

ROOFTOP SOLAR AND THE GREEN ENERGY TRANSITION – PLN KEEPS GETTING IN THE WAY

INTRODUCTION

Solar supposedly represents one of the most promising sources of renewable energy for Indonesia.

Promoting the large-scale development of Indonesia's renewable energy resources (including solar) has, however, proved to be a very challenging exercise for the Government due to a variety of reasons. One of the most intractable difficulties in this regard has been the weak financial position of the State electricity company (*i.e.*, PLN) which, on several occasions, has caused the Government to “falter” in its supposed commitment to renewable energy development rather than take the action required to address the underlying reasons for PLN's weak financial position.

Recent changes to Indonesia's rooftop solar regulatory regime include some positive developments. However, these recent changes also provide another example of suboptimal decision-making by the Government when it comes to encouraging the greater use of rooftop solar as a potentially important element of the green energy transition. Once again, concerns about PLN's weak financial position have, apparently, taken precedence over the widely recognized need for the Government to do more (indeed, much more) in making the green energy transition a reality for Indonesia any time soon. Put simply, the serious financial problems of PLN keep “getting in the way” of progressing the green energy transition and the consequent reduction of Indonesia's greenhouse gas emissions.

In this article, the writer will review the latest changes to Indonesia's regulatory regime for rooftop solar. At the same time, this article highlights how the impetus, for at least some of the more important recent changes, seems to have been PLN's unresolved financial problems rather than, necessarily, any significant strengthening of the Government's commitment to renewable energy development.

BACKGROUND

Indonesia's potentially vast renewable energy resources including geothermal, hydro, **solar**, wind, biomass, biogas, tidal and liquid biofuel (together, **Renewable Energy Resources**) are widely recognized.

The Ministry of Energy & Mineral Resources (**ESDM**) has estimated that Indonesia has Renewable Energy Resources equivalent to 418 GW of electricity generating capacity, comprising (i) 23.9 GW from geothermal, (ii) 75 GW from hydro, (iii) **207.8 GW from solar**, (iv) 60.6 GW from wind, (v) 17.6 GW from tidal and (vi) 32.6 GW from biomass/biogas/biofuel or “bioenergy”.

As the above estimates make clear, **solar** is the Renewable Energy Resource which has the greatest potential to contribute to Indonesia's green energy transition, representing as it does nearly 50% of the additional electricity generating capacity that **could be** achieved utilizing Indonesia's Renewable Energy Resources.

Indonesia's progress, however, in developing its Renewable Energy Resources, so as to change the energy mix, has been extremely modest at best. The Institute for Energy Economics and Financial

Analysis has reported that, currently, installed renewable energy, electricity generating capacity of 13.2GW only comprises about 13.1% of Indonesia's energy mix.

Despite its potential, solar also continues to comprise only a very small part of Indonesia's energy mix. Research undertaken by McKinsey & Company, as published in a 19 October 2023 article "*How to Power Indonesia's Solar PV Growth Opportunities*", indicates that, in 2022, Indonesia had just 0.3 GW of installed solar energy electricity generating capacity. This compares to 3.1GW and 18.5GW of installed solar energy electricity generating capacity for Thailand and Vietnam respectively.

Indonesia's current Electricity Business Plan (**RUPTL**) covers the period 2021 to 2030 (**RUPTL 2021 - 2030**). Promoted by the Government as the "*greenest RUPTL yet*", RUPTL 2021 - 2030 envisages that the country will have approximately 5GW of installed solar energy electricity generating capacity by 2030. This target, though, now seems unlikely to be realized given the Government's announcement, in mid-January 2024, that it was going to substantially "walk back" its previously set National Electricity General Plan (**RUKN**) targets for the share of new energy and renewable energy in the overall energy mix from (i) 23% to become 17% - 19% by 2025 and (ii) 26% to become 19% - 21% by 2030. Precisely how these reduced overall RUKN energy mix targets for 2023 and 2030 will impact solar is still unclear. However, it seems reasonable to expect that the RUPTL 2021 - 2030 estimate of 5GW of installed solar energy electricity generating capacity by 2030 may have to be reduced.

In 2021, the Minister of Energy & Mineral Resources (**MoEMR**) issued Regulation No. 26 re Rooftop Solar Power Plants Connected to Electrical Power Networks of Holders of Business Licenses for Provision of Electrical Power for the Public Interest (**MoEMR Regulation 26/2021**).

The stated aim of MoEMR Regulation 26/2021 was to (i) encourage the generation of electricity from Renewable Energy Resources and contribute to reducing greenhouse gas emissions (**GHG Emissions**) by (ii) reducing the electricity bills of commercial businesses, industrial facilities and households which installed so-called **Rooftop PLTS Systems**, being power plants for electricity generation, using photovoltaic modules (i.e., solar panels) (**Rooftop PLTS Customers**), on roofs, walls and other parts of buildings owned by Rooftop PLTS Customers and connected to the circuits/grids/systems, used to distribute electricity generated by electric power plants to electric power consumers (**Electric Power Systems**), of holders of business licenses for the provision of electric power in the public interest (**IUPTLU Holders**) (**Stated Aim**).

The State electricity company, PT Perusahaan Listrik Negara (**PLN**), is the dominant IUPTLU Holder.

MoEMR Regulation 26/2021 sought to achieve its Stated Aim recognizing that (i) Rooftop PLTS Systems only generate electricity when there is sunshine (i.e., during daylight hours), (ii) the cost of storing electricity generated from Rooftop PLTS Systems is not likely to be feasible for many smaller Rooftop PLTS Customers (i.e., households in particular), (iii) many Rooftop PLTS Customers (i.e., households in particular) have their greatest need for electricity in the evening and (iv) given (i) to (iii), Rooftop PLTS Customers still need to buy electricity from IUPTLU Holders to meet at least some of their electricity needs.

In an endeavor to realize its Stated Aim, MoEMR Regulation 26/2021:

- (a) provided for seemingly very generous capacity limitations on the installation of Rooftop PLTS Systems by Rooftop PLTS Customers (i) of **up to a maximum** of 100% of the existing connected power of individual Rooftop PLTS Customers in those business areas where

electricity was provided by IUPTLU Holders which are State-owned enterprises (SOEs) (**i.e.**, PLN) and (ii) as declared/determined by IUPTLU Holders in those business areas where electricity was provided by IUPTLU Holders which are **not** SOEs (**Installed Rooftop PLTS System Capacity Limitations**); and

- (b) incorporated the concept of “net metering” whereby a Rooftop PLTS Customer, with **Export Electricity** (**i.e.**, unused Rooftop PLTS System electricity delivered to the Electric Power System of a IUPTLU Holder) in any month in excess of its **Import Electricity** (**i.e.**, IUPTLU Holder supplied electricity used by the relevant Rooftop PLTS Customer in a particular month), received a “credit” for the value of that excess Export Electricity, which credit (i) was to be deducted from/offset against the relevant Rooftop PLTS Customer’s electricity bill for the following month and (ii) remained “valid” (**i.e.**, could be carried forward) for as long as six months (**Net Metering**).

Both the Installed Rooftop PLTS System Capacity Limitations and Net Metering failed to sufficiently take into account the serious financial problems facing PLN as the dominant IUPTLU Holder.

PLN’s financial position was already weak, prior to the issuance of MoEMR Regulation 26/2021, due to a combination of factors including (i) actual electricity demand falling short of PLN projections as evidenced by the projected compound annual growth rate of future electricity demand, over the period covered 2021 to 2030, being reduced to 4.5% in RUPTL 2021 – 2030 from 6.5% in the previous RUPTL covering the period 2019 to 2028, (ii) PLN’s over-investment in coal-fired electricity generating capacity (especially in Java/Bali and Sumatra) and (iii) PLN being compelled by the Government to supply electricity to many consumers at less than the cost to PLN of acquiring or producing that electricity. In these circumstances, generous Installed Rooftop PLTS System Capacity Limitations and Net Metering were always destined to exacerbate PLN’s already weak financial position. As two analysts from the Institute for Energy Economics and Financial Analysis (**IEEFA**) commented in a November 2021 article entitled “*Indonesian Wants to Go Greener, but PLN is Stuck with Excess Capacity from Coal-Fired Coal Plants*”:

*“The Indonesian Government needs to acknowledge, first and foremost, **that PLN is in [financial] crisis.**”*

This, of course, is not the first time that PLN’s weak financial position has been a major impediment to encouraging the development of Indonesia’s Renewable Energy Resources including solar. The long running saga of setting commercial tariffs for the purchase, by PLN, of electricity generated from Renewable Energy Resources and PLN’s understandable preference for fossil fuel-generated electricity, as traditionally the cheapest form of electric power, are both explainable, to a greater or lesser degree, having regard to PLN’s weak financial position.

On 29 January 2024, MoEMR Regulation 26/2021 was revoked by MoEMR Regulation No. 2 of 2024 re Rooftop Solar Power Plants Connected to Electrical Power Networks of Holders of Business Licenses for Provision of Electrical Power for the Public Interest (**MoEMR Regulation 2/2024**).

MoEMR Regulation 2/2024 is the focus of the balance of this article.

ANALYSIS AND DISCUSSION

1. Overview of MoEMR Regulation 2/2024

MoEMR Regulation 2/2024 makes important changes to the regulatory regime in respect of Rooftop PLTS Systems as previously provided for in former MoEMR Regulation 26/2021.

The most important changes introduced by MoEMR Regulation 2/2024 are in respect of (i) Installed Rooftop PLTS System Capacity Limitations, (ii) Net Metering and (iii) quotas for Rooftop PLTS System development (**Development Quotas**).

MoEMR Regulation 2/2024 also contains some significant transitional provisions for existing Rooftop PLTS Customers.

The Cabinet Secretariate of the Republic of Indonesia has issued a briefing paper on MoEMR Regulation 2/2024 entitled “*Government Issues New Rules for Rooftop PLTS, Installation Capacity is Not Limited*”. This briefing paper seeks to explain the changes introduced by MoEMR Regulation 2/2024 in terms of promoting efficiency and transparency while, at the same time, encouraging increased public interest in installing Rooftop PLTS Systems.

Although MoEMR Regulation 2/2024 “slavishly” repeats the Stated Aim of former MoEMR Regulation 26/2021; namely, encouraging the use of Rooftop PLTS Systems in order to (i) reduce the electricity bills of Rooftop PLTS Customers, (ii) generate more electricity from Renewable Energy Resources and (iii) contribute to the reduction of GHG Emissions in Indonesia, the reality of MoEMR Regulation 2/2024 is somewhat different.

MoEMR Regulation 2/2024 treats would-be new Rooftop PLTS Customers significantly less favorably than existing Rooftop PLTS Customers.

2. **MoEMR Regulation 2/2024 in Detail**

2.1 **Removal of Capacity Limitations**

The Installed Rooftop PLTS System Capacity Limitations, as originally provided for in Article 5 of MoEMR Regulation 26/2021, have now been removed altogether by MoEMR Regulation 2/2024.

While a literal reading of the Installed Rooftop PLTS System Capacity Limitation for business areas operated by PLN indicated that it **might** be possible for Rooftop PLTS Systems to be installed with a capacity to cover **as much as** 100% of individual Rooftop PLTS Customer electricity needs, this was never going to be the case in practice. Had PLN set actual Installed Rooftop PLTS System Capacity Limitations at anything like 100% of individual Rooftop PLTS Customer electricity needs, this could have exacerbated the worsening electricity oversupply situation in two of PLN’s biggest Electric Power Systems being Java/Bali and Sumatra. In the face of existing insufficient demand for its available electricity supply, the last thing PLN needed was a significant increase in solar generated electricity by Rooftop PLTS Customers which would only further reduce demand, from Rooftop PLTS Customers, for PLN supplied electricity.

Given its weak financial position, PLN always had an obvious incentive to set **actual** Installed Rooftop PLTS System Capacity Limitations as low as possible which is, in fact, precisely what happened. Starting in 2022, PLN set the **actual** Installed Rooftop PLTS System Capacity Limitations for households and commercial/industrial business owners at only 10%-15% of individual Rooftop PLTS Customer electricity needs. This may have had the effect

of reducing the interest of large-scale commercial/industrial business owners, in particular, in investing in Rooftop PLTS Systems because it meant that, while so long as the Installed Rooftop PLTS System Capacity Limitations were set at such a low level, Rooftop PLTS Systems were not going to be able to provide a major part of their electricity needs. As the Institute for Essential Services Reform commented in a 6 January 2023 press release:

“This [PLN imposed actual] capacity limitation discombobulated MoEMR Regulation 26/2021 (maximum 100% installed electric power) and reduced potential customers interest to adopt rooftop solar.”

The removal of Installed Rooftop PLTS System Capacity Limitations, by MoEMR Regulation 2/2024, **could** result in commercial/industrial business owners being prepared to invest more in Rooftop PLTS Systems than they would have been willing to do while so long as MoEMR Regulation 26/2021 was still in force. However, whether or not the removal of Installed Rooftop PLTS System Capacity Limitations will really prove to be a significant “positive” for investment in Rooftop PLTS Systems remains unclear. This is because, while Installed Rooftop PLTS System Capacity Limitations no longer apply, MoEMR Regulation 2/2024 has introduced the new concept of “Development Quotas”, something that is discussed at length in Part 2.3 below.

2.2 **Elimination of Net Metering**

The availability of Net Metering, as provided for in Article 6 of MoEMR Regulation 26/2021, has been removed by MoEMR Regulation 2/2024 in the case of would-be new Rooftop PLTS Customers.

The availability of Net Metering was considered by some industry observers to be, potentially, of particular importance to smaller and income/wealth-constrained Rooftop PLTS Customers (**i.e.**, households in particular) which might otherwise not be able to afford/justify the expense of installing Rooftop PLTS Systems. That said, the investment significance of the availability of Net Metering is not accepted by all industry observers, even in the case of households.

Net Metering, however, represented an additional financial burden for PLN given the worsening electricity oversupply situation. This electricity oversupply situation meant that PLN could not sell much of the Export Electricity. Net Metering, however, obliged PLN to give Rooftop PLTS Customers a “credit” for the excess of Export Electricity over Import Electricity and even though PLN could not recover the cost of these credits due to the lack of buyers for Export Electricity.

2.3 **Introduction of Quotas for Rooftop PLTS Systems Development**

Having removed Installed Rooftop PLTS System Capacity Limitations, MoEMR Regulation 2/2024 seeks to “manage” the scale and scope of Rooftop PLTS Systems development through the newly introduced concept of “quotas” for Rooftop PLTS Systems development (**Development Quotas**).

There is to be a separate Development Quota for each Electric Power System.

At least in theory, the newly introduced concept of Development Quota determination is that IUPTLU Holders provide input, in the form of a proposal/recommendation, to the Director

General of Electricity (**DGE**) on what the Development Quota should be for their particular Electric Power System (**DQ Proposal**) but it is, ultimately, up to DGE to determine what is the appropriate Development Quota for each Electric Power System. As part of making a Development Quota determination, DGE may involve the Director General of New, Renewable Energy and Energy Conservation (**DGEBKE**), other ministries, institutions and/or regional governments.

There are four key aspects or stages of the Development Quotas process, being (i) DQ Proposal preparation, (ii) DQ Proposal submission, (iii) DQ Proposal evaluation/Development Quota determination and (iv) allocation of DGE-determined Development Quotas (Articles 7 and 8 of MoEMR Regulation 2/2024).

What is actually involved in the allocation of DGE-determined Development Quotas is particularly unclear. In this regard, MoEMR Regulation 2/2024 introduces the concept of “*clustering*”, based on the relevant IUPTLU Holder’s Electric Power System and with reference to the relevant IUPTLU Holder’s “*customer service unit*” but nowhere explains what “*clustering*” or “*customer service unit*” really mean or how “*clustering*” is intended to work. Enquiries made by the writer’s staff with ESDM, however, indicate that “*clustering*” can probably be best understood as being an integral part of the process of allocating the DGE-determined Development Quota among the different potential Rooftop PLTS Customer groupings in the geographic area covered by the relevant IUPTLU Holder’s Electric Power System; namely, households, commercial users and industrial users.

Given the above, the writer’s present but possibly still incomplete understanding of the various aspects or stages of the Development Quota process and how ESDM envisages that they will work may be summarized as follows:

Preparation of DQ Proposals
<p>IUPTLU Holders must prepare DQ Proposals for a period of 5 years, with a Development Quota breakdown for each year from January to December.</p> <p>In preparing their DQ Proposals, IUPTLU Holders must, at a minimum, consider:</p> <ul style="list-style-type: none"> (i) the direction of national energy policy; (ii) existing business plans for electricity supply and the realization of electricity supply business plans; and (iii) the reliability of the relevant IUPTLU's Electric Power System.

Submission of DQ Proposals
<p>DQ Proposals are submitted to DGE (with a copy to DGEBTKE), together with an accompanying technical study document.</p> <p>DQ Proposals for the period 2024 to 2028 are to be submitted not later than April 2024.</p> <p>Subsequently, DQ Proposals are to be submitted not later than October of the year immediately prior to the commencement of the next 5-year period.</p>



Allocation of Development Quotas
<p>IUPTLU Holders must:</p> <ul style="list-style-type: none"> (i) allocate their DGE-determined Development Quotas among potential Rooftop PLTS Customer "clusters" in the geographic areas covered by their respective Electric Power Systems; and (ii) not later than 10 business days after the relevant Development Quota allocation is made: <ul style="list-style-type: none"> (X) report the Development Quota allocation to DGE and DGEBTKE; and (Y) publish the Development Quota allocation on the relevant IUPTLU Holder's official website and/or via social media. <p>Any Development Quota that remains unutilized at the end of each year is added to the immediately following year's Development Quota.</p>

Evaluation of DQ Proposals and Development Quota Determination
<p>Evaluation: DGE evaluates DQ Proposals in conjunction with the DGEBTKE and other relevant governmental institutions if any.</p> <p>Determination: Based on the outcome of its evaluation, DGE determines Development Quotas not later than:</p> <ul style="list-style-type: none"> (i) for 2024 – 2028, 1 month after the relevant DQ Proposal has been submitted in good order; and (ii) for subsequent periods, in December of the year immediately prior to the commencement of the relevant period and following submission of the relevant DQ Proposal in good order. <p>Notification: DGE notifies each IUPTLU Holder of the Development Quota for its Electric Power System as determined by DGE.</p>



Much remains unclear about precisely how the Development Quotas are to be determined and how they will work in practice. Further, the substantive differences, if any, between the newly introduced Development Quotas and the former Installed Rooftop PLTS System Capacity Limitations are not "spelled out" in MoEMR Regulation 2/2024. It may well be the case, however, that the only substantive difference is the process by which Development Quotas are to be determined going forward as compared with the process previously used to determine Installed Rooftop PLTS System Capacity Limitations.

The intention of the drafter of MoEMR Regulation 2/2024 seems to be to at least **give the appearance** of (i) greater transparency in the process of determining Development Quotas and (ii) IUPTLU Holders (and, more particularly, PLN as the dominant IUPTLU Holder) having less control over the determination of Development Quotas than was previously the case with Installed Rooftop PLTS System Capacity Limitations. This improved **appearance** is sought to be achieved by (i) setting out the main factors that IUPTLU Holders are meant to take into account in preparing DQ Proposals for each 5-year period and (ii) giving DGE the authority to evaluate and “determine” the applicable Development Quotas for each 5-year period.

Whether or not the **reality** of Development Quota determination “lives up” to the **theory** of Development Quota determination, as set out in MoEMR Regulation 2/2024, remains to be seen. In this regard, the factors that IUPTLU Holders are meant to take into account in coming up with DQ Proposals for DGE’s consideration are so general in nature (**eg**, the direction of national energy policy!!) that IUPTLU Holders are, effectively, left with a great deal of discretion as to how they arrive at their respective DQ Proposals. In the case of PLN (being the dominant IUPTLU Holder) and its Electric Power System, DGE may also be reluctant to “second guess” PLN’s DQ Proposals given the continuing financial problems facing PLN and the fact that, if PLN is burdened with Development Quotas that only serve to weaken its financial position to an unsustainable point, the Government will be forced to finally accept responsibility for dealing with/managing/resolving PLN’s financial predicament.

2.4 Other Changes

2.4.1 **Fine Tuning of Application Process for Rooftop PLTS System Construction and Implementation:** Various modifications to the process of applying for approval of Rooftop PLTS System construction and implementation (**C&I Applications**) have been introduced by MoEMR Regulation 2/2024. More particularly:

- (a) C&I Applications may now only be submitted to IUPTLU Holders in January or July each year;
- (b) the decision-making period, in which IUPTLU Holders must approve or reject C&I Applications, has been increased from five business days to become thirty calendar days;
- (c) in the event that an IUPTLU Holder does not issue a decision approving or rejecting a C&I Application within the prescribed period, the relevant C&I Application is deemed to have been approved; and
- (d) in the event that a C&I Application is rejected because there is insufficient Development Quota available, the would-be new Rooftop PLTS Customer is automatically placed on a waiting list for the allocation of the next period’s Development Quota whereas, previously, the would-be new Rooftop PLTS Customer simply had the right to submit a new C&I Application (Articles 1(4), 4 and 15 of MoEMR Regulation 2/2024).

2.4.2 **Installation of Advanced Meters:** Going forward, IUPTLU Holders will install new kilowatt-hour (**kWh**) meters, as part of all Rooftop PLTS Systems, which are capable of two-way communication and measurement (**Advanced Meters**). Advanced Meters are to be in replacement for existing so-called “Export-Import kWh Meters” which were an integral part

of Net Metering. The cost of the Advanced Meters and their installation will be borne by IUPTLU Holders rather than by Rooftop PLTS Customers as was previously the case for Export-Import kWh Meters (Articles 4 and 28(3) of MoEMR Regulation 2/2024).

- 2.4.3 **Risk Based Licensing System Applies:** Rooftop PLTS Customers, which construct and install Rooftop PLTS Systems with a capacity of more than 500 kW and connected to a single Electric Power System, are required to have a business license in respect of electrical power provision activities carried out for personal interest (**Personal Interest Business License**). Whereas, previously, the process of obtaining a Personal Interest Business License was handled through an on-line integrated service and reporting system for Rooftop PLTS Systems, Personal Interest Business Licenses must now be obtained in accordance with Indonesia's risk-based business licensing system which imposes different requirements depending upon whether the subject activity to be licensed is determined to be low risk, medium risk or high risk (Articles 17 to 20 of MoEMR Regulation 2/2024).
- 2.4.4 **Dealing with Non-Approved Rooftop PLTS Systems:** The construction and installation of Rooftop PLTS Systems has always required prior approval from the relevant IUPTLU Holder. In the event that a Rooftop PLTS System is constructed and installed without the prior approval of the relevant IUPTLU Holder, MoEMR Regulation 2/2024 now provides that:
- (a) the required IUPTLU Holder approval must be obtained before the relevant Rooftop PLTS System commences operation connected to the Electric Power System of the relevant IUPTLU Holder; and
 - (b) following notification to the relevant Rooftop PLTS Customer, the relevant IUPTLU Holder may (i) disconnect the non-approved Rooftop PLTS System from its Electric Power System and (ii) require the relevant Rooftop PLTS Customer to pay a financial penalty equal to 240 hours deemed use of the non-approved Rooftop PLTS System multiplied by the applicable electricity tariff and having regard to the inverter capacity of the relevant Rooftop PLTS Customer (Articles 22 and 23 of MoEMR Regulation 2/2024).
- 2.4.5 **Waiver of Capacity Charges/Parallel Operation Costs for Industrial Customers:** Previously, MoEMR Regulation 26/2021 obliged industrial Rooftop PLTS Customers to pay so-called monthly "parallel operation costs" in the form of capacity charges and emergency energy charges. These parallel operation costs have, however, now been waived in the case of all Rooftop PLTS Customers including industrial users (Article 29 of MoEMR Regulation 2/2024).
- 2.4.6 **Development of New PLN App and Integration with ESDM App:** MoEMR Regulation 2/2024 continues to provide for the development by ESDM of an on-line integrated service and reporting system for Rooftop PLTS Customers (**ESDM Integrated S&R System**) which was originally contemplated by MoEMR Regulation 26/2021. The ESDM Integrated S&R System will, however, now be linked to/integrated with a new digital-based supervisory control and data acquisition system, or so-called "*smart grid distribution system*", to be developed by PLN for Rooftop PLTS Customers (**PLN Integrated SCADA/Smart Grid Distribution System**). The PLN Integrated SCADA/Smart Grid Distribution System is intended to (i) maintain the stability and reliability of the Electric Power System, (ii) ensure/maintain the efficiency of electricity distribution and (iii) monitor electricity generation by Rooftop PLTS Systems in real time (Articles 30 to 34 of MoEMR Regulation 2/2024).

2.5 **Transitional Provisions**

Existing Rooftop PLTS Customers, with either (i) approved and already installed/operating Rooftop PLTS Systems or (ii) approved but not yet installed/operating Rooftop PLTS Systems, continue to be able to participate in and receive the benefits of Net Metering **for ten years** from the date of approval of their Rooftop PLTS Systems. Existing Rooftop PLTS Customers are, however, bound by all the other provisions of MoEMR Regulation 2/2024 to the extent applicable to them.

Would-be new Rooftop PLTS Customers, without approved Rooftop PLTS Systems as at the effective date of MoEMR Regulation 2/2024, are bound by all the provisions of MoEMR Regulation 2/2024, including the non-availability of Net Metering, even if they have already submitted applications for approval of their proposed Rooftop PLTS Systems (Articles 46 to 48 of MoEMR Regulation 2/2024).

It is, of course, entirely appropriate and only fair that existing Rooftop PLTS Customers can continue to enjoy (at least for ten years) the benefit of Net Metering given they invested in Rooftop PLTS Systems at a time when the benefit of Net Metering was being made available as an incentive/inducement to invest in Rooftop PLTS Systems.

There is nothing inappropriate or unfair, per se, in would-be new Rooftop PLTS Customers being treated differently to existing Rooftop PLTS Customers when it comes to availability/non-availability of Net Metering.

SUMMARY & CONCLUSIONS

MoEMR Regulation 2/2024 has elements of both (i) a good faith endeavor to improve the prospects for Rooftop PLTS System construction and installation and (ii) a belated response to the continuing financial problems of PLN and how those financial problems have impacted PLN's attitude to Rooftop PLTS System construction and installation.

The most plausible explanation for doing away with Net Metering is to reduce the financial burden on PLN. Likewise, replacing Installed Rooftop PLTS System Capacity Limitations (as determined by IUPTLU Holders) with Development Quotas (as determined by DGE, albeit on the basis of DQ Proposals from IUPTLU Holders) can probably be best understood as an attempt to, at least, give the appearance that, going forward, progress in encouraging the more widespread construction and installation of Rooftop PLTS Systems is no longer to be solely a function of PLN's financial position.

The non-availability of Net Metering, for would-be new Rooftop PLTS Customers, could discourage some income/wealth-constrained households/small and medium sized commercial/industrial business owners from investing in Rooftop PLTS Systems.

To the extent only that the introduction of Development Quotas results in much greater capacity Rooftop PLTS Systems being approved for construction and implementation, this may make investment in Rooftop PLTS Systems more attractive for large-scale commercial/industrial business owners. This, however, all depends on how Development Quotas are determined and allocated in practice, something that remains to be seen.

The Government is, presumably, hoping that possible increased interest, by large-scale commercial/industrial business owners, in Rooftop PLTS Systems will be sufficient to offset any

decline in Rooftop PLTS System investment by income/wealth-constrained households/small and medium sized commercial/industrial business owners. Given, however, income/wealth-constrained households/small and medium sized commercial/industrial business owners almost certainly comprise Indonesia’s largest potential market for Rooftop PLTS Systems, this seems to be somewhat improbable.

It is questionable whether (i) having IUPTLU Holders, rather than Rooftop PLTS Customers, pay the cost of acquiring and installing Advanced Matters or (ii) no longer charging industrial Rooftop PLTS Customers for “parallel operation costs”, in the form of capacity charges and emergency energy charges, will have any significant impact on the level of interest in Rooftop PLTS Systems although this may be the case “at the margin”.

Given much of PLN’s financial predicament is both not of its own making and also beyond its ability to resolve by itself, it is definitely **not** appropriate to be too critical of PLN’s less than enthusiastic support for Rooftop PLTS Systems construction and implementation as originally contemplated by now revoked MoEMR Regulation 26/2021. Unless and until, however, the Government does what is required to put PLN on a sounder financial footing, PLN and its financial predicament are, inevitably, going to keep on “getting in the way” of making large-scale green energy transition, including with respect to solar, a reality for Indonesia any time soon.

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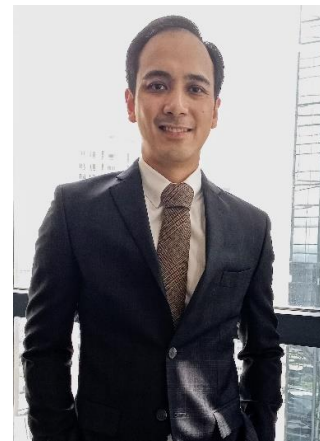
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