.

For example, in the aspect of social protection for job loss, there are several regulations that Indonesia already has, such as Law 13/2003 in Lieu Government Regulation In Lieu Of Law

2/2022 that guarantees the right to severance pay, Law 40/2004 in Lieu Government Regulation In Lieu Of Law 2/2022 regarding the provision of cash for six months for workers who lose their jobs. However, these policies do not touch informal workers and workers with Fixed-Term Employment Agreements (FTEA). The Indonesian government also has a skills development system, namely the National Job Training System (Sislatkernas), which is regulated by Presidential Regulation 31/2006. This is also reinforced by Presidential Regulation 68/2022 which encourages collaboration of vocational training with TVET (Technical and Vocational Education and Training) institutions which should be encouraged to develop green jobs. So far, mapping related to green jobs has only been seen in the “Indonesian National Qualifications Framework (INQF)” document issued by National Development Planning Agency.

Currently, some of the problems faced by workers regarding the energy transition are that there is no adequate and simple to understand information, not even a clear labor-specific transition scenario from the government. Workers are also unprepared to quit or change their jobs, leaving them in a very vulnerable position.

In the context of an equitable transition, it is important to raise the urgency of green jobs. Indonesia is still lagging behind other ASEAN countries regarding policies on green jobs, especially in the supply chain area. The definition of green jobs itself must be agreed upon by all parties in order to realize an equitable energy transition. Green jobs do not only mean jobs that include contributions to environmental conservation, but also include decent work for the livelihoods of workers and various social interventions that secure community rights (Emeninta, 2023).

The concept of Just Transition for labor was discussed at the 111th Session of the International Labor Conference 2023 and the Work Programme on Just Transition Pathways, Bonn Climate Change Conference 2023 Work Programme on Just Transition Pathways, Bonn Climate Change Conference 2023. Both dialogues resulted in the commitment of the

Parties to design a program/roadmap towards Just Transition that includes elements that are quite crucial for workers such as new technology, industrial relations policies, OHS (Occupational Health and Safety) aspects and climate change, as well as accommodating freedom of association and social dialogue.

In practical terms, the concept of Just Transition in the labor sector at least includes the following: provision of training and skill upgrading, both by the government and employers; social protection, as anticipation and post-policy; micro-economic protection, especially the informal sector, for workers who cannot access new jobs; priority access to “greener” jobs for affected workers; access to information (policy processes, new job

opportunities); and social consultation and dialogue.

The need for the application of the Just Transition concept for the workforce must be reflected in the Indonesian Energy Sector Employment Roadmap. The provision of complete labor information and data that can be accessed by the public, especially labor unions, must also be ensured. In terms of advocacy, the role of the Ministry of Manpower must be optimized to encourage inclusiveness at the policy-making level. The establishment of a labor tripartite for the energy transition also needs to be carried out to ensure that the social dialogue process is carried out based on the principles of just transition.



Experience from Kupang, NTT

As a province with 90% of its power generation coming from fossil energy, NTT needs to prepare its workforce to switch from fossil energy to new renewable energy (EBT). Starting from the Vocational High School (SMK) level, the Merdeka Curriculum has now been implemented where students can choose their own local content of interest. In this case, schools provide local content such as introduction and basics of EBT.

Entering the diploma and university levels, there have been 4 (four) study programs at the undergraduate level devoted to renewable energy such as chemical engineering, physical engineering, electrical engineering, and mechanical engineering. In each of these study programs, there are courses that intersect with renewable energy. Not only at the undergraduate level, there are also several courses that focus on renewable energy at the D3 and D4 levels, so that these graduates will be better prepared to be deployed directly to jobs related to renewable energy.

Another program that has been prepared is a certification and competency test program in the field of EBT. This competency certification will be issued by the National Professional Certification Agency (BNSP). Currently, competency and professional certification tests can be carried out by Professional Certification Bodies (LSP) at three levels, namely: First Party LSP (LSP-P1) and Second Party LSP (LSP P-2) that ensure competence and provide vocational education or work in accordance with qualifications and expertise; Third Party LSP (LSP P-3) that ensures individual competence based on profession/expertise without requiring graduation requirements from certain educational institutions. Of course, the existence of this certification program can ensure better workforce readiness in the EBT field.

With these programs in place, the issue now is to build a workforce that is balanced with the pace of development of the green economy, in the sense that it is balanced towards employment in the green jobs sector. The availability of decent green jobs is also important in the process of equitable energy transition. To ensure this availability, it can also be considered the readiness of the workforce to transition from jobs in the energy sector to other green sectors, such as plantations, agriculture, tourism, workshops, through education and training.

GENDER, DISABILITY AND SOCIAL INCLUSION (GEDSI) IN THE JETP

One aspect that becomes an important issue in the just energy transition is the GEDSI (Gender Equality, Disability and Social Inclusion) aspect. Bad practices of energy governance in Indonesia often affect vulnerable groups such as women, disabilities, indigenous groups, and other groups. The energy transition must also ensure that every process and result is fair, equitable, and beneficial for all people, especially these vulnerable groups. To ensure this, the parameters of Access, Control, Participation, and Benefits (ACPB) need to be well implemented.

Parameters of Access, Control, Participation, and Benefits (ACPB)

01	Access Access is the opportunity or chance to obtain or use certain resources. The energy transition must ensure that women and men, people with disabilities, indigenous groups and other vulnerable groups have fair and equal access to the resources to be developed. This includes equal access to the utilization of available energy.
02	Control The control parameter ensures that women and men, people with disabilities, indigenous groups, and other vulnerable groups have equal opportunities to supervise the utilization of various available resources. In this case, the authority to control energy sources is a right for all community groups without exception.
03	Participation Participation is the inclusion of individuals or groups, including women and men, people with disabilities, indigenous groups, and other vulnerable groups, in activities and decision-making. The energy transition must ensure that all community groups are involved in all decision-making related to the development and utilization of energy resources, as well as the activities therein.
04	Benefits The benefits parameter refers to the utility that can be optimally enjoyed. In this case, the benefits aspect ensures that both women and men, people with disabilities, indigenous groups, and other vulnerable groups, can enjoy the results of development and utilization of energy resources fairly and equally.

All four aspects must be addressed if Indonesia is to reduce greenhouse gas emissions and transition to renewable energy, by giving women and other vulnerable people more access to inputs, education and capital. Investing in women has long been recognized as critical to achieving the goal of inclusive economic growth. It is also an opportunity for women to make a major contribution to reducing greenhouse gas emissions and keeping global temperature rise within the 1.5°C limit set in the Paris Agreement.

RECOMMENDATION

REGULATORY AND POLICY REFORM FOR THE FOUNDATION OF ENERGY TRANSITION

Indonesia has an energy transition target through a renewable energy mix target of 23% by 2025 and 31% by 2050 as stipulated in Government Regulation No. 79/2014 on the National Energy Policy. Not only that, Indonesia has also targeted a 12.5% reduction in emissions in the energy sector from business as usual, one of which is through increasing renewable energy generation capacity. To support the implementation of a just energy transition in Indonesia, regulatory and policy support is needed.

The existence of a regulatory and policy framework that reflects the grand design of Indonesia's energy transition direction allows for a comprehensive decarbonization and a fair and inclusive transition process for all stakeholders. The regulatory and policy framework can also encourage the allocation of resources and fulfillment of the enabling conditions needed to achieve a just transition that provides not only environmental benefits in the form of actual contributions to addressing climate change in Indonesia, but also contributes to alleviating social and economic injustices, especially in energy management.

Currently, provisions on energy transition are still scattered across various policies and regulations. In 2022, the Government passed Presidential Regulation No. 112 of 2022 mandating the retirement of coal and the development of renewable energy. This regulation is the basis for the implementation

of early retirement of coal plants in Indonesia, including retirement through international cooperation mechanisms such as JETP. Unfortunately, the equitable energy transition to be actualized through JETP is doubtful to be achieved, because there are still many regulations related to energy and electricity that until now actually contradict and do not support the achievement of a just energy transition.

As a consequence, the process of just energy transition in Indonesia is potentially hampered due to the absence of a strong regulatory infrastructure related to just energy transition. Furthermore, the current regulatory narrative of energy management tends to be technocratic and has not addressed the justice aspects of the energy transition process. This is also exacerbated by weak regulations in the labor sector that affect the distribution of impacts and benefits during the transition process, especially for groups of mining and power plant workers and the affected secondary economy.

The need to strengthen the regulatory and policy framework for a just energy transition in Indonesia can be mapped as follows:

Legally Binding Energy Transition Targets


Ambitious, clear and legally binding targets for early retirement of fossil generation and transition to renewable energy are needed.

in political commitment and provide legal certainty for the direction of implementation of a just energy transition including the JETP. The absence of clear and legally binding targets results in potentially overlapping implementation and imposes no legal obligation on the government to implement.

For example, the JETP scheme targets achieving net zero emissions in the power sector by 2050, a renewable energy generation mix of 34% by 2030, and peak emissions at 290 million tons of CO₂e by 2030. These two targets are inversely proportional to the targets stated in KEN (Government Regulation No. 79/2014) and RUKN which target only 23% renewable energy mix by 2025 without early retirement of fossil energy plants. In fact, in the current draft revision of the RUKN, zero emissions in electricity will only be achieved in 2059 with peak emissions of 473-478 million tons of CO₂ in 2030, much higher and slower than the JETP target.



Credit: Mika Baumeister / Unsplash



Just Energy Transition Framework and Roadmap

Credit: @User7800893 / Freepik.com

The establishment of a just energy transition framework and roadmap is a grand design and action plan for achieving the targets of the just energy transition.

The just energy transition framework is a planning tool that will guide the implementation of the just energy transition. The framework contains definitions, principles, objectives and targets for achieving the just energy transition in Indonesia as mentioned above. This framework is then translated in depth through a roadmap that makes policy and action plans to realize the just energy transition and is legalized through a legal instrument.

The roadmap not only includes strategies for transitioning from dirty energy to clean energy without false solutions that are accessible and

manageable by communities, but also includes capacity building strategies for the workforce and economically affected communities to be integrated in the energy transition process. This includes mapping potential job and income losses and gains, providing social security and up skilling and reskilling strategies as needed.

In addition, the roadmap should also include a plan for impact recovery after fossil energy plants, especially coal, cease operations. This roadmap also needs to emphasize community participation in the transition process, especially increasing the participation of women and vulnerable groups by establishing mechanisms for community involvement in decision making and community involvement in renewable energy management that is transparent, open and accountable.

Ratification of Renewable Energy Law

Ratification of the Renewable Energy Law to accelerate the development of just renewable energy.

The existence of a legal protection to accelerate the development of renewable energy in Indonesia needs to be a priority. Unfortunately, the New and Renewable Energy Bill currently under discussion is full of false solutions, because it regulates incentives and facilities for “new energy”, which includes various coal downstream products and also renewable energy that has massive environmental impacts

such as biomass. For this reason, this bill needs to remove “New Energy” and other forms of dirty energy and focus on discussing strategic steps to encourage equitable renewable energy development. Furthermore, it is also important for the bill to include an energy transition target and mandate the establishment of a just energy transition roadmap.

Revision and Revocation of Policies Contrary to the Spirit of Just Energy Transition

Revision and revocation of energy sector regulations and policies that do not support a just energy transition need to be done.

Until now, many regulations in the energy sector are still contrary to the spirit of the transition and still provide double signals for the implementation of an equitable energy transition in Indonesia. Some regulations such as Law No. 3 of 2020 on Mineral and Coal Mining and Presidential Regulation No. 14 of 2017 on the Acceleration of Electricity Infrastructure Development actually open up free access to the use of fossil energy. These two regulations must be revoked because they are obstacles to a just energy transition.

Not only that, two instruments that should be the key to accelerating the just energy transition in Indonesia, namely the New Energy and Renewable Energy Bill and Presidential Regulation No. 112 of 2022 concerning the Acceleration of Renewable Energy Development also still provide loopholes for fossil energy

and false solutions, including by excluding the construction of new coal power plants that have been included in the Business Plan for Providing Electricity in the midst of over-supply of electricity and also excluding the construction of power plants for their own interests (captive). Both must be changed and eliminate all facilities and opportunities for dirty energy development in the midst of a commitment to transition. Regulatory and policy changes also need to be made thoroughly to the Energy Law and its derivative regulations that are no longer relevant to current conditions and developments, to adopt the principles and targets of an ambitious just energy transition and ensure that the transition process runs openly and fairly.



Credit: Kampan Butshi / Dreamstime.com

Green Finance for Renewable Energy

Focussing on green finance specifically on clean and just renewable energy development.

Changes need to be made to the Green Taxonomy to include all fossil energy financing under the "red" label and sanction banking and non-banking financial institutions and financial institutions that continue to lend to fossil-based sectors, especially coal. As a first step, the government needs to require state financial and non-financial institutions to stop funding coal energy gradually within a certain period of time.

Furthermore, there is a need for fiscal space as well as changes in people's consumption patterns through a gradual reallocation of energy subsidies. A possible reallocation of energy subsidies is the gradual reduction

of subsidy allocations for fuel, 3 kg LPG and electricity. One of them is by preventing the leakage of pertalite and diesel subsidies that have been enjoyed by the large-scale plantation and mining industries. Closing the leakage of electricity subsidies enjoyed by well-off households by improving data also needs to be done in parallel. In addition, it is necessary to prevent the upper middle class from using subsidized fuel and 3kg LPG, and at the same time develop a roadmap for reducing energy subsidies, provided that alternatives are available such as transferring subsidies to public transportation and considering the purchasing power of vulnerable-poor groups.



Establishment and Changes in Labor Regulations

Formulation and changes in labor regulations and policies to accommodate workers' need of transition.

Currently, there are no regulations or policies related to employment that can comprehensively support a just energy transition for workers and affected communities. That is why, this policy needs to be compiled and agreed upon, taking into account input from the wider community,

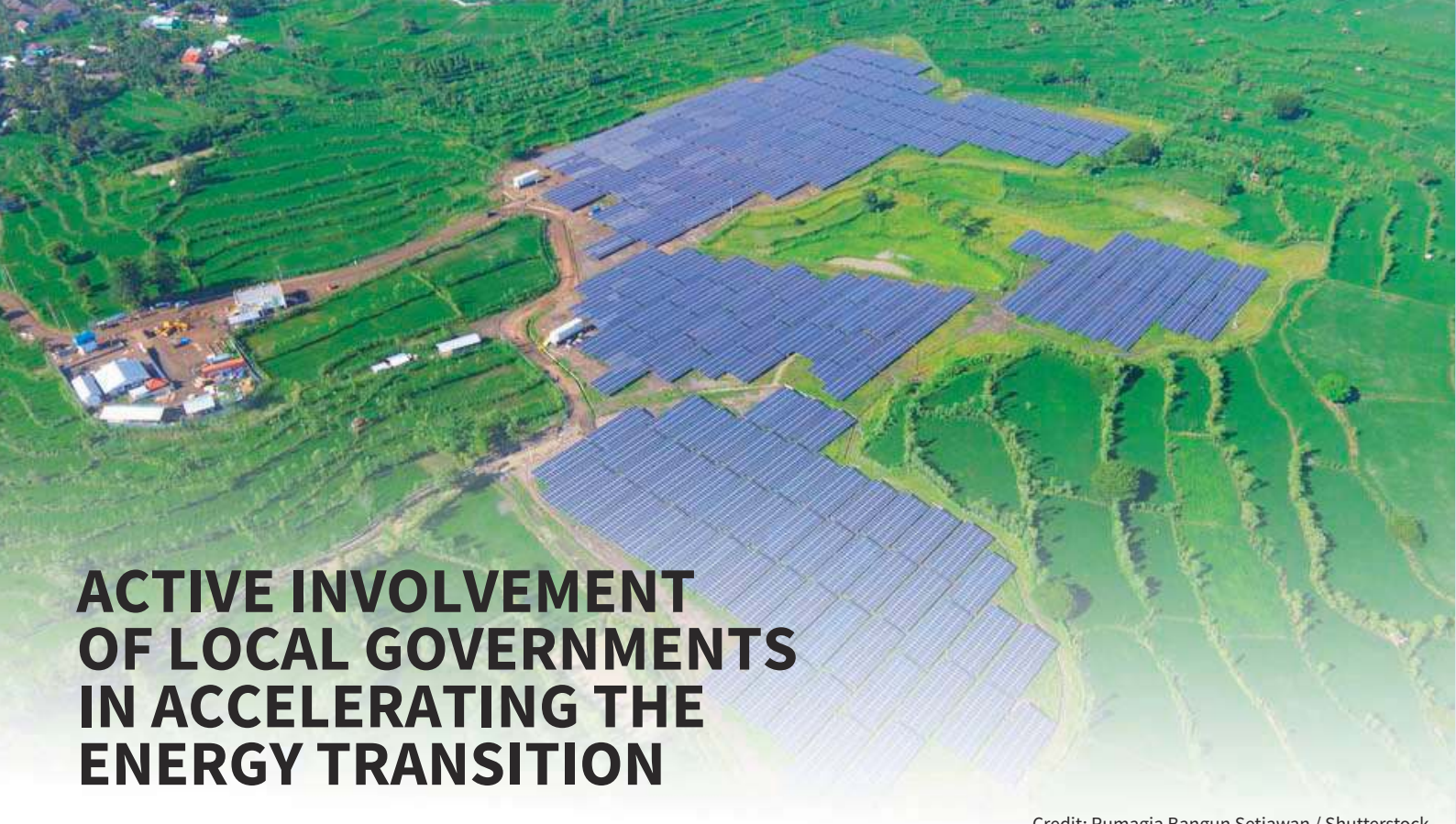
especially affected communities, especially those who have lost or have the potential to lose their sources of livelihood. The focus of the policy should be on just distribution of benefits and strategies to reintegrate affected workers into the low-carbon economy.

Elimination of Take or Pay scheme in electricity purchase.

Take or pay schemes and mechanisms in State-owned Electricity Company (PLN)'s electricity sales and purchase must be revoked and discontinued.

This scheme has proven to be detrimental to

state-owned electricity company with its current electricity over supply. The state-owned electricity company, would be better able to manage electricity distribution efficiently without being held hostage by the take or pay scheme.



ACTIVE INVOLVEMENT OF LOCAL GOVERNMENTS IN ACCELERATING THE ENERGY TRANSITION

Credit: Rumagia Bangun Setiawan / Shutterstock

Urgency of Decentralization of Renewable Energy Development

Energy decentralization is one of the strategic efforts to accelerate the development of renewable energy. Energy decentralization is an effort to bring energy sources closer to end users. This certainly requires systematic changes, considering that Indonesia's electricity system often focuses on developing large-scale and centralized power plants and transmitting generation loads through a fairly long transmission and distribution process.

Switching to energy decentralization has various advantages, including being able to reduce the cost requirements of transmission development which requires large costs. In addition, energy decentralization will prioritize nearby energy sources, such as mini hydro power plants, solar power plants, so it will not only foster the use of renewable energy, but on the other hand it can also be a solution in accelerating the need for access to electricity in remote areas. Not only that, seeking energy decentralization, the local community's acceptance of the energy source to be used will be higher.

To support the development of energy decentralization, the active role of local governments is needed. Even so, there are several important factors that need to be considered:

The importance of simplifying the procedure for obtaining a business area, especially for electricity distribution.

Currently, almost all business areas in Indonesia are owned by state-owned electricity company. For other entities that want to run the integrated supply of electricity, as well as the distribution of electricity, it is necessary to obtain the assignment of business area from the Minister/Governor according. To obtain this assignment, various documents are required, one of which is a feasibility study document to analyze the need for electricity. Furthermore, the Electricity Law and licensing regulations related to electricity also limit the authority of local governments to manage power plants with a capacity of more than 10 MW. This provision clearly inhibits the participation of regions and local communities to manage energy and focuses energy management on large-scale industries. In fact, energy decentralization seeks to enable communities down to the smallest administrative level to provide energy for their region according to the conditions of the region, and the need to be able to prepare feasibility study documents to needs analysis needs to be distinguished between large-scale business area applications and village / community scale.

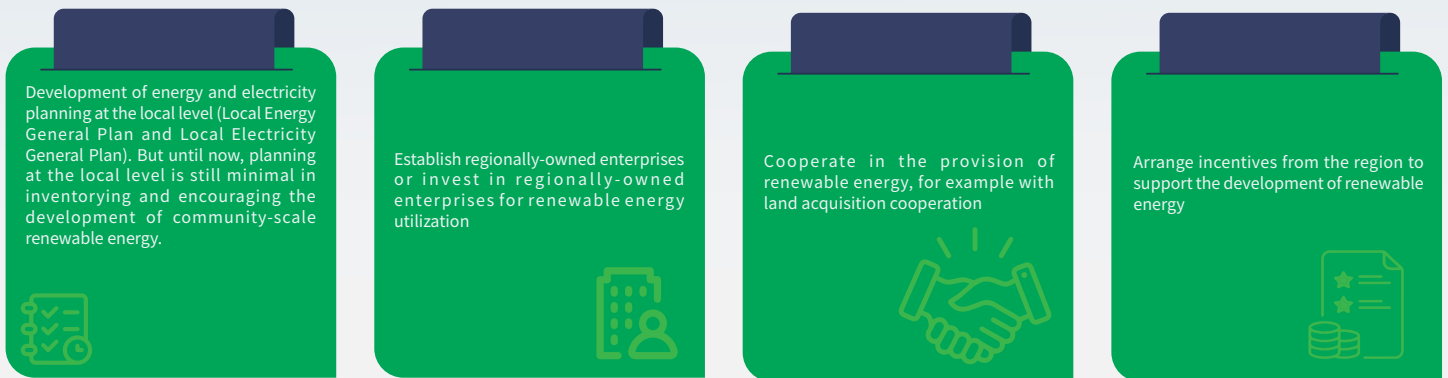
Encourage domestic financing institutions to finance renewable energy, especially those at the village/community scale.

Based on data from Financial Services Authority (2018) the total financing for renewable energy from domestic banks in Indonesia only reached USD 4.9 billion (around Rp70.9 trillion), still very far below investment financing such as electricity. The lack of willingness to finance is partly due to the perception of low investment returns and the absence of incentives from Financial Services Authority and Central Bank of Indonesia. Therefore, it is necessary to build an innovative business model to attract this financing. In addition, it is necessary to revise the Green Taxonomy that directs the financing of banks and financial institutions such as multi finance for micro-scale renewable energy. The Central Bank could be involved in issuing LTV (loan to value) policies that support low down payment financing for micro-hydro, solar panel installations at the village level. Another regulatory framework is a minimum financing obligation of 20-30% for banks in the renewable energy business sector. Support from the micro credit interest subsidy side can also take the form of 1-2% lower interest than the 5% micro credit interest for micro businesses in the renewable energy sector. Support in the monetary sector is expected to increase the distribution of cheap, easily accessible financing for communities and village-owned enterprises (BUMdes) in the energy transition.

The Importance of Strengthening the Authority of Local Government

The current lack of sub-national government involvement cannot be separated from the centralized system of electricity business in Indonesia. Even though there has been Presidential Regulation No. 11 Year 2023 on Additional Concurrent Government Affairs in the Energy and Mineral Resources Sector on New Renewable Energy Subfield, most of the authority granted has not targeted the issue of how Local Government can play a role in electricity business.

When mapped, the authority of Local Government for electricity sector can include:



Learning from South Africa's experience, one of the transformations made to accelerate the development of renewable energy is to authorize sub-national governments, especially districts/cities to develop or purchase power plants by referring to the Integrated Resource Plan (or in the Indonesian context, the National Electricity General Plan). Given that in the Indonesian context, energy and electricity planning is also mandated up to the local level, it is important to be able to strengthen the process and governance of this planning, so that planning can be done by truly considering the needs and uniqueness of the region, not just referring to the national planning.



MOBILIZATION OF THE ENERGY TRANSITION FUND

The JETP is intended as a catalyst to stimulate a larger influx of funding to accelerate the energy transition. However, energy transition funding itself should minimize Indonesia's dependence on loans, which can have an impact on narrowing fiscal space in the long run. Therefore, it is necessary to mobilize energy transition funds in an equitable manner through several mechanisms that can be explored, namely:

Debt Cancellation

Developed countries or the International Partners Group (IPG) and Multilateral Development Bank (MDB) as Indonesia's important partners in the energy transition should include bilateral and multilateral debt reduction scenarios (debt cancellation). The concept of reducing debt and interest provides greater fiscal space for Indonesia to invest in renewable energy, build transmission networks, and prepare social safety nets as mitigation for early retirement of coal-fired

power plants. Although Indonesia has entered the upper-middle income status category, it does not mean that Indonesia does not have the opportunity to get alternatives in the form of debt burden reduction. In 2024, the debt burden of the Indonesian government's debt has reached 42% of total state revenue. In the context of the historical responsibility of developed countries to developing countries (climate debt) and in accordance with the Paris Agreement article 9.1, energy transition funding assistance needs to ease the burden on developing countries.

Windfall Profit Tax

Taxes on excessive wealth from extractive-based sectors, especially fossils (oil and gas, coal) during commodity price booms are a potential source of fiscal funding. The government can apply windfall profit tax on coal, nickel companies for example with the category that within 2 years there is a consistent increase in commodity prices in the international market. Any excess profits enjoyed by commodity companies will be taxed through Windfall Profit Tax. A revision of the Harmonization of Tax Regulations Law is needed to add new tax types.



Wealth Tax

An un-optimized source of State revenue that can be used to fund the energy transition is wealth tax. Some studies mention the potential for State revenue of up to Rp150 trillion in a single implementation of wealth tax. So far, the richest 20% of people in Indonesia only receive progressive income tax, while asset or wealth tax has not been subject to progressive taxation.



Carbon Tax

Although carbon tax has been regulated in Law No.7 of 2021 on Harmonization of Tax Regulations, until this document is written, there has been no implementation of carbon tax. In fact, carbon tax can be used as an energy transition funding instrument. The carbon tax potential is estimated to reach at least IDR3.03 trillion per year with the existing tariff. Meanwhile, if the revised carbon tax rate can be raised 30-40% higher than the existing rate, the revenue figure from carbon tax will be more significant. In addition to momentum and tariff issues, carbon tax management is expected to focus on funding the energy transition program, and avoid misuse of carbon tax, for example, for purposes outside of efforts to reduce carbon emissions (bureaucratic spending, spending on debt interest payments, etc.).



Refocusing on Tax Expenditure

Various tax incentives need to be directed to support the feasibility of investment in the renewable energy sector, as well as transmission development that supports the energy transition. In 2022, the total realization of tax expenditure reached Rp323.5 trillion. The government is advised to overhaul the objects and subjects of tax incentive recipients in the form of tax allowances, and tax holidays on investment in the renewable energy sector. On the other hand, various incentives that support investment in the fossil energy sector should not be continued.



Loss and Damage Fund

JETP's funding needs also to cover losses incurred from coal exploitation, air pollution from power plants and other climate disasters from energy sector externalities. The amount of funding needed can be obtained from access to the Loss and Damage Fund (LDF) which is a shared responsibility between developed countries (IPG), banks (GFANZ) and the largest carbon emitting companies. The amount of LDF funds worth US\$300 million as an initial commitment of the European Union can be encouraged to finance part of the JETP program in Indonesia.



Domestic Financial Institutions

Total bank lending reached Rp6, 387 trillion in 2022. Meanwhile, multi finance financing reached IDR 435 trillion as of March 2023. Funding from domestic banking and multi finance has not been optimized for renewable energy project financing. A monetary regulatory framework that supports renewable energy financing is needed, including changes to Bank Indonesia's Loan to Value (LTV), determination of the financing ratio for renewable energy, the role of credit insurance and revision of the green taxonomy.



Foreign Exchange from Exports

Throughout 2022, there is an export value of both oil and gas and non-oil and gas of US\$291.9 billion equivalent to IDR4, 378 trillion. Unfortunately, the potential for export proceeds (foreign exchange from export) to be repatriated to Indonesia is still limited. The presence of Government Regulation No.36 of 2023 which regulates the placement of DHE can be encouraged to become additional foreign exchange liquidity for banks to finance the potential of renewable energy in Indonesia. Further technical regulations are needed so that some foreign exchange in the form of foreign currency deposits are required to enter the JETP energy transition fund.



Reallocation of Profit Sharing Fund (DBH) of natural resources

Local governments can play a role in encouraging the mobilization of funding sourced from the Profit Sharing Fund (PSF) of natural resources. In 2021, the allocation of PSF of natural resources reached IDR81.9 trillion in the 2021 fiscal year. So far, the utilization of PSF of natural resources, especially during the commodity price bonanza, is still

limited to programs that are not directly correlated to energy security. Some natural resource-producing regions can utilize the PSF of natural resources in the form of the Oil and Gas Endowment Fund or the Coal Endowment Fund, for example. Profits from the Endowment Fund investment can be used to fund energy transition in the form of renewable energy projects at the regional-owned enterprises (BUMD), village-owned enterprises (BUMDes) and community levels.



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INSTITUTIONALIZATION AND GOVERNANCE OF JETP IN INDONESIA

As the entity responsible for coordinating JETP's planning in Indonesia, the JETP Secretariat shall operate under the principles of accountability and transparency. The JETP Secretariat should also play a crucial role in bridging communication and providing meaningful participation to all relevant stakeholders. This includes communication with civil society groups, community

representatives, people directly affected on site, and the Indonesian public at large. However, so far, the JETP Secretariat has only conducted one public consultation in June 2023, where meaningful participation expected by civil society groups has yet to be realized. Therefore, recommendations specifically aimed at institutional strengthening and governance of the JETP are as follows:

Strengthening the Institutional Aspect

The JETP Secretariat is expected to work independently, professionally and based on the principle of integrity in the broader public interest. However, the JETP secretariat's authority is currently very limited to the coordination function between the Government of Indonesia and the International Partners Group (IPG), and its role as a technical implementation coordinator also needs further attention since decisions regarding the Comprehensive Investment and Policy Plan (CIPP) do not fall under the JETP Secretariat's authority. For now, JETP Secretariat

does not have the power to influence the decisions of the GoI and IPG, but rather acts as a communication intermediary.

The JETP Secretariat also lacks a clear and strong legal basis. Currently the only legal umbrella for the operation of JETP Secretariat is the Decree of the Coordinating Minister for Maritime Affairs and Investment Number 144 of 2023 concerning the National Energy Transition Task Force. Because JETP is an important agenda that involves the commitment of the Government of Indonesia, it needs a stronger and clearer legal umbrella, such as in the form of a Presidential Decree (Keppres) or Presidential

Regulation (Perpres) so that this institution has clearer authority, duties and roles in government administration.

This clear and strong legal foundation is also expected to answer the sustainability of the JETP Secretariat in the future. This is because, until now, there is still a big question about the role of the JETP Secretariat after the issuance of the CIPP. Will they still be involved in the JETP implementation process itself, and to what extent? Then, how can the public know that JETP has been successfully implemented in Indonesia? Will this be the responsibility of the JETP Secretariat or delegated to other institutions?



Strengthening Governance Aspects



In JETP governance, transparency is one of the aspects that needs to be well implemented. Some of the characteristics that are part of the implementation of transparency are public participation, openness and access to information, and accountability. These three characteristics are basically interrelated with each other, where if one aspect is not fulfilled, it is likely that the other aspects will also not be fulfilled. In relation to these aspects, in the context of an equitable energy transition, it is necessary to ensure:

1 Public participation (Meaningful Participation)

In the implementation of JETP governance, it is necessary to ensure that the Community is optimally involved in decision-making steps and policy formulation. When referring to the Explanation Section of Law No. 13 of 2022 concerning the Second Amendment to Law No. 12 of 2011 concerning the Formation of Legislation, this aspect of public participation needs to be carried out in a meaningful participation manner, which needs to fulfill three important prerequisites, namely the right to be heard, the right to be considered, and the right to get an explanation or answer to the opinion given (right to be explained). Therefore, in every policy-making and decision-making process it is

necessary to ensure that the public's rights to these three important prerequisites are fulfilled. In the context of JETP, a series of public consultations need to be carried out by taking into account the uniqueness and needs of affected communities. Spaces and platforms to open up space for participation need to be carried out inclusively, as well as opportunities and space for the community to get feedback from the recommendations submitted.

2 Transparency and Access to Information

In the implementation of JETP governance, transparency and access to information are crucial for the community. The right to information is a form of human right that needs to be fulfilled by the state towards its people. The right to information has a significant role because it relates to the accountability of public officials for the administration of the state, so that the administration of the state is more accountable

Therefore, as a form of state administration that has a major impact on people's lives, the implementation of JETP governance needs to ensure easy and open access to information for all levels of society, especially vulnerable and marginalized communities. Given that, until this white paper was compiled, investment plan documents could not be disclosed to the public, this should be a concern for the JETP Secretariat and the Government to be able to fulfill

the right to information for the community, especially those who will be directly affected.

3 Access to Guaranteed Public Complaints

As mentioned earlier, the energy transition process has both environmental and social impacts. In this context, the community needs to have access to a clear complaint or conflict resolution mechanism, if

there are violations in the JETP funding process and its implementation. This complaint mechanism can be conducted through a platform that is cross-ministry / institution / agency, or by optimizing existing platforms. But regardless, there needs to be clarity regarding to the handling of complaints along with the infrastructure and this needs to be known to the public equally, including communities who live directly adjacent to the project. One of the efforts that can be made by the JETP Secretariat

is to provide a website that can be accessed by anyone. This website should ideally provide information related to the development and communication of JETP Indonesia, as well as being an effective two-way interaction channel between civil society representatives with the JETP Secretariat and the government in the context of JETP implementation.



Strengthening the Monitoring and Evaluation Aspect

The monitoring and evaluation process in JETP governance is crucial. In the context of an equitable energy transition, it is important that monitoring and evaluation processes are designed to monitor:

