

Indonesian Economic Value of Carbon (Nilai Ekonomi Karbon) Trading Scheme

General Information

ETS Description

Indonesia's Economic Value of Carbon, or Nilai Ekonomi Karbon (NEK), Trading Scheme is a mandatory, intensity-based ETS for the power sector that was launched in early 2023. In its first phase spanning from 2023 to 2024, it exclusively targeted coal-fired power plants (CFPPs) connected to the Perusahaan Listrik Negara (PLN) grid with a capacity of 25 MW or greater. In 2025, 563 installations – both connected to and not connected to the PLN grid – were covered under the ETS, consisting of CFPPs with a capacity above 25 MW, combined-cycle power plants, gas engine power plants, and gas-fired power plants. The majority of the plants covered by the NEK are operated by the state-owned electricity company PLN.

The Indonesian government has established intensity targets, known as Technical Emissions Ceiling Approvals, or Persetujuan Teknis Batas Atas Emisi (PTBAE). These targets determine the number of allowances that installations receive for each MWh of electricity generated. Covered entities must surrender allowances for all their covered emissions, with allocation based on PTBAE, emission intensity, and emission average. Additionally, entities have the option to purchase allowances via auctions.

Eventually, the Indonesia ETS is expected to function as a hybrid “cap-tax-and-trade” system, operating concurrently with a carbon tax. Facilities failing to meet their obligations under the ETS will be subject to this tax, the rate of which will be aligned with the domestic carbon market's price.

While the system currently regulates the power sector, the government is actively preparing to extend coverage to the industrial sector. The Ministry of Industry is coordinating the development of sectoral emissions reporting systems for energy-intensive industries, including cement and fertilizers, which are intended to be integrated into the national MRV framework and the national registry to support a future extension of ETS coverage to industrial sectors.

The Indonesian Carbon Exchange (IDXCarbon) was officially launched in September 2023, under the supervision of the Financial Services Authority of Indonesia (Otoritas Jasa Keuangan, OJK).

“Presidential Regulation No.110/2025” on carbon pricing established the national legal framework for a domestic trading system, a carbon levy that functions as a compliance backstop, and a results-based payment mechanism tied to Article 6 of the Paris Agreement.

ETS Status

in force

Jurisdictions

Indonesia

Year in Review

In 2025, the scope of the ETS was expanded to cover captive CFPPs that are not connected to the electricity grid and gas power plants (gas fired power plants, gas engine power plants and combined cycled power plants). As a result, the total number of covered installations rose from 146 in 2024 to 563 in 2025.

Due to regulatory changes and revisions of legislation, the allocation of allowances for 2025 has been postponed, no allowances were issued and no trading operations took place as of January 2026. Reporting obligations for covered installations still apply.

In 2025, OJK and the Ministry of Environment (MoE) operationalized IDXCarbon as the national carbon exchange, recording participation from more than 130 entities and transactions totaling ~0.6 MtCO₂e.

Sectoral coverage

Power

Emissions & Targets

Overall GHG Emissions excl. LULUCF (MtCO₂e)

1,053.4 MtCO₂e (2023)

GHG reduction targets

By 2030: Absolute national emissions cap of ~1.35 GtCO₂e (unconditional) and ~1.49 GtCO₂e (conditional on international support), replacing previous BAU-based targets (NDC 2.0).

By 2060: Climate neutrality (NDC 2.0; Long-Term Strategy, 2021).

Size & Phases

Covered emissions (2024)

21.00%

Verified ETS Emissions

225.30MtCO₂e

GHGs covered

CO₂, CH₄ and N₂O

Phases

PHASE 1: Two years (2023 and 2024)

PHASE 2: Three years (2025 to 2027)

PHASE 3: Three years (2028 to 2030)

Cap or total emissions limit

The total emissions limit under the Indonesian ETS is the sum of the bottom-up output-based emissions limits for all individual covered entities.

The Ministry of Energy and Mineral Resources (MEMR) establishes the PTBAE, or the emissions limit, for the power sector. This is based on: (i) actual emissions, which must be below the emissions reduction target set for the sector, and (ii) the carbon trading roadmap for the power sector.

PHASE 1:

The ETS was applicable only to coal-fired power plants connected to PLN's grid. The total emissions limit was approximately 256.8 MtCO₂e.

The emissions limit for the power subsector for Phase 1 was as follows:

- non-mine mouth coal-fired power plants with a capacity of ≥25 MW to <100 MW: 1.3 tCO₂e/MWh
- mine mouth coal-fired power plants with a capacity of ≥100 MW: 1.1 tCO₂e/MWh
- non-mine mouth coal-fired power plants with a capacity of 100 MW to ≤400 MW: 1 tCO₂e/MWh

- non-mine mouth coal-fired power plants with a capacity of >400 MW: 0.9 tCO₂e/MWh

PHASE 2 and PHASE 3:

The emissions limits for the second and third phases have not yet been determined, but they are expected to be more stringent than in the first.

Indonesia's October 2025 NDC introduces an absolute national emissions cap (1.35 GtCO₂e in 2030, unconditional), which the government describes as the carbon budget that future ETS phases will align with as coverage expands beyond the power sector.

Sectors and thresholds

PHASE 1: Coverage was limited to coal-fired power generators connected to PLN's grid only. Details on thresholds are provided below. Phase 1 covered about 37% of national power generation capacity via 99 PLN-connected coal units. With Phase 2 (2025 to 2027) expanding to captive coal and gas-fired plants supplying energy-intensive industries, the system is expected to regulate roughly 55–60% of power-sector emissions.

PHASE 2: The government expanded the scheme to include coal-fired power plants with capacity above 25 MW and not connected to PLN's grid (captive CFPPs), gas-fired power plants, gas engine power plants and combined cycled power plants connected to PLN's grid.

PHASE 3: The expansion will encompass all fossil fuel power plants, including diesel power plants with a capacity of 2 MW or greater and coal-fired power plants with capacity below 25 MW regardless of their connection to PLN's grid.

INCLUSION THRESHOLDS: In 2024, coal-fired power generation facilities with installed capacity exceeding 25 MW are included. Smaller coal and fossil fuel plants will be incorporated at a later point (see above).

The MoE has indicated that the government plans to implement emission caps for four additional sectors in the future: forestry, industrial processes and product use, agriculture, and waste management.

Beyond the power sector, the government has indicated its intention to gradually expand ETS coverage to major emitting industrial subsectors, supported by ongoing development of MRV frameworks in the industrial sector under the Ministry of Industry.

The government has stated that future ETS phases are expected to align sectoral caps with the national absolute carbon budget defined in the 2025 NDC, moving the ETS from a purely intensity-based instrument in the power sector toward a broader economy-wide system.

Point of regulation

Point source

Type of entities

Installations/facilities

Number of entities

In 2023: 42 entities covering 99 installations

In 2024: 63 entities covering 146 installations

In 2025: 563 installations

Note: The number of entities and installations is expected to continue increasing as new installations commence operations and additional categories are included, in line with the roadmap's expansions.

Allowance Allocation & Revenue

Allowance allocation

In Indonesia, allowances are referred to as *Persetujuan Teknis Batas Atas Emisi Pelaku Usaha* (PTBAE-PU).

PHASE 1 and 2:

Auctioning: In the NEK, auctioning is conducted through a system managed by IDXCarbon, where bid and offer instructions are matched based on a time and price priority scheme (refer to the 'Market Design' section).

- Auction share: 0% (2025)
- Auction volume: None

To date, no auction has taken place. Details regarding auction shares and related requirements or provisions are yet to be determined.

Benchmarking: MEMR sets intensity targets based on cap/PTBAE, installations' average emissions of the previous year, and installations' average emissions intensity of the previous year. These targets dictate the number of PTBAE-PU allowances allocated for every MWh of electricity generated. If the necessary data is unavailable, allocation is based on comparison with similar plants of equivalent installed capacity. In the first year, allowances will be given 100% for free. For the second year or the following year, installations will receive either 75% or up to 85% of their allowances for free. The gradual reduction from 100% free allocation toward 75-85% is framed by the government as transitional support for energy-intensive and trade-exposed industries such as nickel processing, steel, and cement that currently rely on captive coal and gas power. The deduction percentage depends on the installation's compliance with the ETS.

Covered entities that receive allowances must participate in trading. If they do not, they receive a written warning and free allocation for the next compliance period is reduced to 75%.

Presidential Regulation No.110/2025 positions a future "carbon levy" as a compliance backstop alongside free allocation and future auctions. The regulation empowers the government to introduce an administratively managed reserve and results-based payment channels so that ETS-covered entities can access additional compliance units or face a financial charge aligned with prevailing market prices.

Auctioning share

0%

Use of Revenues

Not defined

The Ministry of Finance has indicated that future ETS auction proceeds and carbon levy revenues will be channeled through Indonesia's Environment Fund to support power sector decarbonization, MRV infrastructure, and the financing of the energy transition.

Flexibility & Linking

Offset credits

The use of domestic offset credits – known as carbon reduction units, or Sertifikat Pengurangan Emisi Gas Rumah Kaca (SPE-GRK) – is allowed. Credits equivalent to SPE-GRKs may also be used.

QUALITATIVE LIMITS: Offset credits must stem from mitigation activities from:

1. New and renewable energy power plants;
2. Transportation, construction, and industry including energy efficiency activities; or
3. Other activities in the energy sector.

They must also be issued on the national registry.

QUANTATIVE LIMITS: None

In 2023, 6,260 tCO₂ in offset credits were retired, all from the Lahendong geothermal project.

Since January 2025, Indonesia has authorized selected projects (including ~1.78 MtCO_{2e} from PLN-affiliated power projects) for international transfer under Article 6, following the lifting of a four-year moratorium on cross-border carbon credit exports. These credits, issued under national MRV and registered in the national registry, can generate revenue to help meet Indonesia's 2030 cap under the updated NDC.

Banking and borrowing

Banking is allowed within phases, though PTBAE-PUs are valid for a maximum of two years from the end of the previous compliance period. Banking is not allowed across phases.

Borrowing is not allowed.

Links with other Systems

The NEK Trading Scheme is not linked with any other system.

Other carbon pricing instruments in the jurisdiction

Carbon tax: Indonesia carbon tax (upcoming)

Domestic crediting mechanism: Indonesia Emissions Reduction Certification

Compliance

Compliance mechanism

Covered entities must surrender one compliance unit (allowance or offset credit) per tCO₂e emitted for all their covered emissions

Compliance Period

The compliance period for the Indonesian ETS is one year, with trading occurring from January 1 to April 20 of the following year. Surplus allowances at the end of the trading period may be traded in the following period, provided it is within the same phase.

Monitoring, Reporting, Verification (MRV)

FRAMEWORK: The national MRV system is stipulated in the Presidential Regulation 110/2025 and in the “Ministry of Environment and Forestry Regulation 21/2022”. For the power subsector, the MRV system is stipulated in the “Ministry of Energy and Mineral Resources Regulation 16/2022”.

MONITORING: An MRV system is currently in operation in the industrial sector and the power generation sub-sector. Pilot MRV programs are also being conducted in the cement and fertilizer sectors.

REPORTING: Reports are submitted to the MEMR through the Directorate General of Electricity via an online platform, the APPLE-Gatrik. These reports must be submitted by the end of January of the year following the reporting year. Installations must report CO₂, CH₄, and N₂O emissions, expressed in units of CO₂e.

VERIFICATION: Emissions must be verified by a third-party verifier that is accredited by the *Komite Akreditasi Nasional* (KAN), Indonesia’s national accreditation body. This verification should be completed by the end of March, following the January reporting deadline. Verifiers are required to adhere to the guidelines for GHG emission verification in the power subsector.

Penalties and enforcement

The plan was to concurrently implement carbon trading and a carbon tax, with the latter serving as a penalty mechanism. However, as discussions on carbon tax regulations continue and their implementation is postponed, an alternative enforcement approach was introduced:

1. Should verified emissions exceed the allocated PTBAE-PU by the end of the period, allocations will be given according to the results of carbon trading transactions in the previous carbon trading period up to a maximum of 85% and the PTBAE-PU will be reduced by up to 15%.
2. Entities which fail to report their GHG emissions or participate in carbon trading by the end of the period will see a 25% reduction in their PTBAE-PU.

Presidential Regulation No.110/2025 clarifies that, going forward, entities that do not surrender sufficient units will face a carbon levy set in line with prevailing market prices. This embeds the “cap-tax-and-trade” model in national law by tying the financial penalty directly to the ETS price signal.

Market Regulation

Market Stability Provisions

EVALUATION BY MEMR

Instrument type: Quantity-based instrument

Functioning: The MEMR evaluates on a regular basis the implementation of the ETS. If the evaluation reveals a shortage of allowances, the Minister and Director General may conduct additional auctions of PTBAE-PUs.

Market Design

MARKET PARTICIPATION:

Compliance entities, specifically those holding an “Electricity Supply Business License for Public Purpose” or “Electricity Supply Business License for Own-Use,” are eligible to engage in carbon trading. The government has positioned IDXCarbon as the central infrastructure not only for domestic allowance and offset trading but also for Article 6-authorized international transactions, following the October 2025 presidential decree lifting the export moratorium.

MARKET TYPES

Primary:

In the primary market, allowances and offset credits are traded through a mechanism that may be activated upon request by the relevant ministry. This platform facilitates offset selling, with a potential reserve price set as low as IDR 1 (less than USD 0.01), and bids commencing from this figure or higher. As of January 2026, there have been no auctions conducted under this system, and specific details about auction shares, along with associated requirements and provisions, remain to be defined.

Secondary:

Operated by IDXCarbon, launched at the Indonesia Stock Exchange (IDX) in September 2023 and licensed by the Financial Services Authority (OJK), the secondary market encompasses:

- Regular Market or ‘Continuous Auction’: Matching of bids and offers based on time and price priority, with minimum prices set at IDR 200 (USD 0.01) and governed by fraction price rules and an ‘auto rejection’ rule.
- Negotiated Market: Facilitates the settlement of pre-agreed trades through the exchange, requiring details of counterpart, carbon units, price, and volume.
- Marketplace: Enables project developers to list their projects and set prices.

IDXCarbon is integrated with the new centralized registry for carbon units and trading, *Sistem Registri Unit Karbon (SRUK)*. Introduced by Presidential Regulation No. 110/2025, it replaces the SRN-PPI (*Sistem Registri Nasional Pengendalian Perubahan Iklim*) system for trading purposes; SRN-PPI will now be used solely for reporting mitigation and adaptation actions.

OJK has begun integrating IDXCarbon with the national registry to enable automated tracking of issuance, transfer, and surrender, including for internationally transferred mitigation outcomes under Article 6.

LEGAL STATUS OF ALLOWANCES: PTBAE-PUs and SPE-GRKs are classified as securities, allowing their transfer and trade in the capital market.

Other Information

Institutions involved

Coordinating Ministry of Food Affairs: Chair of the National Steering Committee for Carbon Pricing Implementation; coordinates ministries/agencies in developing the national carbon pricing framework.

Coordinating Ministry for Economic Affairs (CMEA): Vice Chair of the National Steering Committee for Carbon Pricing Implementation.

Ministry of Environment (MoE): National focal point for UNFCCC; leads NDC development and implementation, including national mitigation and adaptation and implementation of carbon pricing (including providing authorization for national and international emission trading, and overseeing offsetting; oversees MRV; operates the national registry, SRUK).

Ministry of Energy and Mineral Resources (MEMR): Coordinates ETS implementation in the power subsector, including oversight of an integrated MRV system with the SRUK; responsible for preparing and implementing the 2021 voluntary pilot carbon market.

Ministry of Industry: Coordinates implementation of CPIs on the Industrial Processes and Product Use sector, including an emissions reporting system to be integrated with the SRUK.

Ministry of Finance: Leads the development and implementation of the carbon tax.

Indonesian Environment Fund: Handles climate funding; manages ETS revenues, including any international carbon credit trading.

Financial Services Authority (OJK): Oversees IDXCarbon, which is hosted on the Indonesia Stock Exchange.

Presidential Regulation No.110/2025 designates a national carbon pricing steering structure that coordinates the ETS, the carbon levy, and Article 6 results-based payments across the Ministry of Environment and Ministry of Forestry, the Ministry of Finance, the Ministry of Energy and Mineral Resources, and the Financial Services Authority (OJK) and other related ministries.

Regulatory Framework

[Regulation 46/2017 on Environmental Economic Instruments](#)

[Law 7/2021 Concerning Harmonization of Tax Regulations](#)

[Presidential Regulation 98/2021 on the Instrument for the Economic Value of Carbon for Achievement of the NDC and Control of Carbon Emissions in Development](#)

[MoEF Regulation 21/2022 on Guidelines for Carbon Economic Value Implementation](#)

[MEMR Regulation 16/2022 on Guidelines for Carbon Economic Value Implementation for the Power Generation Sub-sector](#)

[OJK Regulation 14/2023 concerning Carbon Trading Through the Carbon Exchange](#)

Evaluation / ETS review

The Minister of Energy and Mineral Resources, through the Directorate General of Electricity, evaluates the Indonesian ETS every six months. Results of this evaluation may lead to adjustments in the policy.

The Ministerial Regulation of Energy and Mineral Resources 16/2022 is currently being revised to align with the Presidential Regulation 110/2025.

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