

PwC Indonesia **Energy, Utilities & Mining NewsFlash**



Investing in Power: Risks under the new PPA and tariff regulations for renewables

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In late January 2017, the Ministry of Energy and Mineral Resources (MoEMR) issued two new regulations: No. 10/2017 on the Principles of Power Purchase Agreements; and, No. 12/2017 on the Utilisation of Renewable Resources for Electricity. Both regulations will impact Independent Power Producers.

In Regulation No. 10/2017, MoEMR outlines the principles of the Power Purchase Agreements (PPAs), and the legal basis for the agreement between the State Utility (PT Perusahaan Listrik Negara (Persero) (PLN)) and Independent Power Producers (IPPs), covering three key areas: (a) the implementation of the BOOT (Build-Own-Operate-Transfer) business scheme; (b) a new risk sharing and allocation concept; (c) penalty mechanisms.

In Regulation No. 12/2017, MoEMR stipulates new mechanisms for purchasing renewable electricity, including solar photovoltaic (solar PV), wind, hydro, biomass, biogas, and waste-to-energy. The purchase of power from these technologies will now be determined based on negotiations between IPP and PLN based on benchmarks on the regional electricity generation cost (*Biaya Pokok Pembangunan – BPP*).

The key features of the two regulations are summarised on the following pages.

Summary of Regulation 10/2017

Items	Description	Ref.
Key Features	<ul style="list-style-type: none"> This regulation sets out the content and principles that must be included within the Power Purchase Agreement (PPA) for any new power projects, including those fuelled by geothermal, large hydropower, and biomass (and, we assume, fossil fuels), but not new and renewable energy that is intermittent (e.g. solar PV and wind; regardless of the capacity), mini hydro (<10 MW), biogas, and municipal waste-to-energy (WtE). 	Article 2
Risk Sharing & Allocation	<ul style="list-style-type: none"> A major change in this regulation is that IPPs also have to share <i>force majeure</i> (FM) risks with PLN. There are 3 types of FM events: (a) natural FM event (natural disaster); (b) Changes in laws or regulation (“Change-in-Law”); and (c) a government FM event (e.g. a change in government policy). PLN is obliged to pay Deemed Dispatch in the event of PLN grid disruption unless FM (as defined in Article 28.2). See also “in the case that government FM...” below. In the case of a natural FM event where power cannot be evacuated, the PPA can be extended depending on the duration of disaster and project repair. In the case of a natural FM event where power cannot be evacuated, the PPA can be extended depending on the duration of disaster and project repair. In the case of a Change-in-Law that requires additional investment in a project, IPPs have a right to a tariff adjustment. In the case that any government FM causes termination of the project or inoperability of the power plant, the IPP and PLN are released from their respective obligations. 	Articles 6, 8 & 28
Type of Contract & Contract Period	<ul style="list-style-type: none"> A PPA’s duration is a maximum of 30 years after Commercial Operation Date (COD). All types of projects shall follow the BOOT business scheme under which the IPP’s facilities shall be transferred to PLN at the end of the concession (we note that, historically, this has been for a nominal amount). 	Article 4
Penalties	<ul style="list-style-type: none"> IPPs must meet certain PPA obligations (fuel consumption, heat rates or monitor fuel costs) if the fuel is supplied by PLN. If projects fail to meet the COD deadline, then IPPs shall pay Liquidated Damages, which will be proportional to the costs that PLN must bear to replace the unrequited supply. If projects fail to meet Availability, Capacity or Outage Factors, then IPPs shall pay Penalties, which will be proportional to the costs that PLN must bear to replace the unrequited supply. In addition to the penalties discussed above, other penalties may also be applied to IPPs if they fail to maintain technical parameters agreed in the PPA (a) heat rate; (b) reactive power (VAR) within the interconnection system; and, (c) frequency and ramp rate. Similarly, PLN is also required to pay a penalty for the failure of a power evacuation on account of PLN, except under certain FM events (see above). 	Articles 13, 14, 16, 21 & 22
Others	<ul style="list-style-type: none"> IPPs have the right to earn additional incentives if requested by PLN to reach COD early. The payment for power must use the Indonesian Rupiah (IDR), except when granted an exception by the Bank of Indonesia. If the tariff is denominated in USD, the exchange rate shall refer to the Jakarta Interbank Spot Dollar Rate (JISDOR). This regulation prohibits the transfer of ownership rights of the project before reaching COD. Transfers are permitted before COD if a sponsor transfers ownership to a (more than) 90%-owned affiliate. This regulation does not apply to any project that has already invited bids, where the bid has closed, where the letter of intent has been signed, or where the PPA has been signed. 	Articles 5, 17, 24 & 30

Summary of Regulation 12/2017






Items	Description	Ref.
Key Features	<ul style="list-style-type: none"> This regulation sets out guidance for PLN regarding the purchase of electricity from IPPs that utilize renewable energy, i.e. solar photovoltaic (PV), hydro, biogas, biomass, wind, geothermal, and municipal WtE power projects. PLN “must-run” renewable energy power plants up to 10 MW (i.e. PLN must evacuate and pay for all power produced). 	Articles 3 & 4
Solar PV & Wind Power	<ul style="list-style-type: none"> The purchase of electricity from solar PV and wind power is done by PLN through an open tender system based on the capacity quota. The capacity quota is specified in PLN’s <i>Plan (Rencana Usaha Penyediaan Tenaga Listrik – “RUPTL”)</i> with a minimum total package of 15 MW which can be spread across several locations. 	Articles 5 & 6
Hydropower	<ul style="list-style-type: none"> Hydro ≤10 MW should operate at a minimum capacity factor of 65%. Hydro >10 MW should operate with a capacity factor aligned with system requirements. 	Article 7
Biomass & Biogas	<ul style="list-style-type: none"> Biomass and biogas projects can only be done by IPPs that have sufficient feedstock for the whole operational period. 	Articles 8 & 9
Waste-to-energy	<ul style="list-style-type: none"> The municipal WtE technologies that are subject to this regulation include: (a) sanitary landfill, (b) anaerobic digestion; and (c) the use of heat/thermal by using thermochemical technology. In addition, IPPs may get additional facilities and incentives according to current existing regulations. 	Article 10
Geothermal	<ul style="list-style-type: none"> The purchase of electricity through geothermal can only be done by IPPs that have working areas (<i>Wilayah Kerja Panas Bumi – WKP</i>) with "proven reserves" after exploration. 	Article 11
Tariff for Renewable Electricity	<ul style="list-style-type: none"> Generally, the tariff for renewable electricity is determined through negotiations between IPPs and PLN by benchmarking to the regional BPP where the project is installed. For details for each technology please see the table overleaf. 	Articles 5, 6, 7, 8, 9, 10 & 11
BOOT Scheme	<ul style="list-style-type: none"> The BOOT business scheme is applied to geothermal and hydropower projects 	Articles 7 & 11
Local Components	<ul style="list-style-type: none"> In the procurement process for IPPs, PLN will prioritise an IPP that uses local components (<i>Tingkat Komponen Dalam Negeri – TKDN</i>) as stated in prevailing regulations. 	Article 13
Others	<ul style="list-style-type: none"> PLN is obliged to: (a) transparently inform the public about the regional power systems that are ready to utilise the renewable electricity; (b) inform the regional BPP only to IPPs intending to utilise and develop renewable projects. 	Article 14
	<ul style="list-style-type: none"> The electricity purchase process and pricing for any Business Entities that have already been: (a) designated the winner of Solar PV Capacity Quota, or the party managing water for hydro power plants, or as the developer of Biomass, Biogas or WtE projects, or as the winner of a tender of WKP; and, (b) has had the PPA signed, shall comply with the provisions set out in the signed PPA and previous regulations. 	Article 17
	<ul style="list-style-type: none"> The electricity purchase process and pricing for any Business Entities that have already been: (a) designated the party managing water for hydro power plants, or as the developer of Biomass, Biogas or WtE projects; and, (b) has not had the PPA signed, shall comply with the provisions set out in MoEMR 12/2017. 	Article 18

*)In the case where the regional BPP ≤ national BPP, it is not clear how the tender will be as the tariff is already set at the level of the regional BPP itself. Presumably indicators other than pricing may be used to determine the tender winner.

**)But it is still not clear what happens if projects are located e.g. in different Provinces in Sumatera where regional BPP > national BPP. With two possible interpretations, this appears to be a conflict

Summary of Regulation 12/2017 – continued

Items	Description	Ref.
Others	<ul style="list-style-type: none"> The electricity purchase process and pricing for (a) any geothermal IPP that has been declared as the auction winner of a WKP and has not entered into PPA with PLN; and (b) any SOEs that have been assigned as a geothermal business provider, shall comply with previous regulations 	Article 19
	<ul style="list-style-type: none"> The electricity purchase process and the price of steam/electricity for the holders of Geothermal Concessions who have entered into steam sale and purchase agreements and/or PPAs which have been verified and/or are in the process of verification by the Finance and Development Supervisory Board, shall comply with previous regulations 	Article 20
	<ul style="list-style-type: none"> Exemption from the provisions in Articles 17-20 may be granted to IPPs and PLN if they agree to comply with the provisions on the electricity purchase process implementation and price set out in MoEMR Regulation No. 12/2017. 	Article 21
	<ul style="list-style-type: none"> Following MoEMR Regulation No.12/2017, the process of implementation of, and purchase of electricity from, WtE projects under the WtE Development Acceleration Programme shall be carried out in accordance with previous regulations. 	Article 22
	<ul style="list-style-type: none"> This regulation explicitly supersedes the benchmark price for the purchase of electricity from hydropower as stated in MoEMR Regulation No. 03/2015, and supersedes any contradictory clauses in MoEMR Regulation No. 17/2014 on Geothermal power purchase, No. 19/2015 on Mini-hydro power purchase, No. 44/2015 on Municipal Solid Waste power purchase, No. 19/2016 on Solar PV power purchase, and No. 21/2016 on Biomass power purchase. 	Article 23

Renewable Energy Type	Method of Procurement	Tariff Determination	
		Regional Av. BPP > National Av. BPP	Regional BPP ≤ National BPP
 Solar PV & Wind Power	Open tender based on quota capacity	At maximum 85% regional BPP	The regional BPP
 Hydropower	Benchmark Price	At maximum 85% regional BPP	The regional BPP
	Direct Selection	Determined by following the direct selection process	
 Biomass & Biogas	Benchmark Price (≤ 10 MW)	At maximum 85% regional BPP	A maximum of the regional BPP
	Direct Selection (> 10 MW)	Determined by the following direct selection process	
 Waste-to-energy	Benchmark Price	At maximum 100% regional BPP	Including Java, Sumatera, Bali, or other power system regions, the tariff is based on mutual agreement of both parties (IPPs and PLN)
 Geothermal	Benchmark Price	At maximum 100% regional BPP	Including Java, Sumatera, Bali, or other power system regions, the tariff is based on mutual agreement of both parties (IPPs and PLN)

Note: Av. = Average. BPP = *Biaya Pokok Pembangkitan* (Costs of Generation)

Source: Coffee Morning Session with Directorate General of Power and Electricity, MoEMR, February, 10th, 2017, based on MoEMR Regulation No. 12/2017

Commercial Considerations

MoEMR Reg. No. 10/2017: Some risks for IPPs – but should be manageable

To date the Indonesian power sector has represented a promising investment opportunity. The new MoEMR Regulation No. 10/2017 raises some new risks for investors, although our view is that the industry will adapt to the changes overall.

1. Force majeure risks

Unlike the existing regulation, where *force majeure* (FM) risks are generally borne by the party best able to bear them and IPPs are not required to pay damages resulting from events beyond their control, the new regulation appears to place PLN and IPPs in a more equal position upon FM events occurring.

There are three types of FM stated in this regulation: (a) natural disaster (natural FM); (b) Change-in-Law; and (c) change in government policy (government FM).

Under existing regulations and market precedent, in the case of FM resulting from a natural disaster or Change-in-Law (including change in policy), and power cannot be evacuated, PLN has to bear Deemed Dispatch payments. PLN is also generally obliged to pay compensation to IPPs through a termination payment if these events occur over a long term.

Under the new PPA regime under this regulation, in the case of a natural disaster FM that prevents PLN from evacuating power, PLN no longer necessarily has to pay Deemed Dispatch. In compensation, the PPA may be extended by the length of time interrupted by the disaster and project repairs. Yet, this may not satisfy lenders, who require regular debt service from project cash flows. Moreover, regarding government FM, that causes plant stoppage or an inability to evacuate power, both parties (IPPs and PLN) will be released from their obligations (i.e. PLN does not necessarily bear risk relating to termination payments due to government FM any longer). It remains to be seen whether this change in the risk allocation will be acceptable to lenders.

2. Applying BOOT business scheme consistently

The new regulation mandates that the period of concession shall be a maximum of 30 years and all projects must apply the Build-Own-Operate-Transfer (BOOT) business scheme. This implies that no further contract renewal will be possible for IPPs. This is typically not material in a discounted cash flow analysis over 30 years, and in any case most projects are already Build-Own-Operate-Transfer (BOOT), except some geothermal and hydro that follow Build-Own-Operate.

3. A new regime on penalties

Under existing regulations and market precedent, in most cases, if IPPs fail to meet the plant availability factor (AF) as set out in the PPA, IPPs will be penalised through a revenue deduction aligned with the shortfall in AF. However, the new regulation appears to move towards a strict “deliver-or-pay” scheme. For example, in case IPPs cannot meet their PPA obligations or there is a delay in COD on account of IPPs, IPPs shall pay a penalty proportional to the costs PLN must bear to replace the unrequited supply. A stricter penalty regime will likely sharpen incentives for IPPs to perform, although they may price this risk into their bid prices for PLN.

In addition, some other penalties are also applied to IPPs if they fail to maintain certain technical performance standards.



Commercial Considerations - continued

MoEMR Reg. No. 12/2017: Risks rising for renewable investment

With respect to MoEMR Regulation no. 12/2017 concerning renewable energy (“RE”) tariffs, we see several implications for investors. PLN will probably have more control over procurement. And, in some cases more incentive to sign renewables PPAs (especially in Eastern Indonesia). However, in other cases, renewables are no longer likely to be competitive with fossil fuelled sources.

Clarification is also required on how procurement will work in practice. Assuming the objective of the renewable tariff regulation is to attract private investment, practically, the most important point will be how the negotiation with PLN can produce a tariff that is acceptable for IPPs.

1. Going back to “B2B with PLN”

The new regulation represents a step back to PLN having control over the negotiation (business-to-business – B2B). Moreover, instead of evaluating the tariff through the marginal economic value of the project investment, the regional BPP becomes the main benchmark of the tariff.

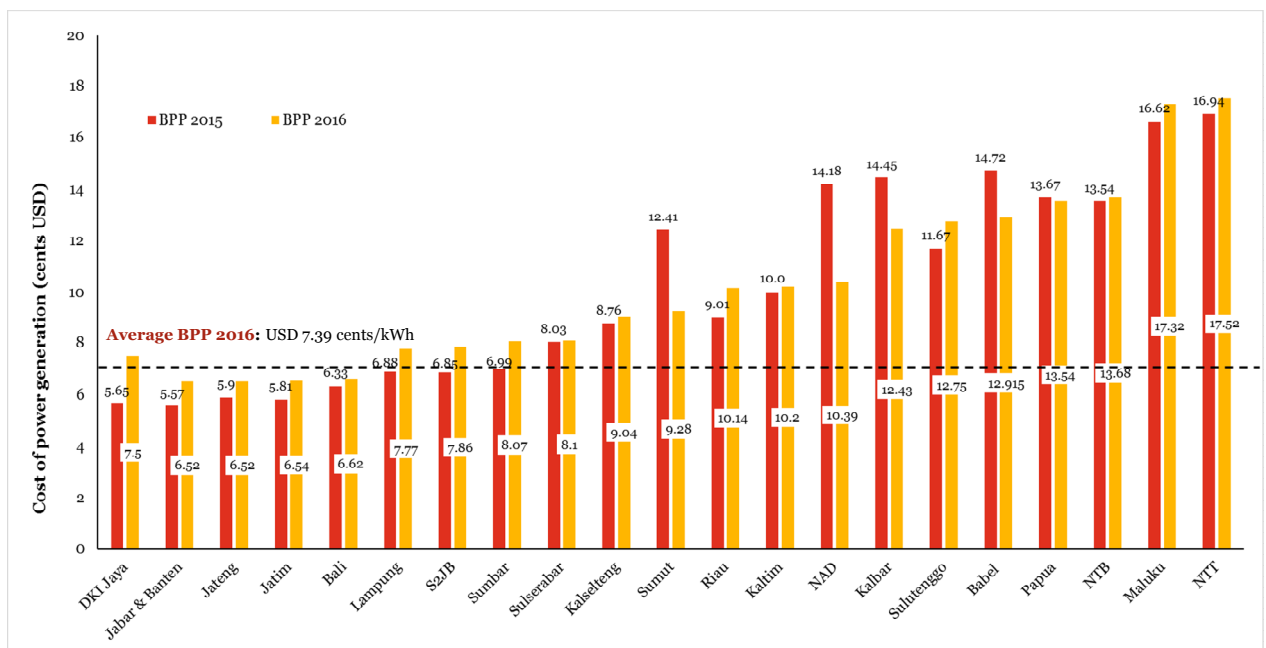
The regulation has the advantage that it provides an incentive to PLN to sign PPAs and provides clear benchmarks (once BPPs are made public). However, compared to the previous regulation, the new tariffs are generally lower so will likely lead to a decrease in IPP’s investment returns. In the case where the benchmark price is a maximum and not a fixed point, this gives PLN significant bargaining power.

2. Questioning the suitability of use of the BPP

This regulation might well discourage renewables in lower-cost areas, e.g. Java and southern Sumatera, where BPPs are lower. The chart below shows BPPs for selected regions in Indonesia (current published power costs/BPP for 2015 in red and the already approved BPP 2016 costs in yellow). These prices later will be the benchmark price for the purchase of electricity for period of 1 April 2017 – 31 March 2018 (official website of MoEMR, 2017).

At least for unsolicited projects that are not yet in the RUPTL, project development timelines may extend over many years, and there is a substantial risk for developers that their target tariff will change with BPP updates (perhaps even annually). In particular, if a project is in a region with a BPP close to the national average, then the possibility of a ‘tipping point’ emerges. For example, looking at the chart below, according to the new BPP 2016 estimates, the power price for Solar PV developers in Lampung would be 6.60c/kWh (=85% * 7.77c/kWh), which is actually lower than the price for developers in Bali, even though the Lampung BPP is actually 17% higher than Bali’s BPP.

Cost of Power Generation in Selected Regions of Indonesia (cents USD/kWh)



Source: MoEMR no. 1404 k/20/MEM/2017 dated 27 March 2017

Commercial Considerations - continued

3. Solar PV and wind projects

The purchases of electricity from solar PV and wind power projects are conducted using open tenders and quota capacity while pricing is determined by benchmarking to regional BPPs. Solar PV and wind projects will likely remain potential investments for Eastern Indonesian regions that have a relatively high BPP.

This perhaps reflects the government's strategy to change the business-as-usual power generation in such areas which still rely on diesel power which is not generally cost efficient.

However, in the case where the regional BPP \leq national BPP, it is not clear how the tender is to be conducted since the purchase of electricity from solar PV and wind projects will be priced at the regional BPP. Presumably instead of price, other indicators may be used to determine the tender winner (such as local content).



4. Hydropower, Geothermal, and WtE

The government applies a slightly different pricing method to hydropower, geothermal, and WtE, which enables more flexibility between PLN and IPPs to agree on the tariff.

Hydropower is a reasonably mature and generally reliable energy technology that is widely used in Indonesia. Geothermal is considered a reliable clean baseload power in abundant untapped supply, and WtE is aligned with the government's intentions on waste reduction and management.

Hydropower projects apply two procurement methods i.e. (a) benchmark price referring to BPP; and (b) direct selection. But, it is not clear when (a) vs. (b) applies. MoEMR Regulation No. 3/2015 states that direct selection is defined as a method to assign the project developer by comparing at least two proposals. Hence, we might assume that direct selection might be conducted if the benchmark price method does not result in a project that is commercially feasible. This remains to be clarified.

Geothermal and WtE projects will be priced based on the benchmark price where regional BPP $>$ national BPP. For projects developed in Java, Sumatera, or other regions where regional BPP \leq national BPP, a mutual agreement basis will be used. There is no statement limiting the price for the mutual agreement basis, so such projects may remain commercially attractive. However, it must be clarified what happens if projects are located in certain areas that are *both* in Sumatera/Java *and* where regional BPP $>$ national BPP. Such regions do exist (e.g., North Sumatera). Should they follow the benchmark price method or mutual agreement?

We also highlight a specific risk for geothermal project development. Requiring that tariff negotiation can only be done for projects that already have "proven reserves" after exploration might discourage investors, who will now generally have to spend several years and million of dollars before getting certainty on the tariff.

Conclusion

There are positives to be drawn from the issuance of these two new regulations – particularly that it indicates MoEMR's and PLN's seriousness in pushing forward with IPP investments. However, there are a number of commercial points which IPP investors will need to consider carefully as part of their investment assessment. PwC will continue to monitor the implementation of the regulations. Please do not hesitate to contact your usual PwC contact, or any of the Energy, Utilities and Mining specialists listed overleaf to further discuss your investment plans.

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Please feel free to contact our Energy, Utilities & Mining (EU&M) Specialists or any of your regular PwC advisors.

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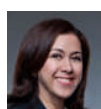


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