



# Indonesia Issues Carbon Pricing and Trading Regime for Power Generation

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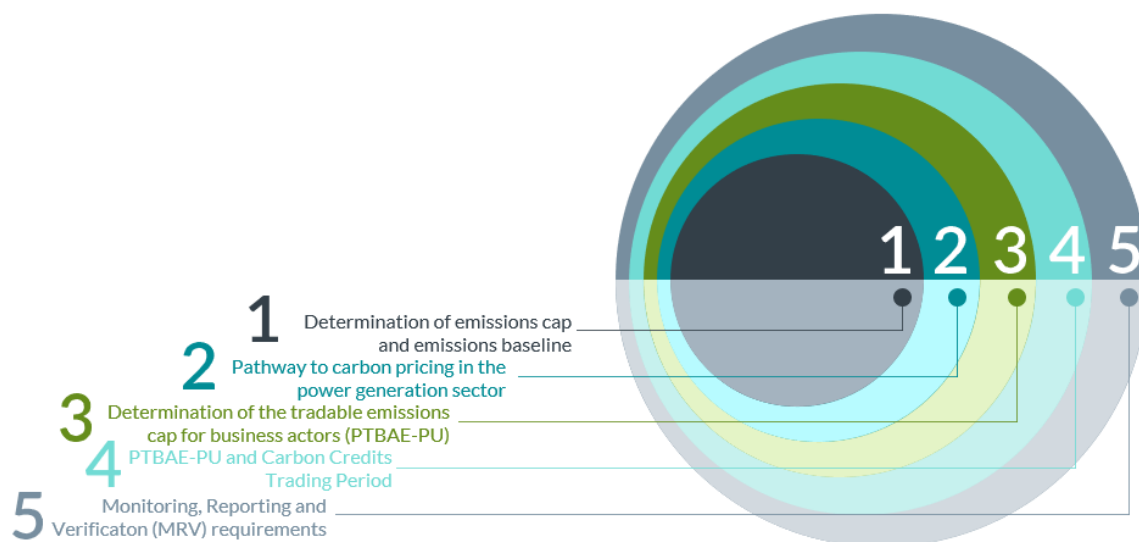
## Introduction

The Indonesian Government has recently issued 2 regulations on **carbon pricing for the power generation sector**: Ministry of Energy and Mineral Resources Regulation No. 16 of 2022 (**MEMR 16/2022**) and MEMR Decree No. 14.K/TL.04/MEM.L/2023 on Emissions Cap for coal-fired power plants connected to PLN's network (**CFPP Emissions Cap**).

These implementing regulations follow the issuance of **framework regulations** on carbon pricing and trading which have been issued since late 2021 - Presidential Regulation No. 98 of 2021 on the Implementation of Carbon Pricing (**PR 98/2021**) and Ministry of Environment and Forestry Regulation No. 21 of 2022 on the Guidelines for the Implementation of Carbon Pricing (**MOEF 21/2022**) - which were both summarized in our [previous article on this topic](#).

In this article, we look at the **scope of coverage and mechanics regulated by MEMR 16/2022** which is the first of a series of sectoral regulations to be implemented following the issuance of the framework regulations. Further regulations are soon expected to be issued for other sectors such as forestry, industrial activities, transportation, agriculture and waste management.

The chart below sets out the **key areas** regulated by MEMR 16/2022 and which are summarized in this article:



## 1. Determination of emissions cap and emissions baseline

MOEF 21/2022 made clear the principle that **carbon trading** will be conducted through either emissions trading or greenhouse gas emission offsets.

Under MOEF 21/2022, an emissions trading scheme is applicable to sectors/businesses with a pre-determined emissions cap stipulated by the relevant sectoral ministry. Business entities which are successful in reducing emissions below the applicable cap will obtain Greenhouse Gas Emissions Reduction Certificates (Carbon Credit or SPE-GRK<sup>1</sup>) which can then be traded on the carbon market.

The relevant sectoral ministry may also stipulate an emissions baseline to sectors/businesses not subject to an emissions cap. Businesses that reduce their emissions below the baseline are also entitled to obtain a tradable Carbon Credit/ SPE-GRK.

Under the new regulation, **coal-fired power plants (CFPPs)** and other fossil fuel power plants will apply a **carbon trading scheme** while **renewable power plants** will implement a greenhouse gas emissions **offset scheme**.<sup>2</sup> The carbon trading for CFPPs and other fossil fuel-based power plants as regulated in MEMR 16/2022 will be based on a specific crediting mechanism based on the following concepts and principles:

**1) Emissions Ceiling Technical Approval:** MEMR 16/2022 establishes the emissions thresholds for the **power generation sector** in the form of an emissions cap or "Emissions Ceiling Technical Approval" (*Persetujuan Teknis Batas Atas Emisi – PTBAE*). For 2023 -2024 the PTBAE will only be applicable to CFPPs.

<sup>1</sup> Surat Pengurangan Emisi Gas Rumah Kaca.

<sup>2</sup> Article 2(2) of MEMR 16/2022.

**2) Emissions Ceiling Technical Approval – Business Entities:** Aside from the PTBAE which sets the emissions cap on a sector/asset type basis, the regulation also provides that businesses which are able to reduce their emissions below the applicable PTBAE will obtain an "Emissions Ceiling Technical Approval – Business Entities" (*Persetujuan Teknis Batas Atas Emisi Pelaku Usaha – PTBAE-PU*) which is a form of carbon crediting mechanism which can be traded between businesses active in the power generation sector.

The applicable emissions cap or PTBAE for the power generation sector will be determined based on the following criteria:

- (a) the overall baseline greenhouse gas emissions of the power generation sector;
- (b) the Nationally Determined Contribution (**NDC**) of greenhouse gas emissions reduction target for the power generation sector;
- (c) the calculation of the power generation sector's greenhouse gas emissions inventory under the Power Emissions Reporting and Calculation Application (*Aplikasi Penghitungan dan Pelaporan Emisi Ketenagalistrikan* or **APPLE-Gatrik**) system; and/or
- (d) the timeline for the achievement of NDC for the power generation sector.

The MEMR will issue a determination of the emissions cap/baseline and if it deems that a stricter emissions cap/baseline is necessary, the MEMR may from time to time issue adjustments to the emissions cap/baseline<sup>3</sup>.

## 2. Pathway to carbon trading in the power generation sector

The stipulation of the emissions cap (PTBAE) in the power generation sector will be implemented in the following three stages:<sup>4</sup>



MEMR 16/2022 hints that the emissions cap/PTBAE will be gradually tightened in order to incentivise business entities to reduce emissions from their power generators, which ultimately is a component to Indonesia's achievement of its overall NDC<sup>5</sup>.

Importantly, the emissions cap for CFPPs which are connected to PLN's grid has recently been determined through the issuance of **MEMR Decree No. 14.K/TL.04/MEM.L/2023** which provides the

<sup>3</sup> Article 4(4) and 4(6) MEMR 16/2022.

<sup>4</sup> Article 4(3) of MEMR 16/2022.

<sup>5</sup> Article 4(6) of MEMR 16/2022.

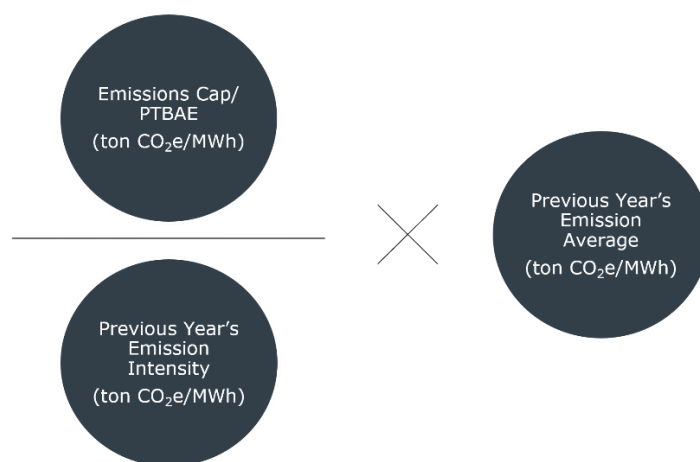
applicable PTBAE for different categories of CFPPs. Pursuant to the decree, the following CFPP Emissions Caps/PTBAE are now applicable:

CFPP Category	Installed Capacity	Emissions Cap (PTBAE) for 2023
Non mine-mouth CFPP	at least 25 MW up to 100 MW	1.297 ton CO <sub>2</sub> e/MWh
Mine-mouth CFPP	at least 100 MW	1.089 ton CO <sub>2</sub> e/MWh
Non mine-mouth CFPP	at least 100 MW up to 400 MW	1.011 ton CO <sub>2</sub> e/MWh
Non mine-mouth CFPP	more than 400 MW	0.911 ton CO <sub>2</sub> e/MWh
Mine-mouth CFPP	more than 100 MW	0.911 ton CO <sub>2</sub> e/MWh

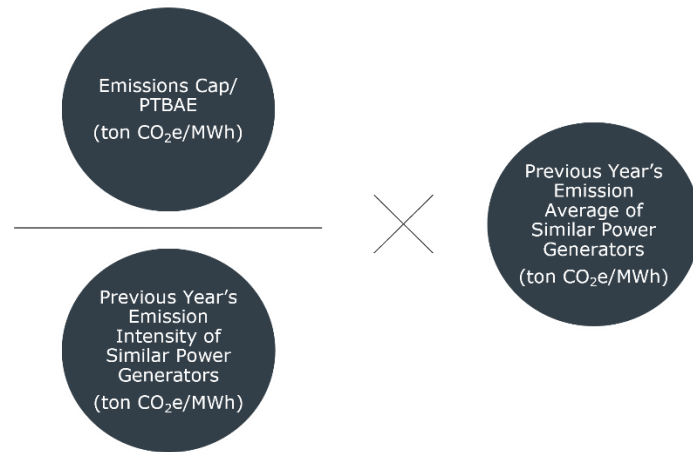
A press release by the MEMR also stated that the MEMR will stipulate the emissions cap/PTBAE for CFPPs outside of PLN's business area (*wilayah usaha*) and for captive power generation by no later than 31 December 2024.

### 3. Determination of PTBAE-PU

MEMR 16/2022 also provides the framework for determining the actual PTBAE-PU for each relevant business actor. In case the previous year's emissions data is available, the PTBAE-PU is determined based on the following formula:



In case the previous year's emissions data is unavailable, the PTBAE-PU is determined based on the following formula instead:



The PTBAE-PU is determined by the MEMR for each relevant power generation unit based on their level of actual emissions and will be issued by 31 January each year.

Whilst in 2023, 100% of the emission cap carbon units/PTBAE-PU is tradable by CFPPs<sup>6</sup>, from 2024 onwards, the quota of tradable emissions cap will be calculated based on the volume of carbon trading transactions that have actually taken place in the previous year, in accordance with the following conditions:

- (a) if the volume of carbon trading is equal to or more than 85% of the volume in the previous year, the tradable emissions cap will be as per the previous year's carbon trading volume; or
- (b) if the previous year's volume of carbon trading is less than 85% of the current year, the tradable emissions cap for the following year will be 85% by default.



<sup>6</sup> Article 12 of MEMR 16/2022.

As an example, under scenario (a) if the tradable emissions cap for 2023 is 100 ton CO<sub>2</sub>e but the actual trading volume for 2023 is 90 ton CO<sub>2</sub>e, then the tradable emissions cap for 2024 will be 90 ton CO<sub>2</sub>e.

Alternatively under scenario (b), if the tradable emissions cap for 2023 is 100 ton CO<sub>2</sub>e but the actual trading volume for 2023 is 70 ton CO<sub>2</sub>e, then the tradable emissions cap for 2024 will be 85 ton CO<sub>2</sub>e.

#### 4. Trading period and limitations

Businesses which have received PTBAE-PU must participate in carbon trading during the relevant carbon trading period. Failure to trade after receiving PTBAE-PU will result in a reduction of PTBAE-PU of the relevant business entity to 75% in the following year.<sup>7</sup>

MEMR 16/2022 provides that the period for carbon trading starts from 1 January and ends on 31 December of each year.<sup>8</sup> Carbon trading in the power generation sector is conducted through the sale and purchase of PTBAE-PU (for CFPPs and other fossil fuel-based power plants) or Carbon Credits (for renewable power plants) which can be obtained from emissions reduction efforts from each power plant owned by a business entity. Following the end of the carbon trading period in each year (i.e. 31 December), carbon trading transactions will be calculated according to the trading volume of both PTBAE-PU and/or Carbon Credits.

##### *PTBAE-PU vs. Carbon Credits*

PTBAE-PU is a form of crediting mechanism specific for CFPPs and other fossil fuel-based power plants recognized under MEMR 16/2022 and is issued by MEMR under the power generation sector carbon trading framework regulated in MEMR 16/2022. For renewable power plants, Carbon Credits/SPE-GRK may be issued through the emissions offset scheme which can be traded within the framework of MEMR 16/2022 or the carbon markets.

Any surplus of credits under the PTBAE-PU can only be traded for a maximum of 2 years from issuance and cannot be traded beyond 2030 nor be converted into Carbon Credits.

Trading of PTBAE-PU and Carbon Credits can be conducted either within Indonesia or internationally through emissions trading and greenhouse gas emissions offset.<sup>9</sup> This will occur using either a carbon market mechanism through a carbon exchange or a direct trade between business entities.

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<sup>7</sup> Article 28(2) of MEMR 16/2022.

<sup>8</sup> Article 13 of MEMR 16/2022

<sup>9</sup> Article 14 of MEMR 16/2022.

## 5. Monitoring, Reporting and Verification (MRV) requirements

Business entities participating in carbon trading pursuant to MEMR 16/2022 must develop an annual greenhouse gas emissions monitoring plan for each power generation unit. The monitoring plan must comprise of:<sup>10</sup>

- (i) the gross electricity production plan; and
- (ii) the greenhouse gas emissions level target.

The process for submission and verification of the monitoring plan by the MEMR will be carried out through the APPLE-Gatrik system which is a web-based tool for calculating and reporting greenhouse gas emissions from power generation units to the Directorate General of Electricity. The monitoring plan must be submitted by 31 December each year<sup>11</sup> and is applicable for the purpose of emissions level monitoring in the following year. The APPLE-Gatrik system can be accessed through this [link](#).

Business entities participating in carbon trading<sup>12</sup> must also prepare a "power generation greenhouse gas emissions report" (**Emissions Report**) for each operational power plant which must include information on the<sup>13</sup>:

- (i) activities of the power generator<sup>14</sup>; and
- (ii) commercial operation of the power generator<sup>15</sup>.

The Emissions Report must also describe the:

- (i) calculation of greenhouse gas emissions; and/or
- (ii) metering of greenhouse gas emissions.

The Emissions Report must be submitted to the MEMR through the APPLE-Gatrik system no later than 31 January for the previous year's carbon trading activity.

If the greenhouse gas emission report is not submitted correctly, all of the relevant business entity's carbon trading activities in the previous year will be deemed void<sup>16</sup>. Additionally, the MEMR will issue a written warning to the relevant business entity and its PTBAE-PU for the following year will be limited to 75%. Business entities participating in carbon trading pursuant to MEMR 16/2022 are therefore

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<sup>10</sup> Article 7 of MEMR 16/2022.

<sup>11</sup> Art. 8(2) of MEMR 16/2022.

<sup>12</sup> i.e. business entities in the power generation sector which have obtained a PTBAE-PU and participate in carbon trading.

<sup>13</sup> Art. 21 MEMR 16/2022.

<sup>14</sup> Including data on annual fuel quality and consumption on a weighted average.

<sup>15</sup> Including data on gross electricity production, net electricity production and other performance metric of the power generator.

<sup>16</sup> Art. 28(2) MEMR 16/2022.

incentivized to self-assess and report their trading activities and failure to comply will result in adverse consequences to the ability for such business to participate in carbon trading.

## Conclusion

To achieve its NDC targets, the Indonesian government has been actively regulating over the past months with the objective to have a fully-operational carbon market by 2025. MEMR 16/2022 and the issuance of the CFPP Emissions Cap are a welcome addition to the growing suite of implementing regulations to PR 98/2021 and provide much needed clarity on the determination of carbon emissions caps and baselines that will affect power generators in Indonesia and allow for trading opportunities in the power sector.

We expect that further implementing regulations will be released for other sectors in the coming months and we will provide further updates on these as they become available.



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