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Alternative Energy & Power 2022

Indonesia: Trends & Developments
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INDONESIA

Trends and Developments

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Alternative Energy and Power in Indonesia: An Introduction

The accelerating global energy transition is having an impact on the energy policy in Indonesia. Indonesia's commitments to energy transition are embodied through its ratification of the Paris Agreement under the United Nations Framework Convention on Climate Change through Law No 16 of 2016. In its First Nationally Determined Contribution (NDC), Indonesia has set an unconditional reduction target of 29% of CO₂ emissions against the business-as-usual scenario by 2030 and, with international assistance, a conditional reduction target of up to 41%. Furthermore, with Indonesia holding the presidency of the G20 throughout 2022, the Government of Indonesia (GoI) has announced its plan to issue a "National Grand Energy Strategy" to reach net zero emissions by 2060.

This article will discuss some of the developments that have been observed in the Indonesian alternative energy sector over the past year, and also touch upon some of the trends lying on the horizon.

New Green Electricity Supply Business Plan

On 5 October 2021, PT Perusahaan Listrik Negara (Persero) (PLN), the Indonesian state utility, issued the long-awaited 2021–2030 Electricity Supply Business Plan (*Rencana Usaha Penyediaan Tenaga Listrik – RUPTL*). The plan has been named the "Green RUPTL" by PLN due to the declared intention to shift the focus of new energy generation towards renewable energy sources in order to help achieve Indo-

nesia's renewed commitments under the Paris Climate Agreement.

The RUPTL includes a low-carbon scenario where 20.9 GW of the planned 40.6 GW (51.6%) of additional generation capacity up to 2030 is to come from "new and renewable energy" sources (NRE), reaching 24.8% of the total energy mix by 2030. The plan somewhat caveats these objectives by stating that the development of renewable power plants will be subject to a number of factors, including the supply-demand balance, the readiness of the system and that the "economy must also be considered".

PLN's other main strategic objectives for the next decade include the following policies:

- fuel conversion and the utilisation of exhaust gas, where PLN plans to switch from fuel oil to gas, and to utilise a biofuel mix for diesel power plants. Fuel switching/conversion will also be implemented for coal-fired power plants (CFPPs) by replacing a part of the feedstock to biomass (co-firing);
- increased utilisation of biomass-based fuels as a primary energy source; and
- the implementation of low-carbon and efficient technologies.

Over the next decade, PLN also intends to increase the development of NRE generation with a focus on:

- large geothermal developments;
- large, medium and small-scale hydro;

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- large and small-scale wind farms; and
- small-scale solar, biomass, biofuel, biogas and coal gasification power plants.

The RUPTL also affirms the need for the private sector's participation in the build-up of new capacity. Specifically, the plan anticipates that independent power producers (IPPs) will develop approximately 65% of Indonesia's new power capacity by 2030, including 56% of the NRE capacity.

Despite the generally positive course laid out in the plan vis-à-vis renewables, fossil fuels continue to make up a significant share of the new capacity addition by 2030, where a planned 19.5 GW is to come from additional fossil fuel-based power plants, including 13.8 GW from coal, contributing a total share in the energy mix of 59.4%.

PLN's Diesel Conversion Programme

Over the past couple of years, PLN has been working on a "de-dieselisation" programme to convert existing scattered diesel generation units into NRE power plants. The magnitude and ambition of the plan speak for themselves: PLN is aiming for 5,200 diesel units in 2,130 locations with a total capacity of approximately 2.3 GW to be converted through the following three schemes:

- diesel generation conversion into NRE power plants with a total capacity of 500 MW;
- diesel to gas conversion with a capacity of 600 MW; and
- network expansion to isolated systems to eliminate further diesel generation with a capacity of 1,070 MW.

PLN is planning to implement the programme in two phases, with two first rounds of tenders on an IPP basis having been issued for Java-Madura, Kalimantan and certain regions in Eastern Indonesia (Sulawesi, Maluku and Nusa

Tenggara). Whether the complexities arising from the extremely scattered nature of these projects (which cover tens of different locations for each tender package) can be mitigated by a sufficiently attractive tariff and risk allocation remains to be seen.

Energy Transition Mechanism

The Asian Development Bank (ADB) together with the GoI and the Government of the Philippines have recently announced the launch of a new partnership to establish an Energy Transition Mechanism (ETM) to accelerate the clean energy transition. The ETM adopts a blended-finance approach, with various funding/transaction models that aim to retire existing CFPPs and replace them with clean power capacity. In the first two to three-year pilot phase that is being prepared by ADB and the GoI, the ETM will raise financial resources to accelerate the retirement of five to seven CFPPs in Indonesia and the Philippines, ultimately aiming to retire 50% of the aggregated coal fleet in Indonesia, the Philippines and Vietnam (approximately 30 GW) over the next ten to 15 years.

New Updates to the Rooftop Solar Regulatory Framework

On 20 August 2021, the Ministry of Energy and Mineral Resources (MEMR) enacted Regulation No 26 of 2021 on Rooftop Solar Power Plants Connected to the Electricity Network of Holders of Electricity Supply Business Licence for Public Interest (MEMR 26/2021), a long-awaited new regulation on rooftop solar power that revokes an earlier attempt to regulate this critical resource and growing industry through MEMR Regulation No 49 of 2018.

MEMR 26/2021 has a wider scope than the previous regime, which only applied to rooftop power systems of PLN customers (and not other holders of power business areas/ *wilayah usaha*). The regulation also makes further attempts at

improving some of the key features of the regulatory regime applicable to rooftop solar power, such as:

- finally increasing the net metering multiplier (between the power injected to the grid from rooftop solar installations and the power credit received in exchange) from 65% to 100%;
- increasing the accumulation period of net metering credits, from three to six months;
- providing for the creation of an app-based reporting system, which is to be implemented by the MEMR and PLN; and
- allowing rooftop solar owners or offtakers to engage in carbon trading schemes.

Despite these notable improvements, MEMR 26/2021 may also be perceived by certain investors and sector participants as confirming some of the current limitations of the business models that can be deployed in the rooftop solar space in Indonesia, such as:

- the limitation on the size of the installations that qualify for the scheme to the applicable grid connection of the relevant customers, which is therefore impacting the possibilities to scale-up; and
- a confirmation of the prohibition on the sale of power from rooftop solar systems that fall within the scope of the regulation, which thereby limits the structures and business models that can be implemented.

Newly-Enacted Regulation on Carbon Pricing

On 29 October 2021, President Joko Widodo officially enacted Presidential Regulation No 98 of 2021 on the Implementation of Carbon Economic Value to Achieve the Targets of Nationally Determined Contribution and Greenhouse Gas Emissions Control in the National Development (PR 98/2021). Among other things, the new regulation lays out the principles of carbon pricing

to be implemented in the country. On the same day, the Gol enacted Law No 7 of 2021 on the Harmonisation of Tax Regulations (the “Harmonised Tax Law”), which enshrines in law the gradual introduction of a carbon taxation regime.

Both PR 98/2021 and the Harmonised Tax Law are part of the Gol’s efforts to lay the groundwork of carbon pricing principles to achieve its NDC targets to control greenhouse gas (GHG) emissions. However, at this stage both regulations only provide certain initial principles and a high-level framework, and will therefore require further detailed regulations to be issued in order to be implementable in practice.

PR 98/2021 introduces two carbon pricing instruments:

- trading instruments; and
- non-trading instruments, which include carbon taxation and “result-based payments”.

Carbon trading instruments

Carbon trading involves a market-based mechanism to reduce GHG emissions by way of the sale and purchase of carbon units. PR 98/2021 allows both domestic and cross-border carbon trading, which may be carried out through carbon exchange and/or direct trading. In Indonesia, the Gol is to exert control over carbon trading through the National Registry System on Climate Change Control (*Sistem Registri Nasional Pengendalian Perubahan Iklim – SRN PPI*). SRN PPI is meant to be a web-based data and information management and provision system on the actions and resources for climate change mitigation and adaptation and carbon pricing in Indonesia.

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PR 98/2021 further recognises two carbon trading instruments:

- the “cap and trade”, which is generally referred to as emissions trading; and
- the “crediting mechanism”, which is referred to as emissions offset.

Carbon non-trading instruments

Carbon taxation

Carbon taxation is to be conducted in the form of levies, customs and excise, as well as other state levies, charged by the central or district tax offices based on the carbon content and/or carbon emissions potential and/or carbon emissions amount of a certain activity.

Pursuant to the Harmonised Tax Law, a carbon tax is to be imposed on carbon emissions that have a negative impact on the environment. The subjects of the carbon tax are individuals or entities who purchase goods containing carbon and/or carry out activities that produce carbon.

The Harmonised Tax Law also provides certain incentives for taxpayers who participate in emissions trading, emissions offset and/or other mechanisms, in the form of carbon tax reductions and/or other treatments for the fulfilment of carbon tax obligations.

The elucidations of the Harmonised Tax Law provide that the imposition of a carbon tax is to be phased in based on the following steps:

- in 2021, the Gol’s focus was on developing the carbon trading mechanics;
- from 2022 until 2024, the cap and tax mechanism will be implemented for the power generation sector, and specifically for CFPPs; and
- from 2025 onwards, there will be full implementation in stages of carbon trading and the

expansion of the sectors that will be subject to the carbon tax.

In line with this plan, the Harmonised Tax Law requires the carbon taxation principles to be implemented for CFPPs as per 1 April 2022, with a tax rate of IDR 30 per kilogramme of CO₂e (USD0.002). However, the Gol announced on 1 April 2022 that the carbon tax implementation will be postponed until 1 July 2022 (although recent news indicates that this targeted time estimate is now deferred again until further notice, due to continued deliberations by the Gol).

Result-based payments

PR 98/2021 also paves the way for both domestic and cross-border performance-based contracts for the purpose of reducing emissions through the introduction of a process referred to as “result-based payments”.

Draft Bill on NRE

After a long preparation and deliberation process, the House of Representatives of the Republic of Indonesia recently approved the inclusion of a draft bill on new and renewable energy (NRE Draft Bill) on its legislative agenda. The next step should now be to deliberate the NRE Draft Bill with the Gol for it to be passed into law in the near future. This constitutes the first legislative attempt in Indonesia to regulate NRE in a whole-some way and to provide a framework enshrined in law (and not lower level regulations).

The key areas covered by the NRE Draft Bill include the following.

- Energy transition – the transition to NRE will be implemented by way of developing NRE power plants and converting and/or utilising advanced technologies to reduce emissions from non-renewable power plants. To ensure the availability of primary energy for existing non-renewable power plants, a domestic

market obligation of minimum 30% will apply to the supply of coal for CFPPs. In addition, all diesel generation units shall be replaced with NRE power plants by the end of 2024 at the latest.

- Classification of new energy and renewable energy – new energy sources consist of nuclear, hydrogen, coal bed methane, coal liquefaction, coal gasification and other new energy sources. On the other hand, renewable energy sources consist of geothermal, wind, biomass in the form of wood pellets, solar, water streams and waterfalls (hydro), waste, agricultural and plantation product waste, livestock waste or manure, ocean tidal and thermal, and other renewable energy sources.
- Nuclear energy – the NRE Draft Bill contains quite comprehensive provisions on nuclear energy power generation. The Bill essentially vests the authority over its utilisation with the central government and stipulates that the construction, operation and decommissioning of nuclear power plants shall be implemented by a state-owned power business entity.
- Ease of business licensing and incentives – the Bill provides that the Gol shall facilitate the ease of business licensing in the sector by providing certainty on the procedures, timeframes and costs involved. Incentives are also to be given to certain business entities engaging in NRE business activities. Such incentives may be in the form of fiscal incentives (eg, tax facilities, import facilities, financing or guarantee through an assigned SOE) or non-fiscal incentives (eg, providing business locations/land and necessary supporting infrastructure).
- Renewable Energy Portfolio Standard (REPS) – business entities that engage in non-renewable power supply and have entered into a power purchase agreement after the enactment of the NRE Draft Bill as law shall meet the REPS, which consists of a minimum level

of production from renewable energy that needs to be achieved by such entities.

- Stipulation of price – the price of NRE power generation shall be stipulated based on:
 - (a) an agreement of the parties by taking into account the economic value of the plant (including investment costs) and a reasonable rate of return for the private investors; and
 - (b) the Gol's stipulation in the form of the highest benchmark price per type of technology and project size.
- NRE fund – the Gol is to establish a fund to be used to support NREs in matters such as the funding of infrastructure, providing incentives and subsidising renewable energy sources whose pricing cannot compete with non-renewable energy.

Draft Presidential Regulation on Renewables

The Gol is also continuing its preparation of a draft presidential regulation on the purchase of renewable power by PLN, which has been ongoing for most of the past three years. Among other matters, this draft regulation will stipulate the following:

- a framework for the tendering and award of renewable energy IPP projects, which may be through direct appointment and direct selection; and
- PLN's purchase price from renewable IPPs, which is to be stated in the relevant power purchase agreement and may take the form of a feed-in tariff (for small-scale projects), a maximum ceiling price or a contractually agreed price.

Battery and Electric Vehicle Industry

In August 2019, Presidential Regulation No 55 of 2019 on the Acceleration of Battery Electric Vehicle Programmes for Road Transportation (PR 55/2019) was enacted, marking a new chapter in the development of battery electric vehi-

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cles (BEV) in Indonesia. This regulation served as a mandate for the development of the electric vehicle (EV) industry as a national priority to increase energy efficiency in the context of Indonesia's commitment to reducing GHG emissions. There have since been more derivative regulations at the ministerial level in support of the adoption of BEV, including:

- Ministry of Industry (MOI) Regulation No 27 of 2020 on the Specification, Roadmap for Development and Calculation of Local Content for BEV (as revoked and replaced by MOI Regulation No 6 of 2022), which sets out the specifications for electric motor usage, battery capacity and charging for BEV, as well as detailed requirements for calculating local manufacturing content for BEV;
- MOI Regulation No 28 of 2020 on Completely Knocked Down and Incompletely Knocked Down BEV (as amended by MOI Regulation No 7 of 2022), which sets out requirements for imports relating to BEV and domestic manufacturing of components; and
- MEMR Regulation No 13 of 2020 on Charging Infrastructure for BEV, which defines the requirements for charging stations and battery swap stations, including matters relating to permits and registration, technical specifications, safety issues and power tariffs based on the business models.

Indonesia does not currently have any domestic EV battery production, but this is clearly bound to change in the near future with the Gol's firm intention to localise battery production in the archipelago to move up in the supply chain from a mere supplier of the minerals required for the manufacturing of batteries (mainly nickel and cobalt). A number of projects are currently in the pipeline and should come online in the next few years.

In March 2021, the Gol also established a national battery holding company, the Indonesia Battery Corporation (IBC), which is a partnership of four major state-owned enterprises: PLN, Pertamina, Antam (a large mining SOE) and Inalum (the holding company for the mining industry SOEs). Foreign EV battery companies investing in Indonesia are required to enter into a collaborative partnership with IBC, although there is yet to be any definite guidance on how such partnerships will be implemented.

Indonesia's Potential Clean Energy Exports into Singapore

In an effort to follow through on the commitment to shift Singapore's energy dependency from natural gas power imports, in late 2021 the Singapore Energy Market Authority (EMA) announced its plans to seek proposals from business participants to provide a reliable source of renewable energy into Singapore in order to help meet 30% of Singapore's power demand by 2035.

Due to the constraints of its geography, Singapore needs to consider such power imports from the surrounding region to fulfil its decarbonisation pledges and those of businesses established in Singapore.

As Singapore's most direct neighbour (together with Malaysia), Indonesia is at the forefront and on the doorstep of this initiative, and most of the current proponents that have submitted expressions of interest and initial bids to the EMA are proposing to develop the required renewable generation capacity (mainly large-scale PV solar) in Indonesia, as close as possible to Singapore.

The Gol is taking stock of the process and has generally, at a high level, declared its support of this initiative, which also fits within the wider scheme of ASEAN connectivity and grid integration. Presumably, being able to demonstrate

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the in-country benefits of such large investments for Indonesia (such as investments in the local supply chain, the engagement of local workforce and contractors, and other potential indirect income) should contribute to the success of this important initiative for the region.

Conclusion

Despite the positive developments presented above, NRE developments in Indonesia have been particularly sluggish over the past three years, to the surprise of many observers and market participants, with only a fraction of the capacity seen in other countries in the region coming online or simply to market by way of tenders from PLN, which is the sole offtaker of IPPs. The main reasons cited by PLN and some government stakeholders include the impact of the COVID-19 pandemic on demand and the growing over-capacity over the coming years on the main Java-Bali grid, where close to 60% of the population resides, due to the coming online of large ultra-super-critical CFPPs that were planned and tendered in the first half of the 2010s.

More efforts will therefore be required for the renewed vision under the RUPTL to become a reality, rather than remaining a plan. This also needs to start with GoI support for PLN, to enable it to deliver on these objectives given the “energy transition trilemma” it refers to in the RUPTL, including the budgetary support and policy incentives required to unlock Indonesia’s renewables potential.

INDONESIA TRENDS AND DEVELOPMENTS

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Oentoeng Suria & Partners in association with Ashurst advises leading companies and institutions on high-profile projects, transactions and contentious matters in Indonesia, with a particular emphasis on the power, energy and infrastructure sectors. OSP is a member of the Ashurst group and, together with colleagues across Ashurst's network, advises seamlessly on cross-border matters involving Indonesia. The international projects group based in Ja-

karta advises across the entire spectrum of projects, from renewable energy IPPs and C&I projects to transportation infrastructure (airports, ports, rail and roads), oil and gas (upstream and downstream), and mining and minerals processing. The team is recognised for its project development and project finance expertise, and is able to advise sponsors, financiers and contractors on the whole lifecycle of a project.

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