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Greenhouse Gas Emission Ceiling for Power Plants

A. Background

Indonesia's commitment to combat climate change was demonstrated by President Joko Widodo at the United Nations' 21st Conference of the Parties ("**COP-21**") in 2015. This commitment led to the enactment of Law No. 16 of 2016 on the Ratification of the Paris Agreement to the United Nations Framework Convention on Climate Change, effective as of 25 October 2016.[1] Currently, Indonesia aims to reduce its greenhouse gas ("**GHG**") emissions by 29% unconditionally and up to 41% with international support by 2030.[2]

In light of the above, the Indonesian government has enacted the following significant regulations on carbon trading:

1. Presidential Regulation No. 98 of 2021 on the Implementation of Carbon Economic Value to Achieve Nationally Determined Contribution ("**NDC**") Targets and Control over Greenhouse Gas Emissions in Relation to National Development ("**PR 98/2021**").
2. Minister of Environment and Forestry Regulation No. 21 of 2022 on the Procedures for the Application of Carbon Economic Value, which serves as the implementing regulation of PR 98/2021.
3. Minister of Energy and Mineral Resources ("**MEMR**") Regulation No. 16 of 2022 on the Procedures for the Implementation of Carbon Economic Value in the Power Plant Subsector ("**MEMR Reg 16/2022**").

B. Issuance of the GHG Emission Ceiling

The MEMR is authorized to issue Technical Approval on the GHG Emission Ceiling (*Persetujuan Teknis Batas Atas Emisi*

– "**GHG Emission Ceiling**") for each type of power plant.[3] This approval determines the maximum GHG emission levels of power plants during specific periods.

The GHG Emission Ceiling will be implemented in three phases:[4]

(i) Phase One: 2023 to 2024.
(ii) Phase Two: 2025 to 2027.
(iii) Phase Three: 2028 to 2030.

During the first phase, the GHG Emission Ceiling will only apply to coal-fired power plants ("**CFPPs**"). The GHG Emission Ceiling for CFPPs located outside the business area of state electricity provider PT Perusahaan Listrik Negara ("**PLN**") and/or for electricity supply business for internal consumption is currently not regulated. The determination of these ceilings will be made by the MEMR no later than 31 December 2024.

For CFPPs connected to PLN's electric power grid, the GHG Emission Ceiling is regulated under MEMR Decree No. 14.K/TL.04/MEM.L/2023 of 2023 on the GHG Emission Ceiling for Coal-Fired Power Plants Connected to PLN's Electric Power Grid for Phase One ("**MEMR Decree 14/2023**").

C. GHG Emission Ceiling for CFPPs Connected to PLN's Electric Power Grid (Phase 1)

Under MEMR Decree 14/2023, the GHG Emission Ceiling for CFPPs connected to PLN's electric power grid is as follows:

Type of CFPP	Installed Capacity (x)	Year of Implen	
		2023 (tonCO_2e / MWh)	2
Non Mine-to-Mouth and Mine-to-Mouth	25 MW = x < 100 MW	1.297	
Non Mine-to-Mouth	100 MW = x = 400 MW	1.011	
Non Mine-to-Mouth	x > 400 MW	0.911	
Mine-to-Mouth	x = 100 MW	1.089	

With the determination of the GHG Emission Ceiling, the MEMR, through the Directorate General of Electricity ("**DGE**"), will also determine the GHG Emission Ceiling for Independent Power Producer (IPP) companies ("**IPP's GHG Emission Ceiling**").

IPP companies that have received their GHG Emission Ceiling must participate in carbon trading activities, including emissions trading, to address any emissions that exceed the IPP's GHG Emission Ceiling, which will be explained further in Section D on Carbon Trading Activities below.

Under Attachment 2 of MEMR Reg 16/2022, the calculation basis for the IPP's GHG Emission Ceiling is as follows:

$$\text{IPP's GHG Emission Ceiling } (\text{ton}CO_2e) = \frac{\text{GHG Emission Ceiling } (\text{ton}CO_2e / MWh)}{\text{Average of GHG Emission Intensity of the preceding year } (\text{ton}CO_2e / MWh)} \times \text{Average of the p } (\text{t}$$

The IPP's GHG Emission Ceiling will be determined annually by 31 January and will act as the maximum allowable GHG emission limit for IPP activities during a specific period.[5]

D. Implications of MEMR Decree 14/2023

1. Carbon Trading

   With the determination of the GHG Emission Ceiling and the IPP's GHG Emission Ceiling, IPP companies are required to participate in carbon trading, which include two components:

   (i) Emission trading: This is a transaction mechanism for businesses with emissions exceeding the GHG Emission Ceiling; and
   (ii) GHG emission offsetting: This is a reduction in GHG emissions by businesses and/or activities to compensate for emissions elsewhere. These activities can be carried out domestically or internationally.[6]

   The carbon trading activities are to be conducted within the carbon trading period that is

from 1 January to 31 December of the respective year.[7]

Moreover, carbon trading can be conducted through carbon exchange in the carbon market mechanism and/or through direct trading. Any surplus of the GHG Emission Ceiling at the end of each year can be traded in the following year and remain valid for up to two years, provided it does not exceed the implementation phase stated in Article 4 (3) of MEMR Reg 16/2022.[8] It is important to note that emission trading is not permitted between power plant units located in the same generation unit.[9]

As of 22 February 2023, the MEMR has officially launched carbon trading for the power plant subsector.[10] As of 13 March 2023, the Director General of DGE had announced the participation of 99 units of CFPPs in carbon trading, comprising 55 units from the PLN group and 44 units from IPPs, for the period ending 31 December 2023.[11]

2. Reporting Obligations and Supervision

IPP companies have reporting obligations for their carbon trading transactions. They must submit reports through the Electricity Emissions Calculation and Reporting App (*Aplikasi Penghitungan dan Pelaporan Emisi Ketenagalistrikan* – "**APPLE-Gatrik**") of the DGE of the MEMR. The reports must include: (i) a statement letter on the transfer of carbon units between power plant units, and (ii) proof of financial transaction for carbon unit transfer (for emissions trading).[12]

For carbon trading through GHG emission offsetting, proof of GHG emissions offsetting implementation must be attached.[13] The deadline for submission is 31 January of the following year.[14]

Furthermore, under Article 19 (6) of MEMR Reg 16/2022, the DGE is responsible for examining the results of carbon trading. Also, Article 32 of MEMR Reg 16/2022 states the DGE must supervise the implementation of carbon economic value within the power plant subsector. The DGE must conduct evaluations of the implementation of the carbon economic value every 6 (six) months. If any obstacles are identified during the evaluation, the DGE may establish policies to address and resolve these obstacles.

E. Conclusion

The determination of the IPP's GHG Emission Ceiling for CFPPs connected to PLN's Electric Power Grid for Phase One became effective on 13 January 2023, as regulated under MEMR

Decree 14/2023. It is therefore expected that businesses will actively engage in carbon trading activities during this year's carbon trading period, which concludes on 31 December 2023.

Moreover, specific reporting obligations and supervision mechanisms have been established to ensure the smooth operation of carbon trading activities. The DGE is the authorized state institution responsible for evaluating and supervising carbon trading activities. If obstacles are encountered during carbon trading, the DGE can formulate policies on a case-by-case basis to resolve such obstacles.

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[1] Direktorat Jenderal Pengendalian Perubahan Iklim (Directorate General of Climate Change Control), Ministrty of Environment and Forestry Official Website, Nationally Determined Contribution, <*https://ditjenppi.menlhk.go.id/reddplus/images/adminppi/dokumen/strategi_implementasi_ndc.pdf*>

[2] Indonesia Green Growth Program, Badan Perencanaan Pembangunan Nasional (National Development Planning Agency) Official Website, *Indonesia's Updated NDC for a Climate Resilient Future*, <*http://greengrowth.bappenas.go.id/en/indonesias-updated-ndc-for-a-climate-resilient-future/*>

[3] Article 15 (3) of PR 98/2021.

[4] Article 4 of MEMR Reg 16/2022.

[5] Article 10 (3) of MEMR Reg 16/2022.

[6] Article 14 (2) of MEMR Reg 16/2022.

[7] Article 13 (1) of MEMR Reg 16/2022.

[8] Article 13 (4) of MEMR Reg 16/2022.

[9] Article 15 of MEMR Reg 16/2022.

[10] Media Center, Ministry of Energy and Mineral Resources Official Website, Press Conference No. 087.Pers/04/SJI/2023 of 22 February 2023, *Menteri ESDM Luncurkan Perdagangan Karbon Subsektor Pembangkit Listrik*, <*https://www.esdm.go.id/id/media-center/arsip-berita/menteri-esdm-luncurkan-perdagangan-karbon-subsektor-pembangkit-listrik-*>

[11] Direktorat Jenderal Ketenagalistrikan (Directorate General of Electricity), Ministry of Energy and Mineral Resources Official Website, *99 Unit PLTU Ditargetkan Ikuti Perdagangan Karbon Tahun ini*, <*https://www.esdm.go.id/en/berita-unit/directorate-general-of-electricity/99-unit-pltu-ditargetkan-ikuti-perdagangan-karbon-tahun-ini*>

[12] Article 19 (5) of MEMR Reg 16/2022.

[13] *Ibid.*

[14] Article 19 (3) and (4) of MEMR Reg 16/2022.

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