

The carbon market in Indonesia and strategies to enhance its vibrancy



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REGULATION DEVELOPMENT ON ECONOMIC VALUE OF CARBON (NEK)

Perpres 98/2021

Implementation of NEK to Achieve NDC Targets and GHG Emissions Control in National Development

Permen LHK No.21/2022:

Procedures for Implementing NEK

Draft Regulations :

1. Implementation of Indonesia's Folu Net Sink 2023 to support NEK
2. 2050 Zero Waste Zero Emission Operational Plans
3. Draft regulations for implementing NEK on activities in each sector and related ministries/institutions

Issued Regulations

Permen ESDM No.16/2022:

Procedures for Implementing NEK in Sub-Sector of Electric Power Generation

Permenkomarves No 5 Tahun 2022

Structure and Work Procedures of Steering Committee for NEK Implementation

Peraturan OJK 14 Tahun 2023:

Carbon Trading through the Carbon Bourse

Peraturan Presiden No.14/2024

Procedures for Carbon Capture and Storage (CCS) Activities

The Launch of the Indonesia's Carbon Bourse

on September 26th, 2023

Regulations issued by MoEF

Permen LHK No.7/2023

Procedures for Carbon Trading in Forestry Sector

KepMen LHK No.1027/MENLHK/PHL/KUM.1/9/2023

Roadmap of Carbon Trading in Forestry Sector

Kepmen LHK NOMOR.1131/MenLHK/PPI/PPI.2/10/2023

GHG Emission Reduction Certification Scheme

KepDirjen PPI Nomor SK.30/PPI/IGAS/PPI.2/10/2023

Methodological Framework for Calculating Emission Reduction/ and Removal in FOLU Sector

KepMen LHK No.1444/MENLHK/SETJEN/KUM.1/12/2023

Panel Team for Measurement, Reporting, And Verification (MRV) and Methodology

Processed Regulations

Rancangan Permendagri

The Role of Local Government in the Implementation of NEK in order to achieve NDC Targets

Preparation of Fiscal Substance and Financing

- Rancangan Peraturan Menteri Keuangan (PMK) on Tariff and Tax Base of Carbon Tax
- Rancangan Peraturan Menteri Keuangan (PMK) tentang Procedures and Mechanisms for Imposing Carbon Tax

Processed Regulations in MoEF

Rancangan Permen LHK

on the Implementation of Nationally Determined Contributions (NDC)

Rancangan Permen LHK

on Procedures of carbon trading in international market

status: In harmonization process with Kemenkumham

status: Waiting for further discussion

IMPLEMENTATION OF ECONOMIC VALUE OF CARBON (NEK)

Carbon Trading

Result-Based Payment

Incentive Mechanism

- Incentives or payments derived from verified greenhouse gas (GHG) emission reduction and/or sequestration achievements, as well as validated non-carbon benefits.

Emission Trading

Cap and Trade Emission Trading System-ETS

- The government may implement a ceiling (cap value) on carbon emissions, whereby a maximum level of emissions is set, and businesses are granted allowances to operate within this limit. Alternatively, the government may permit businesses to trade allowances for surplus emissions, which are allowances that have not been utilized within the specified upper limit.

Emission Offset

Offset GRK

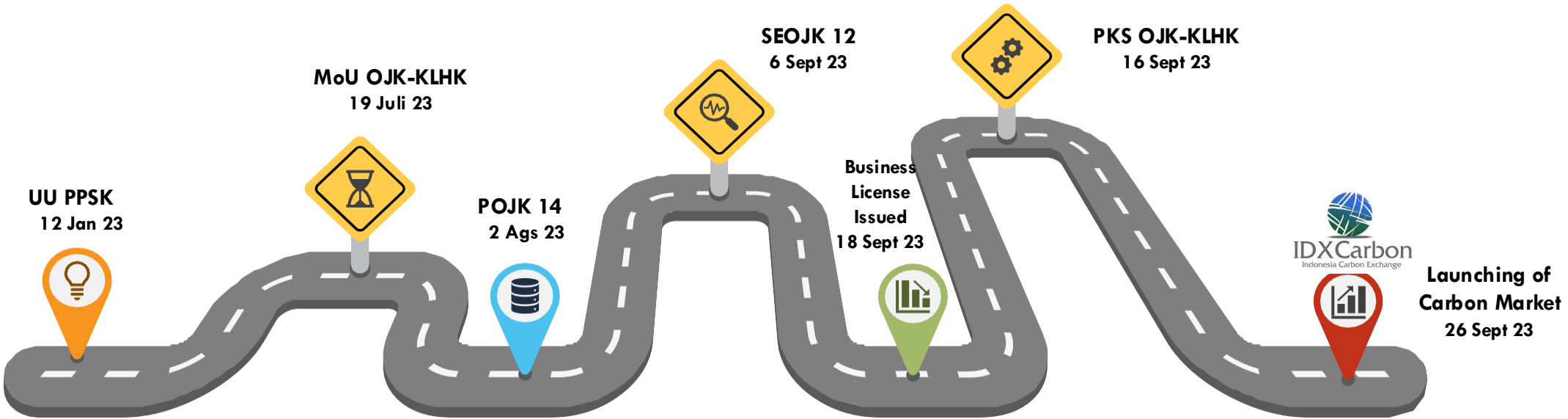
- Greenhouse gas (GHG) emission reductions are achieved by businesses and/or activities as a means of compensating for emissions generated elsewhere.

Carbon Levies

Carbon Taxes

- The government determines the value or price of carbon emissions, which must be paid by those who generate carbon or otherwise have a negative impact on the environment.

MILESTONE OF ESTABLISHMENT OF CARBON BOURSE IN INDONESIA



INITIAL CONCEPT – CARBON MARKET DEVELOPMENT ROADMAP

Phase I

2023

- Coordination with Ministries/Institutions related to the implementation of initial trading
- Drafting and Issuance of RPOJK for Carbon Trading through Carbon Bourse
- Licensing of Carbon Exchange Organizers
- Secondary Market Listing and Initial Trading
- Socialization and Education to Market Players and Relevant Stakeholders

2024

- Implementation of Straight Through Processing in Carbon Bourse
- Evaluation and Development of Advanced Trading Systems Phase 1
- Socialization and education to market players and related stakeholders

2025

- Coordination and evaluation with relevant Ministries/Institutions
- Improved Carbon Trading Platform Integration.

2026

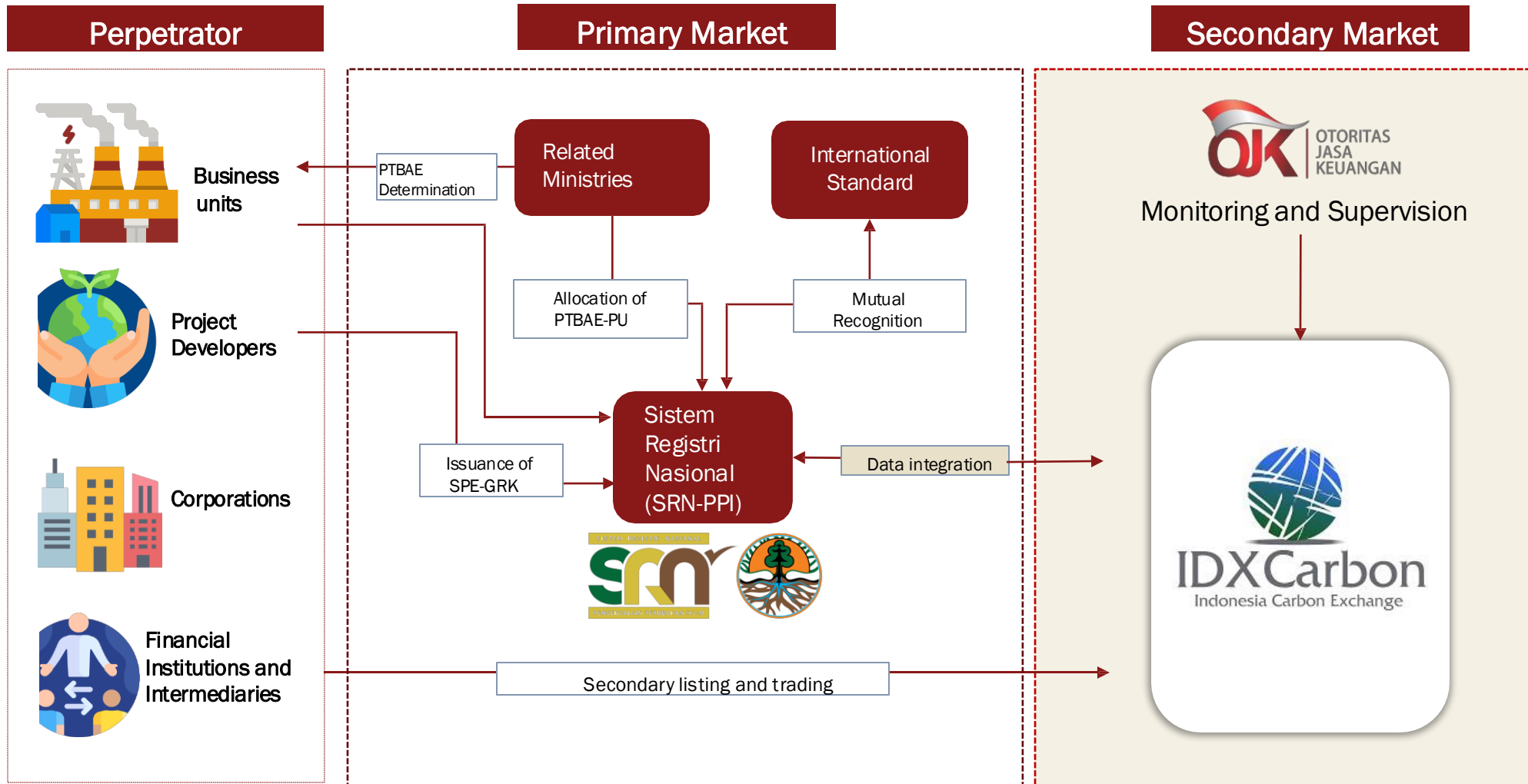
- Advanced Trading System Evaluation and Development Phase 2
- Development of Carbon Derivative Products
- Compliance with International Standards
- Evaluation of the Implementation of Carbon Tax on Carbon Trading in the Carbon Bourse

Phase III

2027-2030

- Evaluation of the contribution of the Carbon market in achieving NDC targets.

Ecosystem of Carbon Trading in Indonesia



GHG Emission Reduction Projects are validated and verified before being registered as carbon units through SRN-PPI. The trading system on the Carbon Bourse is integrated with SRN-PPI, enabling the trading of carbon units registered on SRN-PPI.

INDONESIAN EMISSION REDUCTION CERTIFICATION SCHEME (SPEI) AND CARBON REGISTRY



SK 1113/MENLHK/PPI/PP1.2/10/2023 :
SPEI Scheme



SK 49/2024: Determination of SPEI Logo

Stages in SPEI

SPE

Registration and filling in
GENERAL DATA



DRAM
development

DRAM validation
by LVV



DRAM validation report
by LVV

Preparation of
LCAM



LCAM verification report
by LVV

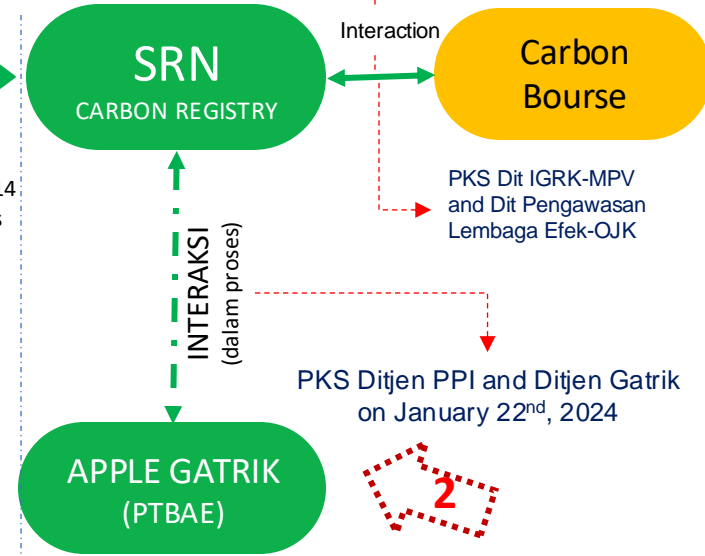


LCAM verification
by LVV

No later than 14
working days



MRV team
final review



98.49% of Carbon Units Issued on SRN have been Listed on Carbon Bourse

Validation is carried out within a maximum period of 1 month from the time the DRAM is received by the validator - P21/2022 article 64

Verification is carried out within a maximum period of 6 months from the time the report is received - P21/2022 article 65

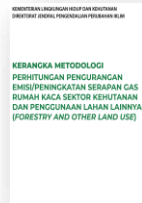
40 Methodologies (SK Dirjen PPI):

- Energy Sector : 23 methodologies
- Forestry Sector : 5 methodologies
- Waste Sector : 8 methodologies
- Agriculture Sector : 3 methodologies
- IPPU Sector : 1 methodology



Accredited LVV for NEK

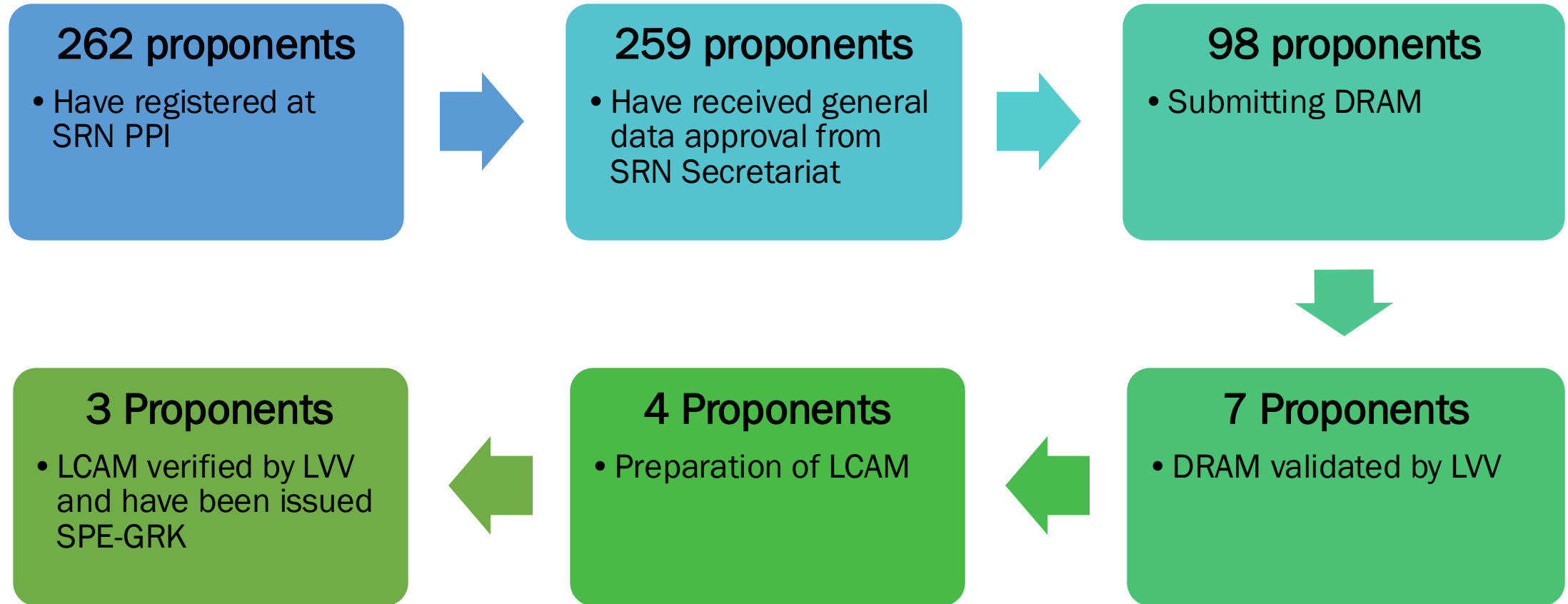
1. PT Sucofindo
2. PT TUV NORD Indonesia
3. PT TUV Rheinland Indonesia
4. PT Mutuagung Lestari Tbk



The following represents a summary of the progress made thus far.


1. SPEI Scheme Launch
2. Integration of Apple Gatrik into SRN
3. Methodology Development
4. MRV and Methodology Panel Team

Progress of Carbon Trading in SRN PPI




1. Lahendong Unit 5 and Unit 6 Project PT Pertamina Geothermal Energy Tbk
2. Climate Change Mitigation Action for the 75 MW Sidrap PLTB Project (Project Registration and Verification via Gold Standard, 3rd Period)
3. Construction of a New Natural Gas Fueled Power Plant (PLTGU) Block 3 PJB Muara Karang

SRN CARBON REGISTRY → SPE GRK



SRN CARBON REGISTRY



Carbon Bourse

Sertifikat Pengurangan Emisi i

177.719,00 Unit

SPE

- **1.792.322,00**
Issued
- **317,00**
Available
- **177.402,00**
Retired
- **0,00**
Cancelled
- **0,00**
Assigned

Carbon Registry

CONNECTION

Carbon Units Issued in SRN have been Listed on the Carbon Bourse at 98.49%

Development
New Natural Gas Fueled Power Plant PLTGU Block 3 PJB Muara Karang

Issued SRN: 927.113 tCO₂e
Listed IDXCarbon: 900.000 tCO₂e

Proyek Lahendong Unit 5 & Unit 6
PT Pertamina Geothermal Energy Tbk

Issued SRN: 864.209 tCO₂e
Listed IDXCarbon: 864.209 tCO₂e

Trading transactions in carbon Bourse

Pasar	Jumlah Harga	Jumlah Volume	Jumlah Nilai	% Volume	% Nilai
Lelang	123.192	300.000	18.478.800.000	60,70%	59,79%
Negosiasi	561.351	62.200	3.039.157.959	12,58%	9,83%
Reguler	2.368.800	132.054	9.389.311.600	26,72%	30,38%
Total	3.053.343	494.254	30.907.269.559	100,00%	100,00%

Carbon Bourse Service Users

No	Sektor	Pegguna Jasa		Persentase
		Jumlah Seluruh	Telah melakukan transaksi	
1	Energi	16	5	31,25%
2	Industri	1	0	0,00%
3	Pertanian	1	0	0,00%
4	Proses Industri dan Penggunaan Produk	1	0	0,00%
5	Limbah	0	0	0,00%
6	Sektor Lain	27	21	77,78%
Total		46	26	56,52%

Data IDX Carbon per September 26th2023 till January 9th 2024.

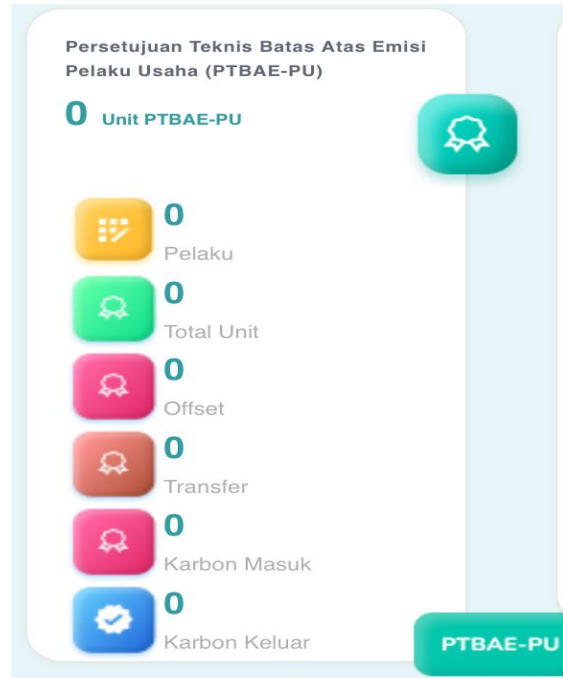
SRN CARBON REGISTRY → PTBAE-PU



PTBAE-PU represents the allotment of emission quotas to business entities for the release of GHG within a specified timeframe, quantified in tons of CO₂e.

PENETAPAN PTBAE-PU (ton CO₂e)

$$\frac{\text{PTBAE (ton CO}_2\text{e/MWh)}}{\text{Intensitas Emisi Rata-Rata Tahun Sebelumnya (ton CO}_2\text{e/MWh)}} \times \text{Emisi Rata-Rata Tahun Sebelumnya (ton CO}_2\text{e)}$$

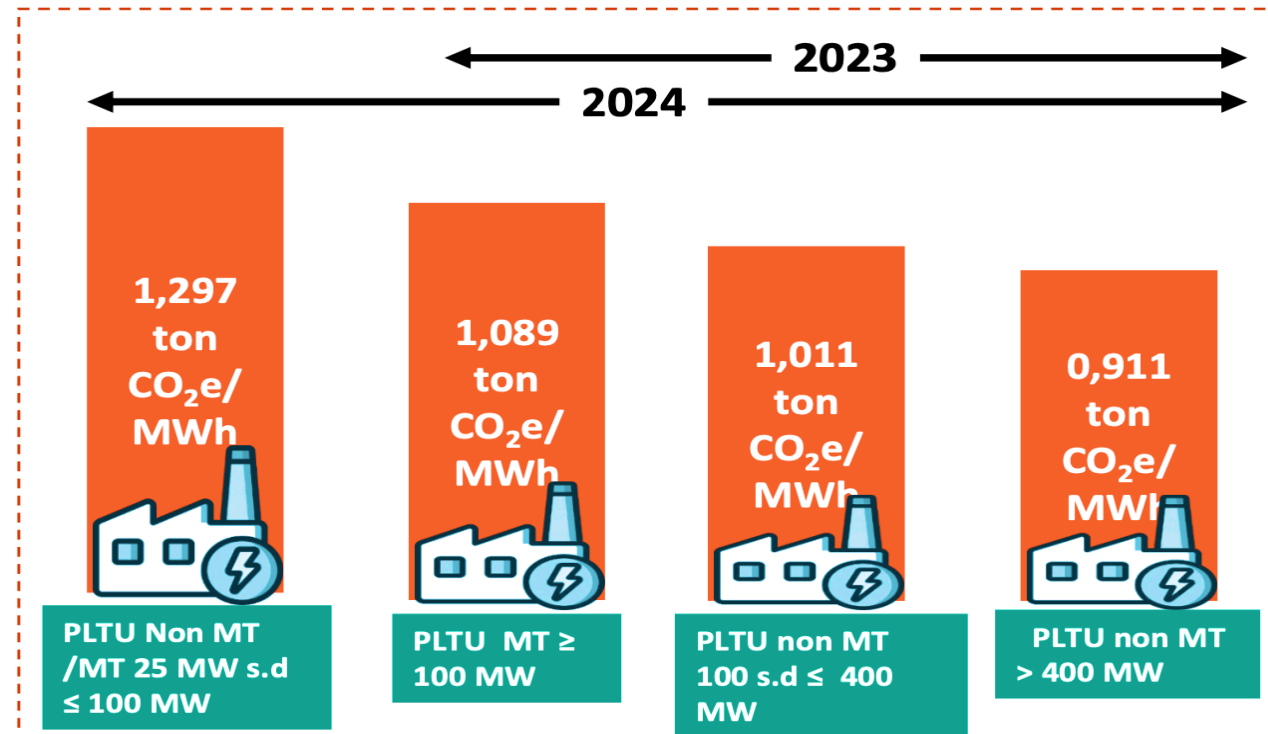


Cap Value or Persetujuan Teknis Batas Atas Emisi – (PTBAE)

Phase I 2023-2024

PTBAE in Phase I

As stipulated in the Decree of the Minister of Energy and Mineral Resources Number 14.K/TL.04/MEM.L/2023 concerning Technical Approval of PTBAE for Coal Steam Power Plants Connected to the PT PLN (Persero) Phase I Electricity Network



Carbon Trading Phases



Note: 2023: PLTU ≥ 100MW
 2024: PLTU ≥ 25 MW
 (which is connected to PLN or On Grid)

- Batas Atas Emisi Fase I hanya berlaku untuk PLTU Batubara
- Penetapan Batas Atas Emisi untuk PLTU di luar wilayah usaha PT PLN (Persero) dan/atau untuk kepentingan sendiri ditetapkan paling lambat 31 Desember 2024

PRESIDENT DIRECTIVES IN THE LAUNCH OF THE INDONESIAN CARBON BOURSE



It is estimated that approximately one gigaton of CO2 carbon credits can be captured, with a potential value of Rp3,000 trillion. This represents the potential of our carbon exchange, a new economic opportunity that is sustainable and environmentally friendly.



It is recommended that the **international carbon standard** be established as a reference point.



It is recommended that **technology be employed** to ensure the effectiveness and efficiency of transactions.



Establishing targets and a timeline, both for the domestic market and for eventual expansion into overseas or international markets, would be prudent.



It is recommended that **voluntary carbon markets** be organized and facilitated according to international best practices. Furthermore, it is imperative to ensure that the global standard does not impinge upon Indonesia's Nationally Determined Contribution (NDC) target.



Current Status

Indonesia has already built a carbon exchange, but there is no cap-and-trade mechanism (PTBAE) or Emission Trading System (ETS) – to create a domestic market (from the demand side)

Standards and methodologies that still need to be strengthened in SRN, particularly in FOLU sector

Looking at the possibility of linking with other ETSs.

International carbon trading under Article 6 mechanism of Paris Agreement

The role of local government is limited

Recommendation

- It is recommended that the Ministry of Energy and Mineral Resources (MoEMR) be encouraged to establish PTBAE-PU for the electricity generation subsector (particularly Coal-Power Plants/PLTUs) and construct an ETS on the Carbon Bourse to stimulate demand, particularly from emission offset projects.
- Mutual recognition with international standards and look for opportunities for registry connections with them.
- Harmonizing regulated domestic market and VCM by developing a framework accommodating public and private interests. Examining the allocation of benefits derived from carbon trading in the VCM is crucial, focusing on its implications for the public and private sectors.
- Regional governments engage in carbon trading by establishing business entities at the regional level (Badan Usaha Milik Daerah, BUMD), including BUMDs already operational for PLTUs with less than 10 MW capacity. In the subsequent phase, they will participate in the emissions trading mechanism.



*Terima
kasih*

