

# Indonesia Renewable Energy Update: Overview of Carbon Trading for Power Plants

In our first <u>Indonesia Renewable Energy Update</u>, we discussed how Presidential Regulation No. 112 of 2022, dated September 13, 2022, on the Acceleration of Renewable Energy Development for Electricity Supply ("**RE PR**"), sets in stone Indonesia's energy transition strategy. Not long after that, at a G20 event, the Government of Indonesia ("**GOI**") declared its participation in Just Energy Transition Partnership ("**JETP**") as a platform to finance the decommissioning of Coal-Fired Power Plants ("**CFPPs**"). In the wake of decarbonizing the electricity grid, the regulatory framework for the low carbon economy in Indonesia is starting to take shape.

The GOI concluded 2022 by issuing (i) Minister of Environment and Forestry ("MOEF") Regulation No. 21 of 2022, dated October 20, 2022, on the Implementing Governance of Carbon Pricing ("MOEF Reg 21/2022") and (ii) Minister of Energy and Mineral Resources ("MEMR") Regulation No. 16 of 2022, dated December 27, 2022, on Implementation Procedures for Carbon Pricing in the Power Plant Subsector ("MEMR Reg 16/2022"). These regulations outline the carbon market specifically for power plants.

In this second Indonesia Renewable Energy Update, we discuss the carbon trading blueprint for the power plant subsector based on a structured reading of (i) Presidential Regulation No. 98 of 2021, dated October 29, 2021, on Carbon Pricing ("**PR 98/2021**"), (ii) MOEF Reg 21/2022, and (iii) MEMR Reg 16/2022.

#### <u>Carbon Trading for the Power Plant Subsector</u>

PR 98/2021 specifies carbon trading as one of the carbon pricing mechanisms.¹ Carbon trading itself is defined as a market-based mechanism to reduce greenhouse gas ("**GHG**") emissions through the sale and purchase of carbon units, which constitute proof of ownership in the form of a certificate or technical approval stated in one ton of carbon dioxide, as recorded in the National Registry of Climate Change Control (*Sistem Registri Nasional Pengendalian Perubahan Iklim –* "**SRN PPI**").²

Carbon trading can be conducted in both domestic and international markets through (i) emissions trading and (ii) GHG emissions offset.<sup>3</sup> PR 98/2021 also allows carbon trading to be conducted cross-sector.<sup>4</sup> PR 98/2021 identifies six sectors for the implementation of climate change mitigation actions, namely: (i) energy, (ii) waste, (iii) industrial process and product use, (iv) agriculture, (v) forestry, and (vi) other sectors in accordance with the development of technology.<sup>5</sup> Therefore, carbon trading for power plants can also be implemented with other sectors outside energy.

MEMR Reg 16/2022 outlines the prerequisite and subsequent procedures for carbon trading that business actors, namely, holders of an Electricity Supply Business License for Public Purpose (*Izin Usaha Penyediaan Tenaga Listrik untuk Kepentingan Umum –* "**IUPTLU**") or Electricity Supply Business License for Own-Use (*Izin Usaha Pembangkit Listrik untuk Kepentingan Sendiri –* "**IUPTLS**")<sup>6</sup>, must take, as we elaborate in the following sections.



<sup>&</sup>lt;sup>1</sup> Article 47 of PR 98/2021

 $<sup>^{\</sup>rm 2}$  Articles 1 points 14, 15, and 17 of PR 98/2021

 $<sup>^3</sup>$  Articles 49 (1) and (2) of PR 98/2021 jo. Article 4 (1) and Article 5 (1) of MOEF Reg 21/2022

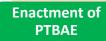
<sup>&</sup>lt;sup>4</sup> Article 49 (3) of PR 98/2021

<sup>&</sup>lt;sup>5</sup> Article 7 (1) of PR 98/2021

<sup>&</sup>lt;sup>6</sup> Article 1 point 31 juncto Article 10 (5) of MEMR Reg 16/2022



#### Outline of Carbon Trading



GHGs Emission Monitoring Plan Enactment of PTBAE-PU

**Carbon Trading** 

GHGs Emission Report

Figure 1 Procedures of Carbon Trading

## 1. Stipulation of PTBAE

The MEMR stipulates the Emission Ceiling Technical Approval (*Penetapan Batas Atas Emisi* – "**PTBAE**") for the energy sector and power plant subsector<sup>7</sup> based on:<sup>8</sup> (i) the actual emissions value of GHG, which must be below the GHG emissions reduction target applicable to the energy sector and power plant subsector; and (ii) the carbon trading roadmap for the power plant subsector. MEMR Reg 16/2022 divides the PTBAE for each type of power plant into three phases, as follows:<sup>9</sup>

Phase	Term	Applicability
	2023-2024	CFPPs that are connected
First Phase		to the grid of PT
		Perusahaan Listrik Negara
		(Persero) ("PLN") ("On-Grid
		CFPPs")
	2025-2027	1. CFPPs
Second Phase		2. New and Renewable
	2028-2030	Energy Power Plants
Third Phase		("NRE Plants")

Table 1 Phases of PTBAE

Following the end of the Third Phase, PTBAE for every type of power plant will be implemented in accordance with the GHG emissions target for the relevant phase.<sup>10</sup>

MEMR Reg 16/2022 divides the PTBAE for On-Grid CFPPs into the following categories:<sup>11</sup>

No.	CFPP Type	Capacity
1.	Non-Mine Mouth	25≤100 MW
	Mine Mouth	
2.	Non-Mine Mouth	100≤400 MW
3.	Non-Mine Mouth	>400 MW
4.	Mine Mouth	≥100 MW

Table 2 Categories of CFPPs

<sup>&</sup>lt;sup>7</sup> Article 1 point 33 juncto Article 9 of MOEF Reg 21/2022

 $<sup>^{\</sup>rm 8}$  Article 4 (2) of MEMR Reg 16/2022

<sup>&</sup>lt;sup>9</sup> Article 4 (3) of MEMR Reg 16/2022

 $<sup>^{\</sup>rm 10}$  Article 4 (5) of MEMR Reg 16/2022

<sup>11</sup> Article 6 of MEMR Reg 16/2022



PTBAE for 2023 has been stipulated in MEMR Decree No. 14.K/TL.04/MEM.L/2023 on the Technical Approval of GHG emission Ceiling for PLN On-Grid CFPP for the First Phase, as follows:

CFPP Type	Capacity (x)	Implementation Year		
		2023 (tCO2e/MWh)	2024 (tCO2e/MWh)	
Non-Mine Mouth and Mine Mouth	25 MW ≤ 100 MW	1.297	1.297	
Non-Mine Mouth	100 MW ≤ 400 MW	1.011	1.011	
Non-Mine Mouth	> 400 MW	0.911	0.911	
Mine Mouth	≥ 100 MW	1.089	1.089	

Table 3 PTBAE 2023

Following the stipulation of the PTBAE and upon the application by the business actor or at its own discretion, the MEMR determines the PTBAE for business actor (*PTBAE Pelaku Usaha* – "**PTBAE PU**") by considering the prevailing PTBAE and the information obtained from the next step, which is GHG Monitoring. <sup>12</sup>

### 2. GHG Monitoring Plan

MEMR Reg 16/2022 requires every business actor that participates in carbon trading to draft a monitoring plan for GHG emissions from each of their power plant units<sup>13</sup>. The monitoring plan shall consist of the monitoring of: (i) Gross Electricity Production ("**GEP**") completed with supporting documents in the form of an agreement that contains information on GEP; and (ii) power plant's target for GHG emissions, along with data activity and method of calculation, pursuant to the Guidelines on Calculation and Reporting of Inventory issued by the Directorate General of Electricity ("**DGE**")<sup>14</sup>.

The monitoring report shall be submitted to the MEMR through the Directorate General of Electricity by uploading the required documents to the Electricity Emission Calculation and Reporting Application (*Aplikasi Penghitungan dan Pelaporan Emisi Ketenagalistrikan* – "**APPLE-Gatrik**") at the latest by December 31 of the current year for the following year. If APPLE-Gatrik is not yet available, the report can be submitted to the Minister of Energy and Mineral Resources through the DGE.<sup>15</sup>

Business actors that do not comply with the monitoring obligations will not be allowed to participate in carbon trading.

#### 3. Stipulation of PTBAE PU

As previously mentioned, the monitoring obligation only applies to business actors that participate in carbon trading, as does the enactment of a PTBAE PU. PTBAE PU is determined



<sup>&</sup>lt;sup>12</sup> Article 10 of MEMR Reg 16/2022

<sup>&</sup>lt;sup>13</sup> Article 7 (1) of MEMR Reg 16/2022

<sup>&</sup>lt;sup>14</sup> Article 7(2) to (4) of MEMR Reg 16/2022

 $<sup>^{15}</sup>$  Article 8 of MEMR Reg 16/2022



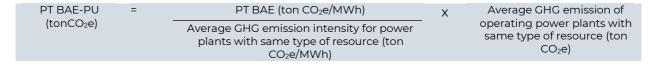
by the MEMR through the DGE. Such determination will be implemented through: (i) proposal from the business actor by submitting an application for PTBAE PU to the MEMR consisting of information and business plan (consisting of data on actual emissions and low emission activity plan and/or climate change mitigation actions); or (ii) direct determination by the MEMR.<sup>16</sup>

In determining PTBAE PU, MEMR will: (i) review the proposal; (ii) stipulate PTBAE PU with a value equal to the GHG emission ceiling or with an emission quota lower than the GHG emission ceiling; and (iii) ensure that the accumulation of GHG emission ceilings allocated to such business actor does not exceed the value of PTBAE for the power plant subsector.<sup>17</sup>

In addition to the above, the following are the components that will be taken into account by the MEMR in determining a PTBAE PU: (i) PTBAE for each type of power plant; (ii) average GHG emission intensity based on the GHG emissions report for the power plant; and (iii) average GHG emissions based on the monitoring report for each power plant, which then will be calculated using the following formula:18



If the average GHG emission intensity and average GHG emission data is not yet available, the PTBAE PU for the business actor will be calculated proportionally by comparison with operating power plant units for the: (i) same type of resource; (ii) same capacity; and iii) same technology, using the following formula:19



PTBAE PU will be determined annually and shall be enacted at the latest on January 31 of each year.20

After the enactment of the PTBAE PU, the business actor is obliged to participate in carbon trading.<sup>21</sup> For the first year of the implementation of carbon trading, which is 2023, the MEMR will allocate 100% of PTBAE PUs specifically for CFPPs. PTBAE after 2023 will be allocated based on the result of carbon trading transactions from the previous year performed by each CFPP with the following conditions:<sup>22</sup>

a. For carbon trading transactions more than or equal to 85% of the allocated PTBAE PU from the previous year, the PTBAE PU will be allocated in accordance with the result of the carbon trading transaction; or

<sup>&</sup>lt;sup>22</sup> Article 12 of MEMR Reg 16/2022



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<sup>&</sup>lt;sup>16</sup> Article 10 (2) to (4) of MOEF Reg 21/2022

 $<sup>^{17}</sup>$  Article 10 (5) of MOEF Reg 21/2022

<sup>&</sup>lt;sup>18</sup> Article 10 (1) MEMR Reg 16/2022 jo. Annex II of MEMR Reg 16/2022

<sup>&</sup>lt;sup>19</sup> Article 10 (4) MEMR Reg 16/2022 jo. Annex II of MEMR Reg 16/2022

<sup>&</sup>lt;sup>20</sup> Article 10 (3) MEMR Reg 16/2022

<sup>&</sup>lt;sup>21</sup> Article 10 (5) MEMR Reg 16/2022



b. For carbon trading transactions less than 85% of the allocated PTBAE PU from the previous year, the CFPP will be allocated PTBAE PU of 85%.

The MEMR has to date issued PTBAE PU to 99 CFPP units owned by 42 different business entities that will participate in carbon trading, with total installed capacity of around 33GW.<sup>23</sup> Based on publicly available information, 55 of these CFPPs are owned by PLN group, with the others owned by independent power producers.<sup>24</sup> Please see the list of 2023 PTBAE PU Recipients in the appendix to this article.

According to a statement from an MEMR official,  $500,000 \text{ tCO}_2\text{e}$  will be traded by these 99 CFPPs out of a total potential of 20 million  $\text{tCO}_2\text{e}.^{25}$  The MEMR official also said the estimated carbon trading price was in the range of US\$2 to US\$18 per ton for carbon trading between CFPPs in the domestic market and US\$2 to US\$99 in the international market.<sup>26</sup>

## 4. Carbon Trading

The carbon trading period runs from January 1 to December 31 of each year. Carbon trading transactions will be calculated by the end of each year based on the performance of the PTBAE PU and/or GHG Emission Reduction Certificate (Sertifikat Pengurangan Emisi Gas Rumah Kaca – "SPE-GRK").

If there is a surplus on the PTBAE PU, this surplus can be traded in the next two consecutive years of carbon trading. However, such surplus cannot be submitted as a SPE-GRK.

As stated above, carbon trading can be implemented through <u>emissions trading</u> or <u>GHG</u> <u>emissions offset</u>. Carbon trading is possible both domestically and internationally, whether through a carbon exchange or by direct trading.<sup>27</sup>

#### a. Emissions Trading

Emissions trading is intended for businesses and/or activities that have a GHG emissions ceiling determined through the PTBAE.<sup>28</sup>

A business actor can begin emissions trading after the enactment of its PTBAE PU. Following the enactment, the PTBAE PU can be traded through domestic emissions trading or between PTBAE PU holders at the beginning of the compliance period. The compliance period is defined as a period determined by the MEMR to see the compliance of a business actor in reducing GHG emissions based on the GHG emissions ceiling or certain determined targets ("Compliance Period")<sup>29</sup>.

At the end of the Compliance Period, the actual emissions will be measured using a methodology determined by the DGE, the National Standardization Agency, and/or as



<sup>&</sup>lt;sup>23</sup> https://www.esdm.go.id/id/media-center/arsip-berita/menteri-esdm-luncurkan-perdagangan-karbon-subsektor-pembangkit-listrik-

<sup>4</sup> https://www.cnbcindonesia.com/news/20230222105234-4-415938/tok-ini-4-kategori-pltu-yang-boleh-jual-emisi-karbon

https://www.kompas.id/baca/ekonomi/2023/02/22/99-unit-pltu-mulai-terlibat-perdagangan-karbon

<sup>&</sup>lt;sup>26</sup> https://www.cnbcindonesia.com/news/20230222150225-4-416049/mulai-dijual-ini-estimasi-harga-perdagangan-karbon-pltu

<sup>&</sup>lt;sup>27</sup> Article 5 (2) of MOEF Reg 21/2022 jo. Article 14 (4) of MEMR Reg 16/2022

<sup>&</sup>lt;sup>28</sup> Article 9 (1) of MOEF Reg 21/2022

<sup>&</sup>lt;sup>29</sup> Article 11 of MOEF Reg 21/2022 jo. Article 1 (36) of MOEF Reg 21/2022



agreed by the member countries of the United Nations Framework Convention on Climate Change.<sup>30</sup>

Based on the result of the above emissions measurement, business actors will then prepare a report on the implementation of the PTBAE PU consisting of (i) actual emissions by the end of the Compliance Period and (ii) measurement of the remaining GHG emissions ceiling (GHG emissions ceiling/emissions quota minus actual emissions),<sup>31</sup> which report will then be verified by an appointed independent verifier.

This report will show if actual emissions exceed or are lower than the determined PTBAE PU. If the report shows that by the end of the Compliance Period the actual emissions are lower than the determined PTBAE PU, the remaining GHG emissions ceiling or unused emissions quota can be traded domestically between business actors in the power plant subsector that have the same GHG emissions ceiling and/or emissions quota, and/or between PTBAE PU holders. Or the remaining GHG emissions ceiling or unused emissions quota can be stored for a maximum period of two years, after which the remaining GHG emissions ceiling and/or unused emissions quota will no longer available for trading.<sup>32</sup>

If the report shows that actual emissions exceed the determined PTBAE PU the business actor shall offset the excess by purchasing carbon units from other business actors.<sup>33</sup>

In addition to the above, business actors that by the end of the Compliance Period show in their report that their actual emissions are lower than the determined PTBAE PU will be entitled to apply for a SPE-GRK. Business actors that obtain a SPE-GRK will then be able to perform domestic, international or cross-sector carbon trading.<sup>34</sup>

#### **GHG Emissions Offset**

GHG emissions offset can be performed by a business actor that (i) does not have a PTBAE; (ii) has surplus emissions; or (iii) has an emissions deficit. Surplus emissions can be traded, and deficit emissions can be offset by purchasing from business actors with surplus emissions.<sup>35</sup>

GHG emissions offset is implemented in the event that businesses/activities that do not have a PTBAE submit a statement of emissions reduction resulted from the mitigation actions of other businesses and/or activities.<sup>36</sup> This only can be done by business actors that hold a SPE-GRK.

GHG emissions offset is intended for (i) NRE Plants; (ii) activities in the transportation, construction, and industrial subsectors, including the enforcement of energy efficiency; and (iii) other activities in the energy sector.

In implementing GHG emissions offset, business actors will be required to prepare a Climate Change Mitigation Action Plan Document (*Dokumen Rancangan Aksi Mitigasi Perubahan* 



<sup>&</sup>lt;sup>30</sup> Article 12 (1) of MOEF Reg 21/2022

<sup>&</sup>lt;sup>31</sup> Article 12 (2) of MOEF Reg 21/2022

<sup>&</sup>lt;sup>32</sup> Article 12 (6) to (8) of MOEF Reg 21/2022

 $<sup>^{\</sup>rm 33}$  Article 13 (3) of MOEF Reg 21/2022

<sup>&</sup>lt;sup>34</sup> Article 13 (4) to (5) of MOEF Reg 21/2022

 $<sup>^{35}</sup>$  Article 14 of MOEF Reg 21/2022

 $<sup>^{36}</sup>$  Article 16 of MEMR Reg 16/2022



*Iklim* – "**DRAM**"), which must be verified. The DRAM and its verification report will then be registered to the SRN-PPI.

## 5. Carbon Trading Reporting Obligations

At the end of the carbon trading period, business actors shall prepare a carbon trading report.<sup>37</sup> The report on carbon trading through the carbon exchange will be prepared based on the prevailing law and regulations, while the report for direct carbon trading shall be submitted to the MEMR through the DGE at the latest on January 31 of the following year.<sup>38</sup> Such report will be in the form of a carbon trading recapitulation.

Other than submitting such report, business actors who conduct emissions trading are also required to attach: (i) a statement letter approving the transfer of carbon units among power plant units; and (ii) financial receipts for carbon unit transfers.<sup>39</sup> Business actors that conduct GHG emissions offset have to attach a document that proves the implementation of such GHG emissions offset.

All of the above shall be submitted to APPLE-Gatrik and the information will be shared with SRN-PPI. $^{40}$ 

### 6. GHG Emission Reporting Obligations

Business actors that participate in carbon trading shall prepare a report containing the data on GHG emissions produced by each power plant unit, consisting of (i) the power plant's activity data (e.g., fuel, fuel quality from previous year), and (ii) the power plant's business data (e.g., GEP from the previous year and gross nett electricity production).<sup>41</sup> The GHG emissions report shall be based on (i) the calculation of power plant GHG emissions by calculating carbon monoxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O); and/or (ii) the measurement of power plant GHG emissions in the form of CO<sub>2</sub> emissions from a power plant unit with a continuous emission monitoring system.<sup>42</sup>

This report shall be submitted through APPLE-Gatrik at the latest by January 31 of the following year. After the submission, the report will be evaluated by the MEMR through the DGE. As part of the evaluation, the MEMR, through the DGE, may conduct a field verification or request additional documents.

After the MEMR, through the DGE, approves the report, the report will be validated and verified by an independent party that holds an Electricity Support Services License (*Izin Usaha Jasa Penunjang Tenaga Listrik* or "**IUJPTL**"). Such validation and verification shall be performed at the latest by March 31.

After the validation and verification of the report, the business actor can continue to perform carbon trading until April 20 by calculating the excess amount of PTBAE PU owned.<sup>43</sup>

 $<sup>^{43}</sup>$  Article 25 of MEMR Reg 16/2022



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<sup>&</sup>lt;sup>37</sup> Article 19 of MEMR Reg 16/2022

<sup>&</sup>lt;sup>38</sup> Article 19 (3) of MEMR Reg 16/2022

<sup>&</sup>lt;sup>39</sup> Article 19 (5) of MEMR Reg 16/2022

 $<sup>^{\</sup>rm 40}$  Article 20 of MEMR Reg 16/2022

<sup>&</sup>lt;sup>41</sup> Article 21 (1) to (3) of MEMR Reg 16/2022

<sup>&</sup>lt;sup>42</sup> Article 22 (1 to (3)) of MEMR Reg 16/2022



#### 7. Issuance of SPE-GRK

The SPE-GRK is a certificate that is issued as a sign of a reduction in GHG emissions or an increase of GHG absorption equivalent to one ton of carbon dioxide equivalent (tCO<sub>2</sub>e).<sup>44</sup> A SPE-GRK can be issued upon (i) the performance of the remaining PTBAE-PU and (ii) the performance of the reduction of GHG emissions.<sup>45</sup>

The issuance of a SPE-GRK for the performance of the remaining PTBAE-PU can be done by following these steps: 1) registration in SRN-PPI; 2) drawing up plans for low emission activities and/or plans on climate change mitigation actions; 3) reporting on the result of the implementation of the PTBAE-PU by the business actor; 4) verification; and 5) issuance of performance of the remaining PTBAE PU in the form of the SPE-GRK.<sup>46</sup>

The issuance of a SPE-GRK for the performance of reduction of GHG emissions can be done by following these steps: 1) registration in SRN-PPI; 2) planning and preparation of DRAM; 3) verification of DRAM; 4) implementation and supervision of climate change mitigation actions; 5) verification of the enforcement of climate change mitigation actions; 6) issuance of SPE-GRK and registration in SRN-PPI.<sup>47</sup>

Business actors shall prepare the DRAM using the template contained in Annex 2 of MOEF 21/2022. The DRAM will then be validated and this process shall be completed within one month starting from the date of the receipt of the DRAM by the party validating the document. The result of the validation shall be the basis for determining the feasibility of the actions to be registered as climate change mitigation actions.<sup>48</sup>

Business actors will then prepare a report on the implementation of the abovesaid climate change mitigation actions, to be verified within six months after the recipient of the report. This report shall then be submitted to SRN-PPI.  $^{49}$ 

After the completion of the above process, business actors can submit an application for the issuance of the SPE-GRK through SRN-PPI. The SPE-GRK will be issued by the MOEF through the Directorate General for the Mitigation of Climate Change ("**DGE MCC**"), 14 days following the receipt of approval of the compliance of the application based on a review performed by the Measurement, Reporting and Verification Team (*Tim Pengukuran, Pelaporan, dan Verifikasi* – "**MRV Team**"). 50

#### 8. International Carbon Trading

As previously mentioned, the carbon trading mechanism can be performed both domestically and internationally. In performing carbon trading, both domestically and internationally, there are some conditions that must be fulfilled, including:<sup>51</sup>

a. Such trading shall be in accordance with the carbon trading roadmap;



<sup>&</sup>lt;sup>44</sup> Article 58 of MOEF Reg 21/2022

<sup>&</sup>lt;sup>45</sup> Article 61 (1) of MOEF Reg 21/2022

<sup>&</sup>lt;sup>46</sup> Article 61 (2) of MOEF Reg 21/2022

<sup>&</sup>lt;sup>47</sup> Article 61 (3) of MOEF Reg 21/2022

<sup>48</sup> Article 64 of MOEF Reg 21/2022

<sup>&</sup>lt;sup>49</sup> Article 65 of MOEF Reg 21/2022

 $<sup>^{50}</sup>$  Article 59 and Article  $\overline{66}$  of MOEF 21/2022

<sup>&</sup>lt;sup>51</sup> Article 4 (2) of MOEF Reg 21/2022



- b. Provide an emissions reduction buffer, defined as the number of carbon units set aside as a form of risk control for achieving the national commitment to handle global climate change in accordance with the goals of the Paris Agreement to the United Nations Framework Convention on Climate Change (hereinafter referred to as the National Determined Contribution or "NDC"), target of carbon trading conducted in the years prior to 2023;
- c. Such trading is in the form of SPE-GRK (only for cross-sector carbon trading).

There are additional conditions that apply specifically for international carbon trading, such as:52

- a. The MEMR has stipulated and delivered the NDC achievement strategy and plan for the energy sector and power plant subsector to the MOEF;
- b. NDC target in the power plant subsector has been achieved for international carbon trading; and
- c. Such trading has been authorized by the MOEF.

#### Closing

The enactment of MEMR 16/2022 complements the earlier enacted set of regulations on carbon trading, namely PR 98/2021 and MOEF Reg 21/2022. With the stipulation of PTBAE PU for the first phase, the On-Grid PLN CFPPs can now conduct direct carbon trading. And as Indonesia's Financial Services Authority (*Otoritas Jasa Keuangan* or "**OJK**") is currently wrapping up a regulation on the carbon exchange, the option to conduct carbon trading through the carbon exchange will soon be available.

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<sup>&</sup>lt;sup>52</sup> Article 4(3) of MOEF reg 21/2022



# **Appendix**

## **2023 PTBAE PU RECIPIENTS**

# a. <u>First Category – Non-Mine Mouth CFPPs</u>

No.	CFPP	Capacity (MW)	Ow	ner
			PLN Group	IPPs
1.	Sebalang 1	100	PLN Nusantara Power UPK Sebalang	
2.	Sebalang 2	100	PLN Nusantara Power UPK Sebalang	
3.	Tarahan 3	100	PLN Nusantara Power UPK Tarahan	
4.	Tarahan 4	100	PLN Nusantara Power UPK Tarahan	
5.	Nagan Raya 1	110	PLN Nusantara Power UPK Nagan Raya	
6.	Nagan Raya 2	110	PLN Nusantara Power UPK Nagan Raya	
7.	Teluk Balikpapan 1	110	PLN Nusantara Power UPK Kaltim Teluk	
8.	Teluk Balikpapan 2	110	PLN Nusantara Power UPK Kaltim Teluk	
9.	Punagaya 1	110	PLN Nusantara Power UPK Punagaya	
10.	Punagaya 2	110	PLN Nusantara Power UPK Punagaya	



No.	СБРР	Capacity (MW)	Owner	
			PLN Group	IPPs
11.	Tenayan 1	110	PLN Nusantara Power UP Tenayan	
12.	Tenayan 2	110	PLN Nusantara Power UP Tenayan	
13.	Teluk Sirih 1	112	PLN Nusantara Power UPK Teluk Sirih	
14.	Teluk Sirih 2	112	PLN Nusantara Power UPK Teluk Sirih	
15.	Bengkulu 1	115		Tenaga Listrik Bengkulu
16.	Bengkulu 2	115		Tenaga Listrik Bengkulu
17.	Kaltim 4-1	115		Indonesia Energi Dinamika
18.	Kaltim 4-2	115		Indonesia Energi Dinamika
19.	Labuhan Angin 1	115	PLN Indonesia Power Labuhan Angin OMU	
20.	Labuhan Angin 2	115	PLN Indonesia Power Labuhan Angin OMU	
21.	Jeneponto 1	125		Bosowa Energi
22.	Jeneponto 2	125		Bosowa Energi
23.	Jeneponto 3	125		Bosowa Energi
24.	Jeneponto 4	125		Bosowa Energi
25.	Celukan Bawang 1	142		General Energy Bali



No.	СБРР	Capacity (MW)	Ow	ner
			PLN Group	IPPs
26.	Celukan Bawang 2	142		General Energy Bali
27.	Celukan Bawang 3	142		General Energy Bali
28.	Pangkalan Susu 1	220	PLN Indonesia Power PLTU Pangkalan Susu	
29.	Pangkalan Susu 2	220	PLN Indonesia Power PLTU Pangkalan Susu	
30.	Pangkalan Susu 3	220	PLN Indonesia Power PLTU Pangkalan Susu	
31.	Pangkalan Susu 4	220	PLN Indonesia Power PLTU Pangkalan Susu	
32.	Cilacap 1	300	(Pembangkitan Jawa Bali (" <b>PJB</b> ") holds 49% in SSP)	Sumber Segaya Primadaya (" <b>SSP</b> ")
33.	Cilacap 2	300	(PJB holds 49% in SSP)	SSP
34.	Banten 2 Labuan 1	300	PLN Indonesia Power PLTU Banten 2 Labuan OMU	
35.	Banten 2 Labuan 2	300	PLN Indonesia Power PLTU Banten 2 Labuan OMU	
36.	Pacitan 1	315	PLN Nusantara Power UP Pacitan	
37.	Pacitan 2	315	PLN Nusantara Power UP Pacitan	
38.	Rembang 1	315	PLN Nusantara Power UP Rembang	



No.	СБРР	Capacity (MW)	Ow	ner
			PLN Group	IPPs
39.	Rembang 2	315	PLN Nusantara Power UP Rembang	
40.	Banteng 3 Lontar 1	315	PLN Indonesia Power Banten 3 Lontar OMU	
41.	Banteng 3 Lontar 2	315	PLN Indonesia Power Banten 3 Lontar OMU	
42.	Banteng 3 Lontar 3	315	PLN Indonesia Power Banten 3 Lontar OMU	
43.	Indramayu 1	330	PLN Nusantara Power OMU	
44.	Indramayu 2	330	PLN Nusantara Power OMU	
45.	Indramayu 3	330	PLN Nusantara Power OMU	
46.	Tanjung Awar-Awar 1	350	PLN Nusantara Power UP Tanjung Awar Awar	
47.	Tanjung Awar-Awar 2	350	PLN Nusantara Power UP Tanjung Awar Awar	
48.	Jawa Barat 2 Pelabuhan Ratu 1	350	PLN Indonesia Power Jawa Barat 2 Pelabuhan Ratu OMU	
49.	Jawa Barat 2 Pelabuhan Ratu 2	350	PLN Indonesia Power Jawa Barat 2 Pelabuhan Ratu OMU	
50.	Jawa Barat 2 Pelabuhan Ratu 3	350	PLN Indonesia Power Jawa Barat 2 Pelabuhan Ratu OMU	



No.	СБРР	Capacity (MW)	Owner	
			PLN Group	IPPs
51.	Paiton 1	400	PLN Nusantara Power UP Paiton	
52.	Paiton 2	400	PLN Nusantara Power UP Paiton	
53.	Suralaya 1	400	PLN Indonesia Power PLTU Suralaya PGU	
54.	Suralaya 2	400	PLN Indonesia Power PLTU Suralaya PGU	
55.	Suralaya 3	400	PLN Indonesia Power PLTU Suralaya PGU	
56.	Suralaya 4	400	PLN Indonesia Power PLTU Suralaya PGU	
57.	Kaltim 2-1	100		Graha Power Kaltim
58.	Kaltim 2-2	100		Graha Power Kaltim
59.	Kalbar 1-1	100	(Putra Indo Tenaga (" <b>PIT</b> ") holds 35% in GCL Indo Tenaga)	GCL Indo Tenaga
60.	Kalbar 1-2	100	(PIT holds 35% in GCL Indo Tenaga)	GCL Indo Tenaga



# b. <u>Second Category - Non-Mine Mouth CFPPs above 400MW</u>

No.	СБРР	Capacity (MW)	Owner	
			PLN Group	IPPs
1.	Suralaya 5	600	PLN Indonesia Power PLTU Suralaya PGU	
2.	Suralaya 6	600	PLN Indonesia Power PLTU Suralaya PGU	
3.	Suralaya 7	600	PLN Indonesia Power PLTU Suralaya PGU	
4.	Paiton 5	610		Jawa Power
5.	Paiton 6	610		Jawa Power
6.	Paiton 7	615		Paiton Energy
7.	Paiton 8	615		Paiton Energy
8.	Banten 1 Suralaya	625	PLN Indonesia Power PLTU Banten 1 Suralaya OMU	
9.	Cilacap 3	660	(PJB holds 49% in SSP)	SSP
10.	Cirebon	660		Cirebon Electric Power
11.	LBE1	660		Lestari Banten Energi
12.	Paiton 9	660	PLN Nusantara Power UP Paiton	
13.	Jawa Tengah 2 Adipala	660	PLN Indonesia Power Jawa Tengah 2 Adipala OMU	
14.	Tanjung Jati B 1	710	PLN UIK Tanjung Jati B	



No.	СБРР	Capacity (MW)	Ow	ner
			PLN Group	IPPs
15.	Tanjung Jati B 2	710	PLN UIK Tanjung Jati B	
16.	Tanjung Jati B 3	721,8	PLN UIK Tanjung Jati B	
17.	Tanjung Jati B 4	721,8	PLN UIK Tanjung Jati B	
18.	Paiton 3	815		Paiton Energy
19.	Cilacap 4	1.000	(PJB holds 49% in SSP)	SSP
20.	Jawa 7-1	1.050	(PJB Investasi holds 30% in Shenhua Guohua Pembangkitan Jawa Bali)	Shenhua Guohua Pembangkitan Jawa Bali
21.	Jawa 7-2	1.050	(PJB Investasi holds 30% in Shenhua Guohua Pembangkitan Jawa Bali)	Shenhua Guohua Pembangkitan Jawa Bali
22.	Jawa Tengah 1	1.000		Bhimasena Power Indonesia
23.	Jawa Tengah 1	1.000		Bhimasena Power Indonesia
24.	Tanjung Jati 5	1.000		Bhumi Jati Power
25.	Tanjung Jati 6	1.000		Bhumi Jati Power

# Third Category – Mine Mouth CFPPs above 100MW

No.	CFPP	Capacity (MW)	Owner	
			PLN Group	IPPs
1.	Kalsel 1-1	100		Tanjung Power Indonesia



No.	СБРР	Capacity (MW)	Ow	ner
			PLN Group	IPPs
2.	Kalsel 1-2	100		Tanjung Power Indonesia
3.	Ombilin 1	100	PLN Indonesia Power UPK Ombilin	
4.	Ombilin 2	100	PLN Indonesia Power UPK Ombilin	
5.	Keban Agung 1	135		Priamanaya Energi
6.	Keban Agung 2	135		Priamanaya Energi
7.	Banjarsari 1	135		Bukit Pembangkit Indonesia Innovative
8.	Banjarsari 2	135		Bukit Pembangkit Indonesia Innovative
9.	Simpang Belimbing 1	150		GH EHMM Indonesia
10.	Simpang Belimbing 2	150		GH EHMM Indonesia
11.	Sumsel 5-1	175		DSSP Power Sumsel
12.	Sumsel 5-2	175		DSSP Power Sumsel
13.	Kalteng 1-1	100		SKS Listrik Kalimantan
14.	Kalteng 1-2	100		SKS Listrik Kalimantan