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SEIZING THE OPPORTUNITIES OF INDONESIA'S CARBON MARKET FOR CLIMATE GOAL AND BEYOND

Background

Indonesia sets ambitious climate commitments through Nationally Determined Contributions (NDCs) and Net-Zero Emission (NZE) by 2060 or earlier. Efforts are underway to reduce emissions and promote sustainable development, including exploring carbon pricing instruments. Indonesia issued Presidential Regulation No. 98 Year 2021 (Perpres 98/2021) which provides the framework for carbon financing to support the achievement of Indonesia's heightened target to reduce emissions from 29% to 31.89% unconditionally and from 41% to 43.20% conditionally with international support, compared to business-as-usual (BAU) scenarios by 2030, as stipulated in its the Enhanced NDC (ENDC) in 2022. Further, the submission of its Second Nationally Determined Contribution (SNDC) will be expected this year to include greater expansion of sector coverage, to prominently feature ocean-based climate actions, with a focus on managing coastal and marine ecosystems, to significantly contribute to the country's carbon reduction goals by leveraging the potential of its vast ocean areas to store carbon ("blue carbon") and mitigate climate change (Ministry of Environment and Forestry, 2024)¹.

Perpres 98/2021 pursues multiple carbon pricing instruments, including the Emission Trading System (ETS), offset carbon market (or Voluntary Carbon Market/ VCM), carbon tax, and Results-Based Payments (RBP) (Figure 1), which are the critical tools to address climate change. In addition, this regulation responds to Article 6 of the Paris Agreement, which allows national parties to pursue carbon trading as a market-based mechanism where emission permits or carbon units can be traded to reduce total greenhouse gas (GHG) emissions.

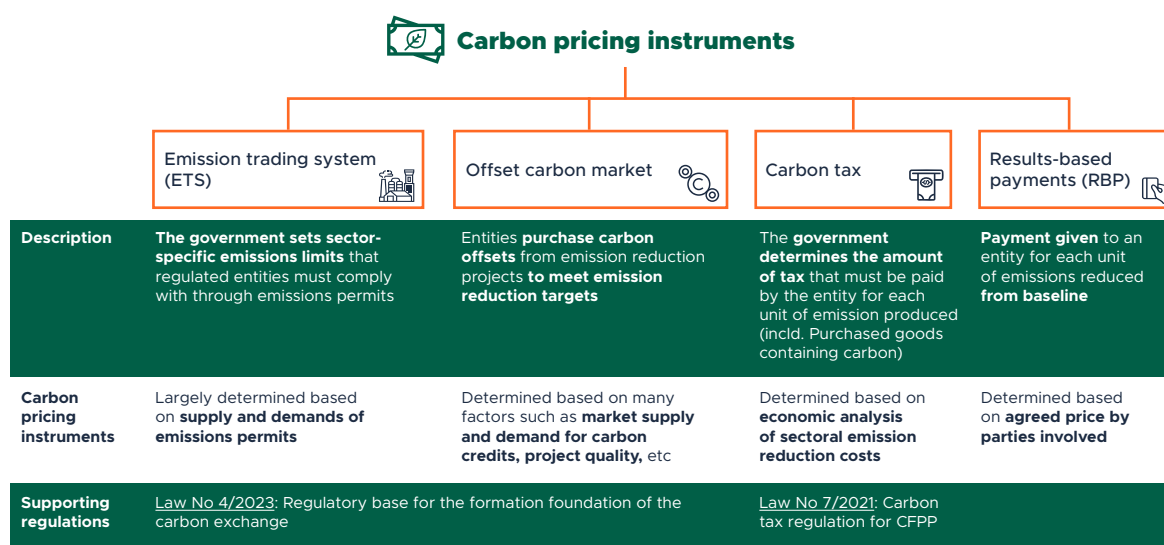


Figure 1. Carbon pricing instruments under Perpres 98/2021

Source: Coordinating Ministry of Maritime and Investment Affairs (2023), Ministry of Finance of Indonesia (2022)

¹ Ministry of Environment and Forestry of Indonesia. 2024. Menteri LHK: NDC Sebagai Komitmen Emisi Karbon, Kerja Hulu-Hilir Untuk Kepentingan Nasional dan Global. Available at: <https://ppid.menlhk.go.id/berita/siaran-pers/7837/menteri-lhk-ndc-sebagai-komitmen-emisi-karbon-kerja-hulu-hilir-untuk-kepentingan-nasional-dan-global>

Based on the 2022 **Third Biennial Update Report** (BUR) of Indonesia, to reach the 2030 climate targets, an estimated investment required is \$281 billion (unconditionally, with own effort) to \$285 billion (conditionally, with international support). As the government's budget can only cover 34 percent of the investment need², this leaves a gap that is expected to be fulfilled by non-government budget sources, such as the private sector and strategic partners, including through the optimization of carbon market potential. As of date, the financial sector has contributed 15 percent of the country's climate finance needs, by committing to a total of \$41.7 billion of climate-aligned investment from 2015 to 2021 (CPI, 2023)³ (Figure 2).

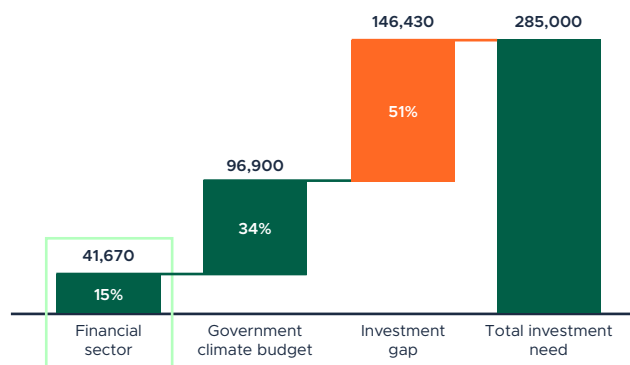


Figure 2. Investment needed to achieve Indonesia Climate Goal ENDC by 2030, \$ million
Source: CPI (2023)

The Latest Development of Indonesia's Carbon Trading since its Launch in September 2023

Law No 4 Year 2023 (P2SK Law) on the Development and Strengthening of the Financial Sector, provided a regulatory basis for the formation of the carbon exchange and defined Carbon Units as securities that can be resold in the form of derivatives. Carbon Units represent proof of ownership of carbon in the form of a certificate or technical approval representing one ton of carbon dioxide. Following the issuance of the Law, the Financial Service Authority (OJK) launched the Indonesian Carbon Exchange – IDX Carbon – in September 2023 to facilitate a transparent, orderly, fair, and efficient trading system. This is in conjunction with the issuance of OJK regulation POJK 14/ 2023 that acknowledged carbon trading as one of the market mechanisms to achieve national climate goals, hence increasing countries' potential to meet emission reduction commitments. POJK 14 contains the guidelines for carbon exchange operators as well as OJK to regulate, supervise, and coordinate with relevant ministries or institutions for carbon trading in Indonesia through the nation's carbon exchange. In complement, OJK Circular Letter No. 12/SEOJK.04/2023 provides the Procedures for Organising Carbon Trading through Carbon Exchange. By the end of 2024, IDXCarbon has seen growth in users, reaching 100 participants, a significant increase from 16 participants at launch.

IDXCarbon Product Features and Indonesia's Carbon Market Design

IDX Carbon provides trading infrastructure for Indonesian carbon markets by facilitating sectoral trading for the compliance (ETS) and voluntary (offset) markets through two product features, namely allowance credit (PTBAE-PU/Persetujuan Teknis Batas Atas Emisi – Pelaku Usaha) and offset credit (SPE-GRK/ Sertifikat Pengurangan Emisi – Gas Rumah Kaca) (Figure 3). Thus, the companies engaged in renewable energy or decarbonisation activities will be able to issue and sell carbon credits in the form of SPE-GRK instruments, while emitters such as coal power plant operators can buy those credits to compensate for their carbon emissions that exceed the cap set on their PTBAE-PU. At their core, carbon markets are trading systems designed to reduce GHG by putting a price on carbon. Every carbon unit transacted in IDXCarbon must be recorded in the National Registry System for Climate Change Control (Sistem Registri Nasional Pengendalian Perubahan Iklim/ SRN PPI).

² Based on Indonesia's Climate Budget Tagging data (Indonesia MoF, 2021)

³ CPI, 2023. Climate-Aligned Investments in Indonesia's Financial Sector. Available at: https://www.climatepolicyinitiative.org/publication/climate-aligned-investments-in-indonesias-financial-sector/#_ftn1

Compliance Market - Emissions Trading System (ETS)

Voluntary Carbon Market (VCM) – Carbon Credit (Offset)

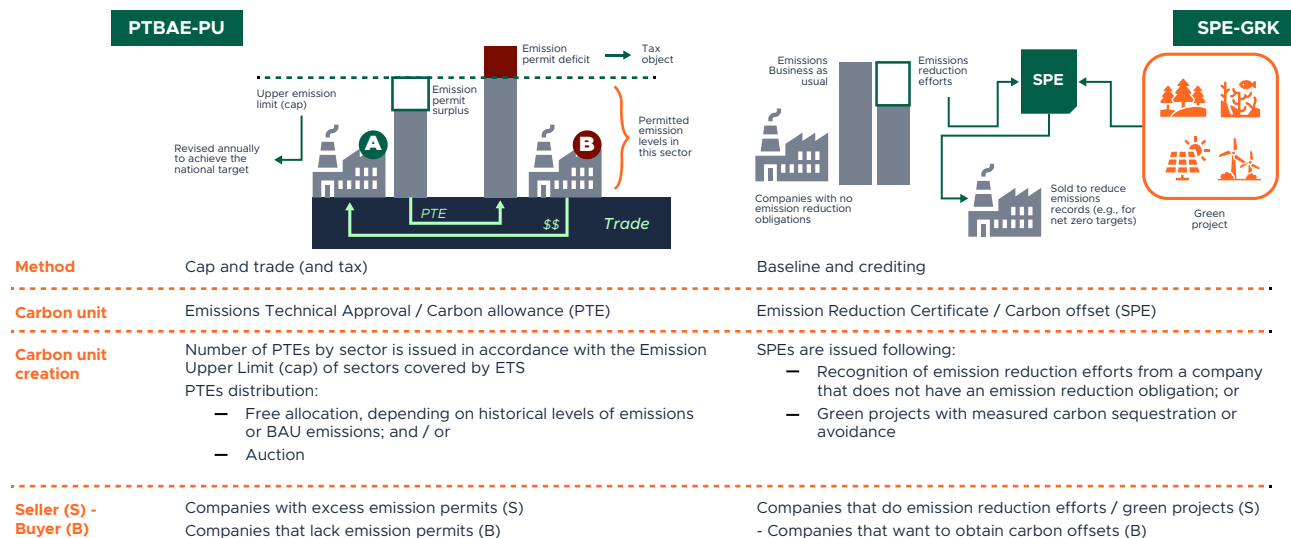


Figure 3. IDXCarbon Product Features: Capturing Two Types of Carbon Markets
Source: IDXCarbon (2024)

IDXCarbon builds on a flexible and robust trading system to accommodate the needs of carbon market participants. As depicted in Figure 4, Indonesia's carbon market is designed and envisioned to facilitate cross-sectoral trading by domestic and international carbon credit buyers to optimize Indonesia's carbon potential of more than 5.700 Terra tCO₂e attributable to forestry, energy, and ocean sectors (International Carbon Action Partnership, 2023).

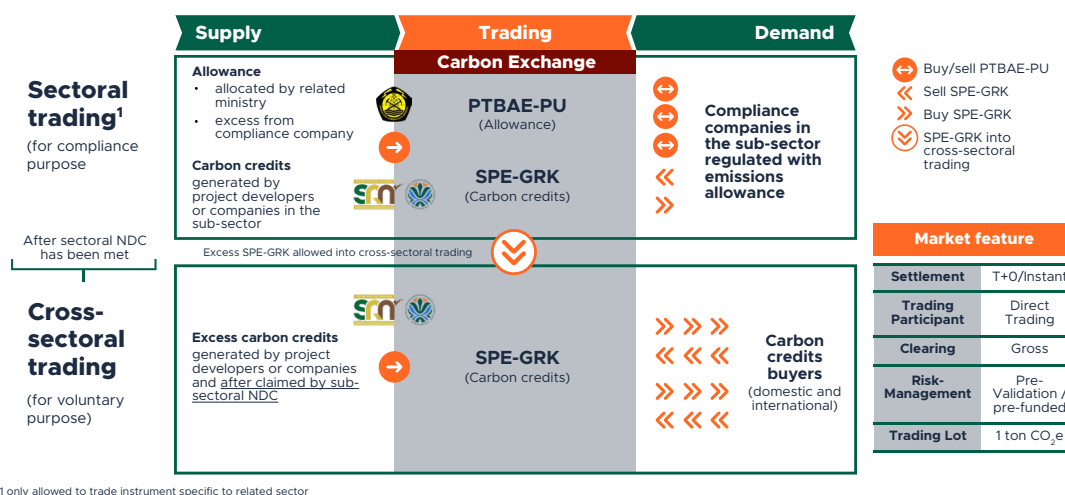


Figure 4. Indonesia Carbon Market Design
Source: IDXCarbon (2023)

The Initiation of Indonesia's International Carbon Market in January 2025

Indonesia officially joined the global network of carbon trade by inaugurating its first international carbon trading on 20 January 2025. This reflects Indonesia's commitment after COP 29 and serves as the implementation of Article 6 Paris Agreement⁴. This initiative highlights Indonesia's strong commitment to advancing its effort to the achievement of the climate targets. The international trading involved several potential strategic energy projects, such as the operation of the Gunung Wugul Mini-Hydro Power Plant in Central Java that is projected to reduce 5,000 tons of carbon dioxide equivalent (CO₂

⁴ The 29th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) (COP29) adopted decisions on Article 6 of the Paris Agreement that lays the groundwork for operational global carbon markets involving Paris Agreement Parties.

eq), the Priok Block 4 Gas and Steam Power Plant (PLTGU), and constructing PLTGU Block 3 PJB Muara Karang in North Jakarta. These power plants have the potential to reduce emissions by 500 thousand and 750 thousand tons of CO₂ eq, respectively. In addition, the trading incorporates the conversion of single-cycle power plants to combined cycles at the Grati Block 2 PLTGU in East Java to target 495 thousand tons of CO₂ eq and at Block 2 power plant units in Muara Tawar in West Java to reduce 30 thousand tons of CO₂ eq. Since the opening of international trading, the IDXCarbon participants have continued to grow by 12% totaling to 112 participants and the trading volume reached 1,599,318 tCO₂e with the value of IDR 77.98 billion as of 13 June 2025 (IDXCarbon, 2025).

International carbon trading widens cross-border investment opportunities in clean energy development, sustainable ecosystem, and conservation projects, through the generation of tradable carbon credits. Alternatively, investment in carbon avoidance and/ or reduction technologies, such as Carbon Capture and Storage (CCS) and energy efficiency, also offers benefits for companies seeking to comply with carbon regulations while enjoying economic incentives. For example, the Indonesian and ASEAN Taxonomies for Sustainable Finance acknowledge that CCS is a potential mitigation technology for reducing carbon emissions, particularly in high-emitting sectors, i.e., energy and heavy industry.

Towards Sustainable Development: Carbon Market as an Additional Source of Finance

The sets of regulations and policy frameworks are being commissioned to ensure an accountable market mechanism as a backbone of a robust and efficient carbon market ecosystem. Thus, it is pivotal to ensure that the market is well-designed, transparent, and accessible to all stakeholders, to maximize its effectiveness and avoid potential negative impacts, such as carbon leakage and lack of environmental integrity.

The government showcases its commitment to crowd-in market participation by creating incentives for businesses and individuals to reduce their carbon emissions, while also potentially generating revenue for investments in clean technologies and sustainable development projects. Businesses can access new investment opportunities, potentially leading to technological innovation and economic growth in low-carbon industries. Moreover, the carbon market can facilitate international cooperation on climate change by allowing countries to start trading with each other, encouraging greater impacts by enabling the flow of capital and technology across borders while boosting overall climate ambitions ([Green Central Banking](#), 2025). Therefore, carbon market can provide additional finance that can be used for developing new climate or biodiversity projects, and funds can be raised from the transactional revenues earned from carbon credit sales. This means that financing raised from the carbon market is one of the solutions to narrow the investment gap – identified in Figure 2 – in achieving climate targets and towards Indonesia's sustainable development.

On the Lookout

As the enthusiasm for carbon market increases, there are two key considerations arise:

- 1 The policy direction on the carbon market**
As much as the path is promising, the challenges remain, particularly in Monitoring, Reporting, Verification (MRV). For instance, there are heightened demands on high-quality carbon credits that should drive positive environmental changes. On the other hand, there are currently various methodologies and standards used to measure and verify carbon credits across countries and carbon crediting mechanisms, which may not always be comparable – posing challenges on MRV aspects. To strengthen the ecosystem, the government is in the process of revising Perpres 98 to administer the sanctions and supervision to reinforce the transparency and credibility of Indonesia carbon market.

2

The treatment of carbon unit transactions in the financial statements

Concerns raised on the accounting treatment of carbon unit transactions in the financial statements of entities that issue and purchase the carbon units, including when carbon units are used (offset), resold, and liabilities that may arise from carbon emissions. Currently, there is no specific Indonesian Accounting Standard (PSAK) that regulates accounting for carbon unit transactions. However, it is necessary to consider PSAK which regulates transactions that are similar to carbon unit transactions. **Implementation Bulletin (Buletin Implementasi/ BI) Volume 4** issued by IAI in June 2024 provides implementation guidance on the treatment of carbon units transactions under the relevant PSAK.

Conclusion

The commencement of Indonesian carbon market signals the government's strong commitment in transitioning to low-carbon economy. Perpres 98 Year 2021 marked as the regulatory basis in enacting various schemes such as ETS, offset, and carbon market through Indonesia's Carbon Exchange – IDXCCarbon. This initiative offers not only the nation but also companies the opportunity to manage carbon emissions and redirect their investment in green and sustainable projects such as renewable energy, conservation, and reforestation, while seizing the opportunity to generate high-quality carbon credits. It will play an important role in achieving the climate objectives by channeling capital for investment in climate projects and clean technology. To optimize its potential, a strong regulatory framework has to be in place to set the rules, standards and procedures to guide carbon credit development that align with the national sustainable development agenda.

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