

Opportunities and Challenges for Carbon Project in Indonesia

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Yayasan Bina Usaha Lingkungan

August 12, 2024



OPPORTUNITIES AND CHALLENGES FOR CARBON PROJECT IN INDONESIA

Yani Witjaksono
12 Agustus, 2024



**YAYASAN
BINA USAHA
LINGKUNGAN**

Carbon Market

Voluntary carbon market

- A financial vehicle that provides opportunities for them to achieve their climate commitments.
- It was created to mitigate climate change by creating space for private players to finance activities that remove GHG emissions associated with industries, transportation, energy, buildings, agriculture, and deforestation.
- Enable companies and individuals to purchase carbon credits on a voluntary basis with no intended use for compliance purposes.
- Self-governed; therefore, any individual or organization, that produces carbon offsets, can offer them to others, whether they are individuals or companies with the aim of decreasing the emitted CO₂e amount. Such market flexibility allows any individuals or small companies to sell their offset for obtaining profit from such activities.

Carbon Market

Mandatory carbon
market

- The marketplace where any company issues certain carbon credit numbers on a yearly basis. Those companies should fulfill them as they are non-voluntary. Regulators should set a limitation on carbon emissions, in the case of cap-and-trade programs that decreases as years go by.
- Created and regulated by mandatory national, regional, or international carbon reduction regimes.
- The most active program include the United Nations Clean Development Mechanism that was generated from the Kyoto Protocol.

Carbon Trading Mechanism



1. Emissions Trading Scheme (ETS)

- An emissions trading scheme (cap-and-trade system) sets a regulatory ceiling or 'cap' on greenhouse gas emissions being regulated under the scheme. Within the sectors covered by the scheme, only a limited quantity of emission permits (allowances) are issued, or just enough to allow the reduction target to be met.
- Each business covered by the emissions trading scheme must possess an allowance for each ton of CO₂e they emit. These allowances can also be freely traded. This allows participants in the scheme to buy additional allowances or, if they have succeeded in reducing their own emissions, to sell excess allowances they no longer need. This gives rise to a uniform carbon price, which in turn serves as an important market signal.
- The price depends largely on the level of ambition applied when setting the upper ceiling of the emissions trading scheme and on the costs incurred in implementing the emission reduction measures.

Carbon Trading Mechanism



2. Crediting Mechanism

- A crediting mechanism (a baseline and credit system) enables remuneration of achieved emission reductions.
- Tradable certificates are issued for actual emission reductions achieved. Certificates are issued when actual emissions are verifiably reduced below a predetermined baseline.
- A crediting mechanism can either be based on individual climate change mitigation projects and programs, or be designed to cover entire industries or industry sectors.
- Participation in a crediting mechanism is voluntary and demand for generated certificates must thus be created elsewhere. This can be done by allowing the certificates generated under the crediting mechanism to be traded in an emissions trading scheme.

Carbon Market in Indonesia

Nilai Ekonomi Karbon (NEK):

Nilai terhadap setiap unit emisi gas rumah kaca yang dihasilkan dari kegiatan manusia dan kegiatan ekonomi

(Perpres 98/21 Pasal 1 ayat 2,
PermenLHK 21/22 Pasal 1 ayat 1)

Carbon Pricing:

The value of each unit of Greenhouse Gas Emissions generated from human activities and economic activities

Regulatory Framework

Global Commitment & National Target



UU No. 16/ 2016

Paris Agreement
on UNFCCC

the increase in the global average temperature to well below 2°C above pre-industrial levels” and pursue efforts “to limit the temperature increase to 1.5°C above pre-industrial levels

2030

Enhanced NDC

31.89%¹
unconditionally

43.20%¹
conditionally

2060 or earlier

Net Zero Emissions

National Regulatory Framework



Perpres No. 98/
2021

Carbon Trading
by

- Gov institutions
- Local gov
- Business
- Community



Permen LHK No. 21/ 2022

Carbon Trading Instrument

Emissions Trading Scheme (ETS)

Carbon Unit: PTBAE-PU

Crediting Mechanism (Offset)

Carbon Unit: SPE-GRK



Permen LHK No. 21/ 2022

Non-Trading Instrument

Result-Based Payment (RBP)

Carbon Tax



Permen ESDM No. 16/
2022

Power Plant ETS



Permen LHK No. 7/
2023

FOLU ETS & Offset



Permen ESDM No. 2/
2023

Offset: CCS/ CCUS



*Indonesian Environment
Fund (BPD LH)*



UU No. 7/2021

Chapter 13

Regulations on
Carbon Tax :

- Road map
- Subject & Allocation
- Rates
- Procedures & Mechanism

¹ According to **2,8 Miliar ton CO2e** NDC sectors (Energy, FOLU, Waste, IPPU, & Agriculture)

Progress in Regulations



Acceleration in Implementation "Nilai Ekonomi Karbon (NEK)"

Perpres 98/2021 :

Penyelenggaraan Nilai Ekonomi Karbon Untuk Pencapaian Target Kontribusi Yang Ditetapkan Secara Nasional Dan Pengendalian Emisi Gas Rumah Kaca Dalam Pembangunan Nasional

Issued Regulations

Permen LHK No.21/2022:
Tata Laksana Penerapan Nilai Ekonomi Karbon

Permen ESDM No.16/2022:
Tata Cara Penyelenggaraan NEK Subsektor Pembangkit Tenaga Listrik

Permenkomarves No 5 Tahun 2022
Struktur dan Tata Kerja Komite Pengarah Penyelenggaraan NEK

Permen LHK No.7/2023
Tata Cara Perdagangan Karbon Sektor Kehutanan

Peraturan OJK 14 Tahun 2023
tentang Perdagangan Karbon melalui Bursa Karbon

Hal-hal yang dilakukan:

1. Menyiapkan/ mengembangkan perangkat pendukung **SRN** dan **Sign Smart**;
2. Melakukan sosialisasi berjenjang baik untuk party maupun non party stakeholder di tingkat nasional dan sub nasional;
3. Menyediakan dokumen Perpres dan Permen NEK ke dalam 2 bahasa (Indonesia-Inggris);
4. Menyiapkan pusat layanan implementasi Nilai Ekonomi Karbon (**Rumah Karbon**);
5. meningkatkan peran Pemerintah Daerah dalam implementasi NEK.

Regulations in progress

Permen LHK
tentang Penyelenggaraan Kontribusi yang Ditetapkan Secara Nasional (Nationally Determined Contribution)

Permen LHK
tentang Tata Cara Perdagangan Karbon Luar Negeri

Rancangan Permendagri
Peran Pemerintah Daerah Dalam Penyelenggaraan Nilai Ekonomi Karbon dalam Rangka mencapai Target NDC.

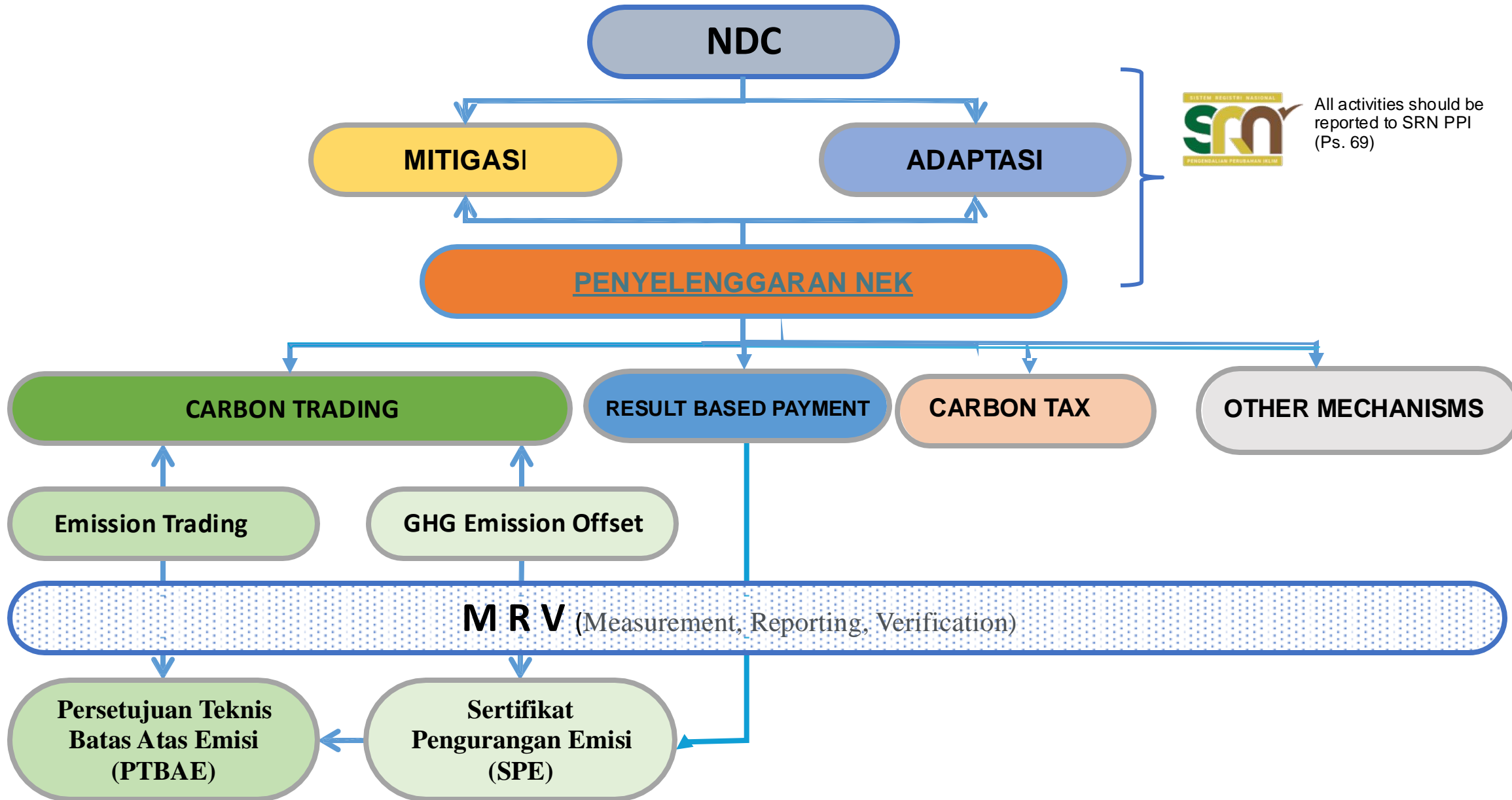
Penyiapan Substansi Fiskal dan Pembiayaan

- Rancangan Peraturan Menteri Keuangan (PMK) tentang Tarif dan DPP Pajak Karbon
- Rancangan Peraturan Menteri Keuangan (PMK) tentang Tata Cara dan Mekanisme Pengenaan Pajak Karbon

Hal-hal yang dilakukan:

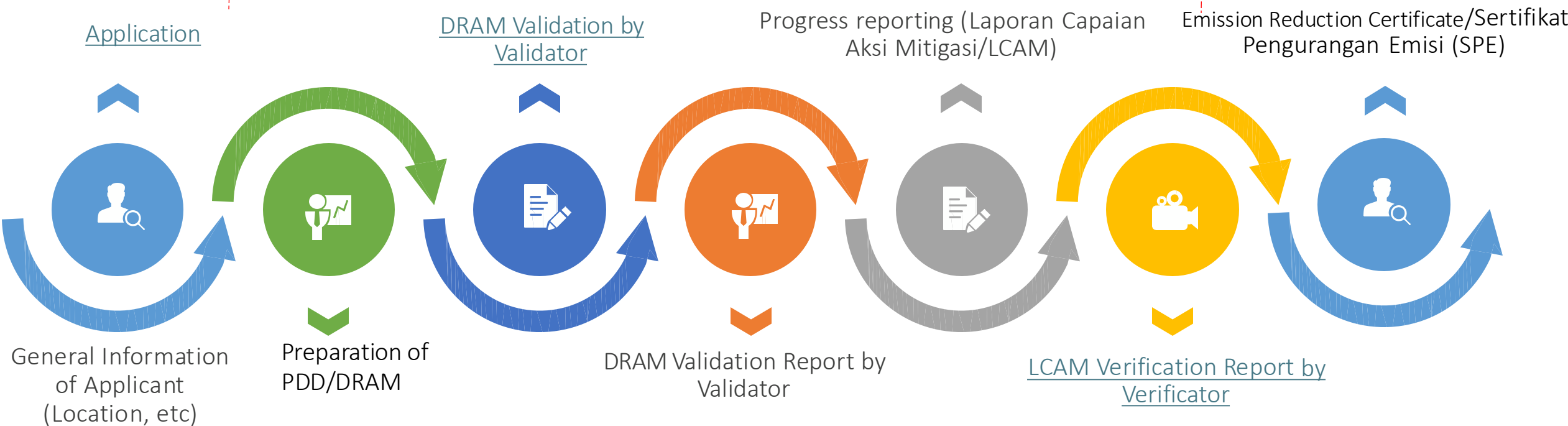
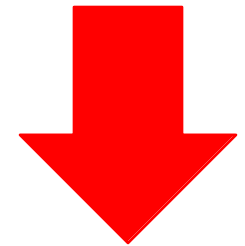
- Percepatan pembahasan pengharmonisasian, pembulatan, dan pematapan konsepsi rancangan Peraturan Menteri LHK dengan Kumham dan KLHK terkait.
- Memastikan peraturan turunan dari Kementerian Terkait sektor berjalan inline dan terintegrasi dengan P21/22 dan p.98/21 Bisa diaplikasikan di masyarakat.

CARBON TRADING MECHANISM BASED ON PERPRES 98/2021



Sistem Registri Nasional (SRN PPI) Procedure

Carbon Registry - Registry
Bursa Karbon





Integrated Farming
Estate



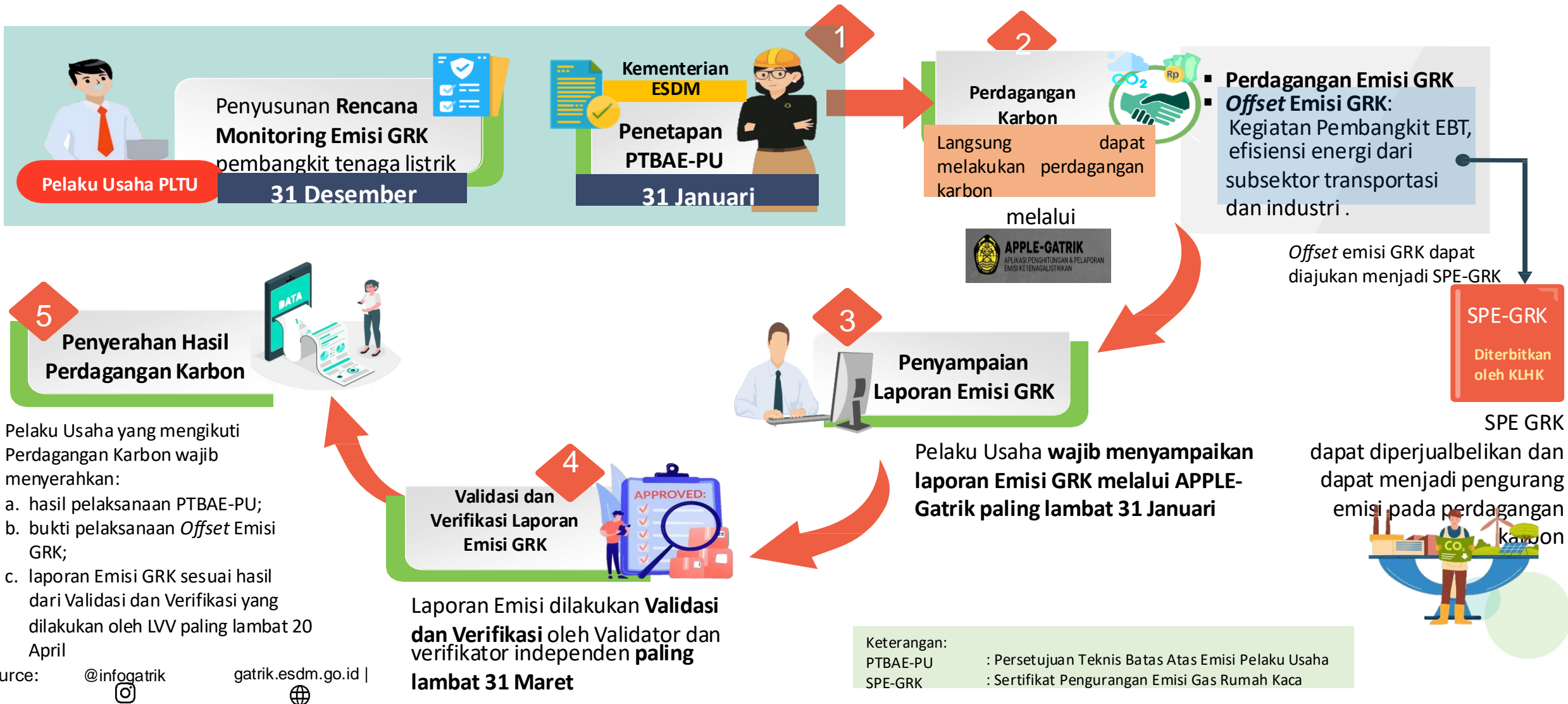
Nature Based Solution
Pertamina & Perhutani



Green Building

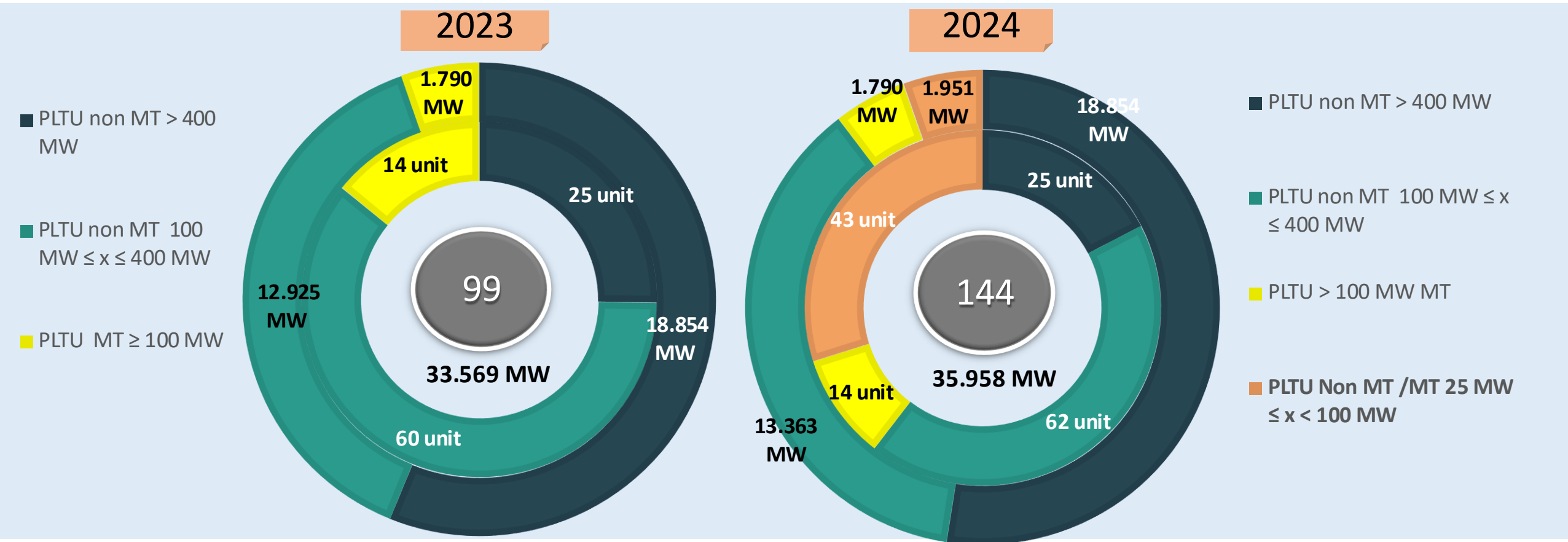
Decarbonization Initiatives

Flow Chart of NEK Mechanism in Power Generation Subsector



Potential Participants in Carbon Market

Potential Participants in Carbon Market – Phase 1





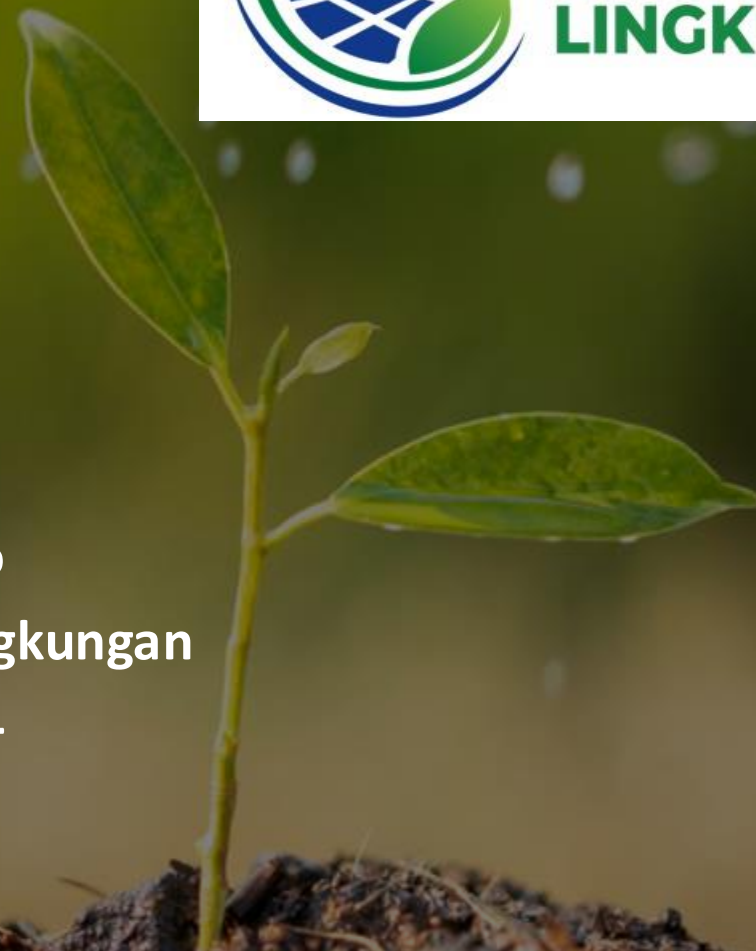
**YAYASAN
BINA USAHA
LINGKUNGAN**

Thank you

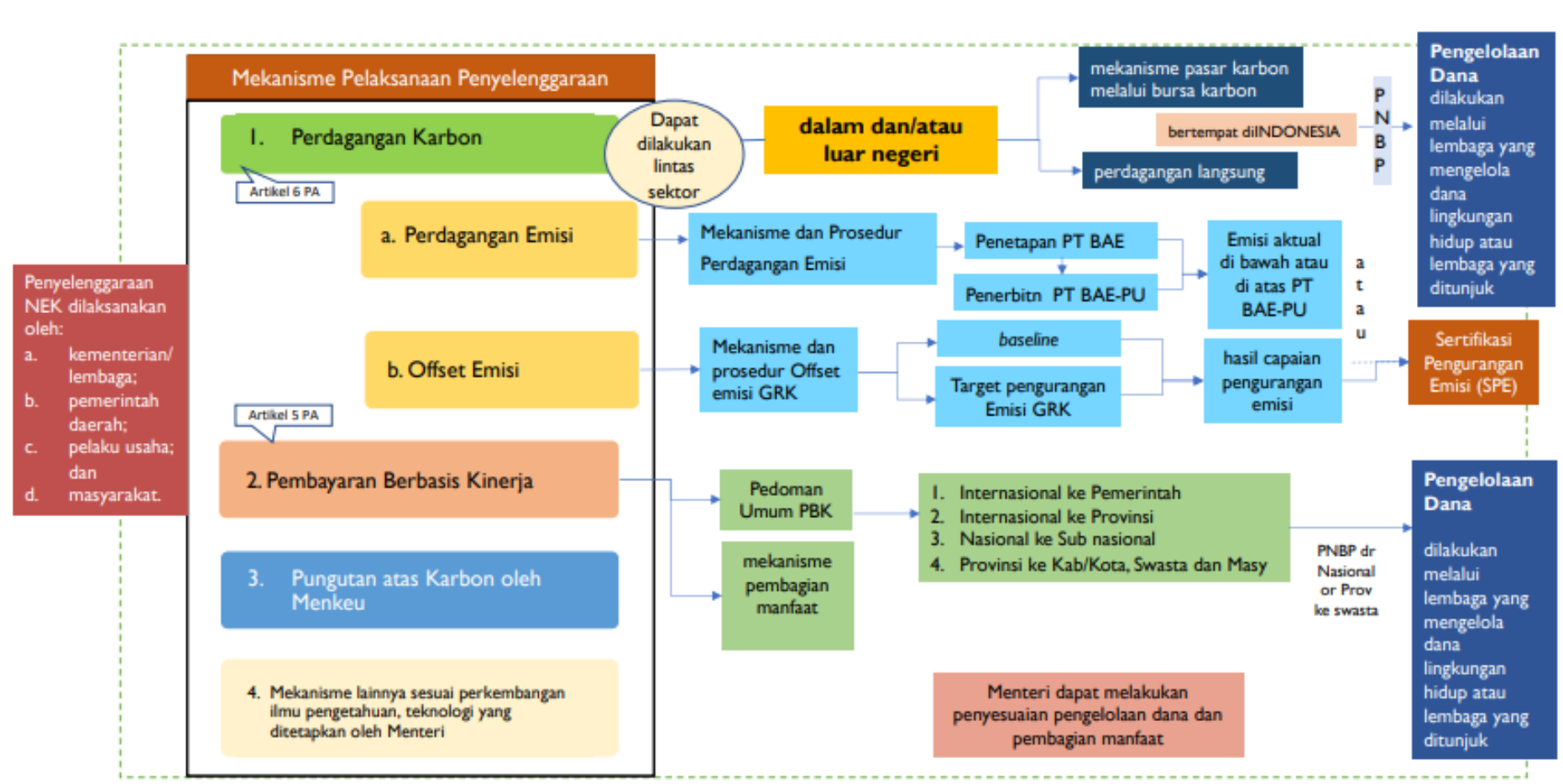
Yani Witjaksono

Yayasan Bina Usaha Lingkungan

August 12, 2024



NEK Mechanism



Sistem Registri Nasional PPI Website

Sistem Registri Nasional Perubahan Iklim

SRN PPI adalah sistem pengelolaan, penyediaan data, dan informasi berbasis web tentang aksi dan sumber daya untuk Mitigasi Perubahan Iklim, Adaptasi Perubahan Iklim, dan Nilai Ekonomi Karbon (NEK) di Indonesia.

Daftarkan kegiatan anda sebagai bentuk kontribusi dalam upaya meningkatkan ketahanan nasional dan mencegah kenaikan suhu bumi tidak lebih dari 2°C hingga 1,5°C dari tingkat suhu praindustrialisasi.



Pendaftar

3.883

Total Penanggung Jawab

Aksi Mitigasi (2022)

429,36 Juta

Capaian Pengurangan Emisi

Peretujuan Teknis Batas Atas Emisi Pelaku

Sertifikat Pengurangan Emisi

Kegiatan Aksi Perubahan Iklim

13.281

Total Kegiatan Terdaftar

292

Teregister

182

Terverifikasi

Inventory (2022)

1.228,72

CO₂e

Tingkat Emisi

Data Aksi Perubahan Iklim

Pendaftar

Kegiatan Terdaftar

Teregister

Terverifikasi

Show 10 entries

Cari Pendaftar

reset

Nama Lembaga	Jenis	Provinsi	Kabkota	Narahubung
SMPN 2 Karangsambung	Lain - lain	JAWA TENGAH	KEBUMEN	Dany Kristiyanto, S.Pd
SMP Islam Al Hadi Mojolaban Sukoharjo	Lain - lain	JAWA TENGAH	SUKOHARJO	Tumaji, S.Pd
SMK Negeri 1 Karanganyar	Pemerintah Provinsi	JAWA TENGAH	KEBUMEN	Khanif Nasrudin
komunitas aksi	Lain - lain	D I YOGYAKARTA	SLEMAN	Yuliyanta, S.Pd., M.M.
SMA NEGERI 3 TEGAL	Lain - lain	JAWA TENGAH	TEGAL	Veri Fanani Muharromah

Lembaga Validasi dan Verifikasi (Validator & Verificator)

1. [PT Mutuagung Lestari](#)
2. [PT TUV Rheinland Indonesia](#)
3. [PT TUV NORD Indonesia](#)
4. [PT SUCOFINDO](#)
5. [PT Abhipraya Bumi Lestari](#)



Validation & Verification Scope

PT Mutuagung Lestari

a. Verifikasi Laporan Emisi (LE)

- Combustion of Fossil Fuels (01.01)
- Forestry and Other Land Use (01.03)

b. Validasi Dokumen Rencana Aksi Mitigasi (DRAM)

- Energy Industries (renewable/non-renewable sources) (02.01)
- Energy Distribution (transmission & distribution) (02.02)
- Energy Energy Demand (users) (02.03)
- Manufacturing Industries (02.04)
- Waste Handling and Disposal (02.14)
- Forestry and Other Land Use (02.15)
- Agriculture (02.16)

C, Verifikasi Laporan Capaian Aksi Mitigasi (LCAM)

- Energy Industries (renewable/non-renewable sources) (03.01)
- Energy Distribution (transmission & distribution) (03.02)
- Energy Demand (users) (03.03)
- Manufacturing Industries (03.04)
- Waste Handling and Disposal (03.14)
- Forestry and Other Land Use (03.15)
- Agriculture (03.16)



Validation & Verification Scope

PT TUV Rheinland Indonesia:

a. Verifikasi Laporan Emisi (LE)

- Combustion of Fossil Fuels (01.01)
- Refining of Mineral (01.02)
- Forestry and Other Land Use (01.03)

b. Validasi Dokumen Rencana Aksi Mitigasi (DRAM)

- Energy Industries (renewable/non-renewable sources) (02.01)
- Energy Distribution (transmission & distribution) (02.02)
- Energy Energy Demand (users) (02.03)
- Manufacturing Industries (02.04)
- Chemical Industry (02.05)
- Transport (02.07)
- Chemical Production (02.08)
- Waste Handling and Disposal (02.14)
- Forestry and Other Land Use (02.15)

c. Verifikasi Laporan Capaian Aksi Mitigasi (LCAM)

- Energy Industries (renewable/non-renewable sources) (03.01)
- Energy Distribution (transmission & distribution) (03.02)
- Energy Demand (users) (03.03)
- Manufacturing Industries (03.04)
- Chemical Industry (03.05)
- Transport (03.07)
- Chemical Production (03.08)
- Waste Handling and Disposal (03.14)
- Forestry and Other Land Use (03.15)
- Agriculture (03.16)



Validation & Verification Scope

PT TUV NORD Indonesia

- a. Verifikasi Laporan Emisi
 - Combustion of Fossil fuels (01.01)
 - Refining of Mineral (01.02)
 - Forestry and Other Land Use (01.03)
- b. Verifikasi Laporan Capaian Aksi Mitigasi (LCAM)
 - Energy Industries (renewable/ non-renewable sources) (03.01)
 - Energy Distribution (transmission & distribution) (03.02)
 - Energy Demand (users) (03.03)
 - Manufacturing Industries (03.04)
 - Chemical Industry (03.05)
 - Transport (03.07)
 - Chemical Production (03.08)
 - Metal Production (03.10)
 - Fugitive Emissions from Fuels (solid, oil and gas) (03.11)
 - Forestry and Other Land Use (03.15)
 - Agriculture (03.16)

PT SUCOFINDO:

- a. Verifikasi Laporan Emisi (LE)
 - Combustion of Fossil fuels (01.01)
- b. Validasi Dokumen Rencana Aksi Mitigasi (DRAM)
 - Energy Industries (renewable/non-renewable sources) (02.01)
 - Waste Handling and Disposal (02.14)
 - Forestry and Other Land Use (02.15)
- c. Verifikasi Laporan Capaian Aksi Mitigasi (LCAM)
 - Energy Industries (renewable/ non-renewable sources) (03.01)
 - Waste Handling and Disposal (03.14)
 - Forestry and Other Land Use (03.15)



Validation & Verification Scope

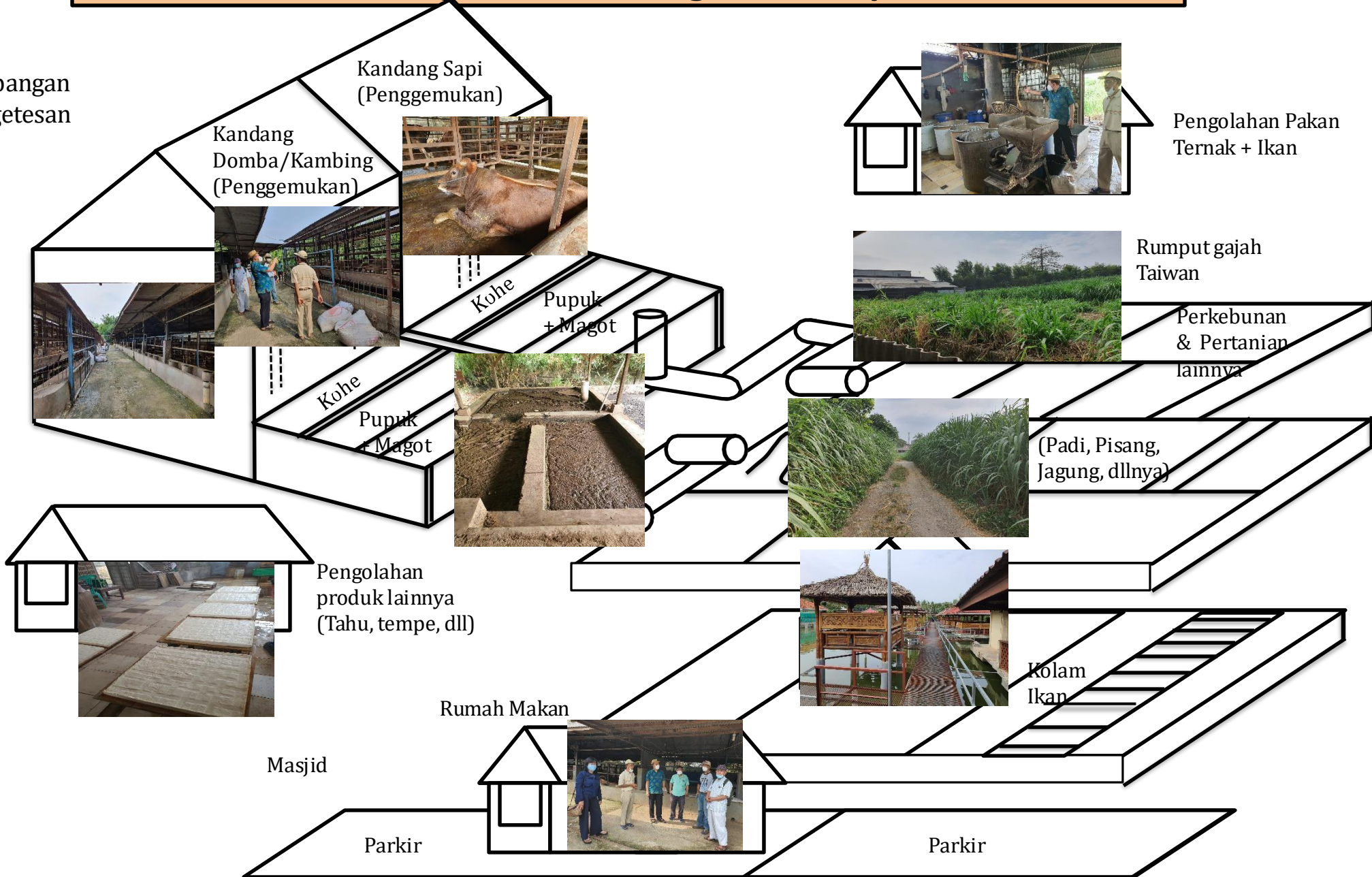
PT Abhipraya Bumi Lestari:

- a. Validasi Dokumen Rencana Aksi Mitigasi (DRAM)
 - Waste Handling and Disposal (02.14)
- b. Verifikasi Laporan Capaian Aksi Mitigasi (LCAM)
 - Waste Handling and Disposal (03.14)



Integrated Farming in Cikampek

- # Timbangan
- # Pengetesan
- # RPH



Decarbonization Initiatives

Perhutani | BUMN | PT Pertamina (Persero) | PT Pertamina NRE

Inisiatif Strategis Dua BUMN Mendukung Dekarbonisasi

Administrator | Kamis, 7 Juli 2022 | 03:28 WIB



Wakil Menteri BUMN I Pahlola Nugraha Mansury (kanan) dan Direktur Logistik dan Infrastruktur Pertamina Persero Mulyono (kiri) menyablonkan CEO Pertamina NRE Danrif Darasaputra (kedua kiri) dan Direktur Operasi Perum Perhutani Natalias Anis Harjanto (kedua kanan) menandatangani Head of Agreement (HoA) Proyek



Foto: Rumah Sakit Indriati

