

PANORAMIC

# RENEWABLE ENERGY

Indonesia



LEXOLOGY

# Renewable Energy

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## Indonesia

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## MARKET FRAMEWORK

### **Government electricity participants**

Who are the principal government participants in the electricity sector?  
What roles do they perform in relation to renewable energy?

The principal government participants in the electricity sector are:

- the Ministry of Energy and Mineral Resources (MEMR) through the Directorate General of Electricity and the Directorate General of New and Renewable Energy and Energy Conservation as the regulator and issuer of permits, licences and other authorisations; and
- PT Perusahaan Listrik Negara (Persero) (PLN), a state-owned company that acts as the main offtaker for the power or electricity produced by an independent power producer (IPP).

There is limited involvement of local government in the issuance of certain licences required for the development of power plants, although most of the licences are now applied and issued through the Online Single Submission (OSS) System.

**Law stated - 15 July 2024**

### **Private electricity participants**

Who are the principal private participants in the electricity sector? What roles do they serve in relation to renewable energy?

The private participants in the electricity sector are IPPs, whose electricity is sold to PLN. In the geothermal sector, the IPP can also be the holder of a geothermal working area and a geothermal permit issued by the MEMR. In addition to the IPPs, other private participants in the electricity sector are the sponsors, investors and creditors or lenders.

**Law stated - 15 July 2024**

### **Definition of 'renewable energy'**

Is there any legal definition of what constitutes 'renewable energy' or 'clean power' (or their equivalents) in your jurisdiction?

Renewable energy is defined in the MEMR Regulation No. 50 of 2017 on the Utilization of Renewable Energy Sources for Power Supply, as amended, several times, most recently by MEMR Regulation No. 4 of 2020 (MEMR Regulation No. 50/2017), as any source of energy generated from resources that are sustainable if managed properly, including geothermal energy, wind, bioenergy, solar energy, hydro-energy (streams or waterfalls) and movement and temperature difference of ocean layers.

**Law stated - 15 July 2024**

## Framework

### What is the legal and regulatory framework applicable to developing, financing, operating and selling power and 'environmental attributes' from renewable energy projects?

For geothermal power plants, development is based on the tender of a geothermal working area by the MEMR. The tender winner will be granted a geothermal permit to develop the power plant within the geothermal working area and the government, at the same time, will assign PLN to purchase the electricity produced by the geothermal permit holder. Another renewable-based power plant is under a permit regime in which the developer must obtain the necessary licences to develop, operate and sell the power or electricity produced to PLN or another buyer.

Concerning environmental attributes, PLN issues a renewable energy certificate for business participants in the commercial and industrial sectors that purchase electricity from PLN generated from renewable energy-based power plants. In late 2022, the Minister of Energy and Mineral Resources issued Regulation No. 16 on the procedures for implementing carbon economic value in the power generation sub-sector, and the Minister of Environment and Forestry (MOEF) issued Regulation No. 21 on procedures for the implementation of carbon economic value. The MOEF regulation provides the mechanism for issuing GHG emissions reduction certificates, their registration and validation, as well as the carbon trading mechanism. Meanwhile, the MEMR regulation provides the mechanism for carbon trading in the electricity sector.

**Law stated - 15 July 2024**

## Stripping attributes

### Can environmental attributes be stripped and sold separately?

Yes, environmental attributes can be stripped and sold separately. The government recently issued Presidential Regulation No. 98 of 2021 on the Implementation of Carbon Economic Value to Achieve Nationally Determined Contribution Targets and Control over Greenhouse Gas Emissions in Relation to National Development (PR 98/2021), which regulates the implementation of carbon pricing that serves as the basis for the development of the Indonesian carbon market. In combination with Law No. 7 on the Harmonisation of Taxation Regulations, PR 98/2021 provides a road-map for Indonesia's carbon reduction. The MOEF issued Regulation No. 21 of 2022 on procedures for the implementation of carbon economic value that regulates the mechanism of carbon trading, including the procedure for the issuance, registration and validation of the GHG emission reduction certificate. The MEMR likewise issued Regulation No. 16 of 2022 on procedures for implementing carbon economic value in the power generation sub-sector, although the implementation is pending further regulation on GHG emission calculation and establishment of the web-based application that is going to be used for the calculation and reporting of the GHG emission and the mitigation action (which includes carbon trading).

In addition, PLN issues the market-based renewable energy certificate for companies that use energy produced by renewable energy-based power plants and contribute to the use of clean energy in Indonesia. However, we do not know whether this certificate can be traded

in the secondary market. Currently, the purpose of this certificate is to act as evidence for companies in Indonesia that carry out export trading, to show they use renewable energy in their production activities.

**Law stated - 15 July 2024**

### **Government incentives**

**Does the government offer incentives to promote the development of renewable energy projects? In addition, has the government established policies that also promote renewable energy?**

The government offers the following fiscal facilities for renewable energy:

- income tax facilities in the form of a 30 per cent reduction of net income for six years, escalated depreciation and amortisation and compensation for any loss incurred for more than five years but not more than 10 years' tax holiday;
- a tax holiday in the form of exemption from tax from five to 10 years as of the commercial operation of the power plant and a 50 per cent reduction of tax from outstanding income tax for two years; and
- a VAT exemption and exemption from import duty for capital goods.

On the offtake side, the government also provides a feed-in tariff and, for geothermal energy, there is a mandatory offtake from PLN. However, we understand that the feed-in tariff provided by the government is still considerably low given the large investment cost of developing renewable-based energy power plants in Indonesia; in particular, geothermal power plants.

**Law stated - 15 July 2024**

### **Government incentives**

**Are renewable energy policies and incentives generally established at the national level, or are they established by states or other political subdivisions?**

Renewable energy policies and incentives in Indonesia are established at the national level.

**Law stated - 15 July 2024**

### **Purchasing mechanisms**

**What mechanisms are available to facilitate the purchase of renewable power by private companies?**

In the private sector, rooftop solar photovoltaic energy is used by existing PLN customers. In the commercial and industrial sector, companies use solar photovoltaic energy based on an operating lease arrangement with a provider (and, in certain cases, together with operation and maintenance services). Solar photovoltaic energy use can be off-grid or on-grid. The



operating lease agreement scheme is used instead of direct power purchase agreements (PPAs) because of certain regulatory constraints. Although it is not prohibited under the electricity regulation for an IPP to directly sell electricity to private companies, to do so the IPP must initially obtain various approvals and licences from the government, such as:

- stipulation of business area, which serves as a 'concession' right where the IPP can sell electricity to end consumers within the area stipulated under the approval or concession issued by the MEMR;
- electricity supply business licences (that cover integrated activities from power generation, distribution and sales); and
- approval of the IPP electricity tariff or price.

Private companies can also construct, own and operate a renewable energy-based power plant for their own use. The excess power can be sold to PLN or the holder of an electricity supply business licence or, in the event the surrounding area experiences an electricity crisis, sold to households or other companies in the affected area.

**Law stated - 15 July 2024**

### **Legislative proposals**

**Describe any notable pending or anticipated legislative proposals regarding renewable energy in your jurisdiction.**

There are two pending or anticipated regulations regarding renewable energy to be issued by the government. The first is in the form of a law on renewable energy. We understand drafts of the law have been discussed between the government and the House of Representatives.

**Law stated - 15 July 2024**

### **Drivers of change**

**What are the biggest drivers of change in the renewable energy markets in your jurisdiction?**

The biggest drivers of change in the renewable energy market in Indonesia are market sustainability and technological change. The private sector has started to use renewable energy power for the supply of electricity in production plants or facilities as part of its commitment to greener energy. Households have also started to use and install solar photovoltaic panels to reduce electricity bills in the long run. The government encourages ministries, government institutions, local authorities and state-owned enterprises to expand the usage of renewable energy in the form of installation of solar photovoltaic panels in their offices and public places. As solar photovoltaic technology becomes cheaper and generally more accessible to the public, to some extent, these are the biggest drivers of change in the renewable energy market in Indonesia.

With the issuance of Presidential Regulation No. 112 of 2022 (PR 112) on acceleration of development of renewable energy for the provision of electricity, it is expected that the development of renewable energy in Indonesia will gain momentum. PR 112 is also intended

to accelerate energy transition in Indonesia by mandating for the early decommissioning of PLN's coal-fired power plants (CFPP) and those developed by independent power producers (by way of shortening the terms of PPAs), as well as limiting the development of new CFPPs.

In August 2023, the Financial Services Authority (Otoritas Jasa Keuangan/OJK) issued a regulation to implement carbon trading through a carbon exchange managed or operated by Indonesia Stock Exchange (IDX).

**Law stated - 15 July 2024**

### **Disputes framework**

**Describe the legal framework applicable to disputes between renewable power market participants, related to pricing or otherwise.**

Dispute resolution for renewable market participants depends on the PPA signed by the parties. In the PPA between PLN as the offtaker and an IPP as the seller, dispute resolution normally refers to arbitration, including international arbitration for power projects involving foreign sponsors and lenders. The same goes with PPAs between private parties in which dispute resolution refers to arbitration.

**Law stated - 15 July 2024**

## **UTILITY-SCALE RENEWABLE PROJECTS**

### **Project types and sizes**

**Describe the primary types and sizes of existing and planned utility-scale renewable energy projects in your jurisdiction.**

Utility-scale renewable projects in Indonesia primarily consist of:

- geothermal power plants: the capacity of each project varies but most of them are above 100MW (megawatts);
- hydropower plants: with capacity starting from 15MW up to 1,000MW;
- wind power plants: with capacity of more than 70MW; and
- solar power plants: with capacity starting from 15MW.

**Law stated - 15 July 2024**

### **Development issues**

**What types of issues restrain the development of utility-scale renewable energy projects?**

The development of utility-scale renewable energy projects depends on the procurement conducted by PT Perusahaan Listrik Negara (Persero) (PLN). Transmission infrastructure and grid instability undoubtedly are the reasons why utility-scale renewable energy projects are not a priority given that transmission lines owned by PLN are not entirely interconnected

and could not receive electricity supplied by an intermittent power plant on a utility-scale to its fullest capability.

Law stated - 15 July 2024

## HYDROPOWER

### Primary types of project

Describe the primary types of hydropower projects that are prevalent.

The primary types of hydropower projects in Indonesia are conventional hydropower projects with dams or weirs, run-of-river and a small number of pumped storage hydropower plants. Most hydropower plant projects involving PT Perusahaan Listrik Negara (Persero) (PLN) as offtaker are under a build-own-operate-transfer (BOOT) scheme with a limited number of projects under a build-own-operate (BOO) scheme. The BOOT scheme was initially mandated under the Ministry of Energy and Mineral Resources (MEMR) Regulation No. 50 of 2017 on the Utilization of Renewable Energy Sources for the Provision of Electricity (MEMR Regulation No. 50/2017). The Regulation stipulated that the power purchase agreement (PPA) for renewable energy-based power plants entered into between independent power producers and PLN must be under a BOOT scheme. However, the relevant provision has been amended (by virtue of MEMR Regulation No. 4 of 2020), so that PPAs can be entered into under a BOO scheme.

Law stated - 15 July 2024

### Primary types of project

What legal considerations are relevant for hydroelectric generation in your jurisdiction?

Generally, the regulations related to the development of hydropower projects already cover all aspects of the project. However, permits for the development of hydropower projects are under the authority of multiple ministries and involve the local government. Consequently, the process to obtain these permits is not straightforward and takes time. For example, to build a dam, the process to obtain the mandatory permits before the construction of the dam can commence involves the local government where the dam is located, the Ministry of Public Works and Public Housing and the Ministry of Environment and Forestry (for the environmental licences required as a prerequisite to obtain the permit related to the construction and operation of the dam).

Law stated - 15 July 2024

## DISTRIBUTED GENERATION

### Prevalence

Describe the prevalence of on-site, distributed generation projects.

Most of the electricity produced by renewable power projects that are owned, operated or maintained by a private entity is distributed to PT Perusahaan Listrik Negara (Persero) (PLN) and only a small percentage is distributed directly to industrial consumers. There may be some solar photovoltaic plants with operating lease schemes, but these do not have a direct power purchase scheme with end users. Solar photovoltaic plants on-site are mostly connected to the PLN distribution system (on-grid), although the regulation allows for an off-grid connection. The reason for the use of this operating lease scheme instead of a power purchase agreement is because the end users are normally PLN customers, meaning that PLN holds the right to distribute and sell power in the area. For an independent power producer (IPP) to be able to sell electricity to the consumer, it must initially obtain stipulation of business area from the Ministry of Energy and Mineral Resources (MEMR) and, pursuant to the regulation, there can only be one electricity supplier in a particular area. Therefore, if PLN is already supplying electricity to customers or users, the IPP cannot be granted the stipulation of business area unless PLN releases its right to supply electricity or power in that particular area.

**Law stated - 15 July 2024**

### **Types**

**Describe the primary types of distributed generation projects that are common in your jurisdiction.**

Distribution of electricity in Indonesia is generally still under the control or monopoly of PLN, including electricity from renewable energy-based power plants, even though the regulation allows the private sector to be involved in the power distribution activities such as owning and operating assets (transmission lines). There are only limited areas such as industrial zones where there is an integrated independent power producer or public private utility company that generates, distributes and sells electricity directly to the tenants in the industrial area. Residential areas or households that use solar photovoltaic energy are still connected to PLN's distribution system (on-grid) and not fully off-grid. Commercial and industrial solar photovoltaic energy in Indonesia is also mostly, if not entirely, on-grid or connected to PLN's distribution system before being redistributed to the users.

**Law stated - 15 July 2024**

### **Regulation**

**Have any legislative or regulatory efforts been undertaken to promote the development of microgrids? What are the most significant legal obstacles to the development of microgrids?**

There is no specific regulation issued by the government for the development of microgrids, although development of microgrids is mentioned in the MEMR Regulation No. 9 of 2023 on the amendment to the 2020–2024 strategic plan of the MEMR. This lack of specific regulation on microgrids is generally the legal obstacle to the development of microgrids. Private entities that want to develop microgrids and supply electricity from renewable energy power plants to communities are subject to the same requirement as the development of transmission lines or integrated power projects in which the permits, approvals or licences

that need to be obtained may be burdensome. Furthermore, there used to be restrictions for foreign investment in power plants at a capacity of 1MW to 10MW. With the new investment list recently introduced by the government, only power generation activity with a capacity below 1MW is closed for foreign investment. Currently, microgrids in Indonesia are limited to the captive microgrid in which the private entity owns and operates the renewable energy power plant and the microgrid by itself and for its own use (usually the private entity is a mining or manufacturer company).

**Law stated - 15 July 2024**

### **Other considerations**

#### **What additional legal considerations are relevant for distributed generation?**

A lack of specific legislative and regulatory support for the distribution of power from renewable energy-based power plants, such as solar power owned by third parties or private parties in a residential area, is one of the reasons for the lack of use of renewable energy in Indonesia. The current regulation covers the use of solar photovoltaic energy by PLN consumers (single household or private entities), which normally need to be on-grid or connected to PLN's system.

**Law stated - 15 July 2024**

## **ENERGY STORAGE**

### **Framework**

#### **What storage technologies are used and what legal framework is generally applicable to them?**

Energy storage in Indonesia is relatively new and the regulation related to energy storage has only recently been enacted (ie, Government Regulation No. 25 of 2021 on the Management of the Energy and Mineral Resources Sector). The current or existing laws do not regulate storage technology in detail. The regulation only states that energy storage, in particular the battery energy storage system (BESS), is part of the electricity supporting business. There are not yet any significant energy storage projects in Indonesia. However, there has been discussion and potential investment related to BESS projects in the country after the enactment of the regulation covering this activity.

**Law stated - 15 July 2024**

### **Development**

#### **Are there any significant hurdles to the development of energy storage projects?**

Given that this sector is relatively new in Indonesia and the main regulation has been recently enacted, the implementation of energy storage projects may still be subject to policy from the

government or issuance of further regulation at a ministerial level. Currently, the development of energy storage seems to be bundled with the development of new renewable energy power plants.

Law stated - 15 July 2024

## FOREIGN INVESTMENT

### Ownership restrictions

May foreign investors invest in renewable energy projects? Are there restrictions on foreign ownership relevant to renewable energy projects?

Power generation from renewable energy with capacity above 1MW is open to 100 per cent foreign ownership. The supporting business activities, including installation, operation and maintenance of the power generation and also energy storage, are now also open to 100 per cent foreign shareholding. For renewable energy generation projects, such as solar photovoltaic projects with operating leases or rent schemes, the company providing the lease is also open to 100 per cent foreign shareholding.

Law stated - 15 July 2024

### Equipment restrictions

What restrictions are in place with respect to the import of foreign manufactured equipment?

Generally, the import of equipment is subject to tariffs, VAT and import duties. However, a foreign investment company can apply for an exemption of import duties and VAT to the government for the import of equipment that is categorised as capital goods. For renewable energy, the exemption of these tariffs and import duties is part of the fiscal and non-fiscal incentives granted by the government to encourage the development of renewable energy.

Law stated - 15 July 2024

## PROJECTS

### General government authorisation

What government authorisations must investors or owners obtain prior to constructing or directly or indirectly transferring or acquiring a renewable energy project?

For a developer or owner of a renewable energy power plant, the main government authorisations that need to be obtained are:

- a business identification number;
- an electricity business licence;
- a certificate of standard; and

- for geothermal power plants, a geothermal business permit (and a geothermal working area).

Prior to the construction of the renewable energy power plant, a developer or owner would be required to obtain at least the following government authorisations:

- a confirmation of suitability of space for utilisation activities;
- an environmental approval;
- a building construction permit;
- evidence of ownership or control over the land. If the land is owned by the developer or owner of the power plant, it must obtain a right-to-build certificate. If it is not owned by the developer, a land utilisation agreement with the landowner and land utilisation permit from the local government is required to apply for the building construction permit;
- for hydropower plants with a dam, separate licences related to the construction and operation of the dam are also required; and
- if the location of the renewable energy power plant is within a forestry area, a permit to utilise the forestry area is required.

For energy storage projects, the regulation categorises energy storage as an electricity supporting business activity and thus the main government authorisations that are required by the owner are:

- a business identification number;
- an electricity supporting business licence; and
- a certificate of standard.

To construct the facilities, the same licences (save for a dam-related permit for a hydropower plant) as mentioned above for the construction of renewable energy power plants are generally also applicable for the construction of a facility or plant for energy storage.

**Law stated - 15 July 2024**

## **Offtake arrangements**

### **What type of offtake arrangements are available and typically used for utility-scale renewables projects?**

The typical offtake arrangement for utility-scale renewable projects is a power purchase agreement with PT Perusahaan Listrik Negara (Persero) (PLN) as the offtaker. Certain government support options are available if the project is developed under a public-private partnership scheme or if PLN, when conducting the procurement, asks for government support from the Minister of Finance in the form of a business viability guarantee letter (BVGL). The BVGL is government support issued in favour of the seller in the power purchase agreement (PPA) in which the Minister of Finance will ensure to support PLN in connection with PLN's payment obligations under the PPA (which normally also includes the termination payment). However, the support is not a direct support in which the Minister of Finance is going to pay any outstanding payment directly to the seller or the independent power

producer (IPP). The BVGL only serves as an assurance that the Minister of Finance will make sure that PLN will have the funds to fulfil its payment obligation under the PPA. If the utility-scale renewable project is to be developed with a public-private partnership scheme, the payment obligations of PLN under the PPA will be guaranteed by PT Penjaminan Infrastruktur Indonesia (Persero) (or also known as Indonesia Infrastructure Guarantee Fund) and, in certain cases, co-guaranteed by the Minister of Finance in accordance with the risk allocation in the PPA.

**Law stated - 15 July 2024**

### **Procurement of offtaker agreements**

**How are long-term power purchase agreements procured by the offtakers in your jurisdiction? Are they the subject of feed-in tariffs, the subject of multi-project competitive tenders, or are they typically developed through the submission of unsolicited tenders?**

Other than geothermal power plants, renewable-based power plants are procured by way of direct selection conducted by PLN to appoint or select the developer or IPP. The selected developer or IPP will enter into a PPA with PLN. Before the direct selection process, PLN will conduct a pre-qualification process in which all developers can participate, and developers that pass the pre-qualification stage will be invited to participate in the direct selection. PLN normally conducts separate pre-qualification for each type of renewable energy power plant. Procurement through direct appointment is also possible in certain cases, such as the expansion of existing projects or if there is an electricity crisis in the area.

For geothermal power plants, the tender is conducted by the Ministry of Energy and Mineral Resources (MEMR) for the geothermal working area for indirect use to produce power or electricity. The tender winner will automatically become the IPP for the geothermal power plant and PLN is assigned or mandated by the government to purchase the power.

In the past, an unsolicited proposal for the development of a renewable energy-based power plant was quite common. However, with the current regulation, PLN must conduct the direct selection and invite other developers (although in a limited number and only those that have already passed the pre-qualification conducted by PLN) to participate in the direct selection. In practice, it is almost certain that the developer submitting the unsolicited proposal will win the direct selection as it has an advantage over other developers in terms of obtaining initial permits from local government and generally the nature of the project itself. Renewable energy power projects are subject to feed-in tariffs by the government. A feed-in tariff is provided in the form of benchmark price and the final price or tariff agreed between PLN and the IPP must be approved by the MEMR.

**Law stated - 15 July 2024**

### **Operational authorisation**

**What government authorisations are required to operate a renewable energy project and sell electricity from renewable energy projects?**



The main government authorisations required to operate a renewable energy project and sell electricity are:

- a certificate of worthiness of the power plant or electricity installation; and
- the approval of the electricity price or tariff.

The buyer can purchase a renewable energy certificate from PLN.

**Law stated - 15 July 2024**

### **Decommissioning**

**Are there legal requirements for the decommissioning of renewable energy projects? Must these requirements be funded by a sinking fund or through other credit enhancements during the operational phase of a renewable energy project?**

There is no law in Indonesia that specifically regulates or requires the decommissioning of renewable energy projects or power projects.

**Law stated - 15 July 2024**

## **TRANSACTION STRUCTURES**

### **Construction financing**

**What are the primary structures for financing the construction of renewable energy projects in your jurisdiction?**

The financing of renewable energy projects in Indonesia is usually by way of project financing or, if it is not a large project, through equity or a shareholder loan from the shareholders in the project company.

**Law stated - 15 July 2024**

### **Operational financing**

**What are the primary structures for financing operating renewable energy projects in your jurisdiction?**

Financing for operating renewable energy projects is commonly part of the project financing. Green bonds can be an alternative; however, the issuance of green bonds in Indonesia is still very limited owing to requirements that may be burdensome for companies in Indonesia where renewable energy projects are still relatively new.

**Law stated - 15 July 2024**

## **UPDATE AND TRENDS**

### Recent developments

Describe any market trends with respect to development, financing or operation in the renewables sector or other pertinent matters.

Commercial and industrial solar is starting to thrive and dominate the development of renewable projects in Indonesia, especially since PT Perusahaan Listrik Negara (Persero) (PLN) has not yet conducted direct selection for new renewable independent power producer projects. PLN's subsidiaries (ie, PT Pembangkitan Jawa Bali and PT Indonesia Power) are also actively participating in the development of the renewable sector and partnering with foreign investors to develop utility-scale renewable projects; in particular, a floating solar photovoltaic power plant.

**Law stated - 15 July 2024**

### Recent developments

Describe any notable pending or anticipated legislative proposals.

There are no notable pending or anticipated legislative proposals other than the bill or draft law on new and renewable energy, which has not yet been formally adopted by the government.

**Law stated - 15 July 2024**