The Coordinating Ministry of Maritime Affairs and Investment
Republic of Indonesia

Breakout 4 : Emission Trading Systems in the Asia-Pasific Region (Good Practices and Challenge for Indonesia)

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The National Long-Term Development Plan (RPJPN) (Law No. 59 Year 2024)

National Long-Term Development Plan (RPJPN) is a solid foundation for Indonesia's national development over the next twenty years and a strategic step toward achieving the Golden Indonesia 2045 Vision

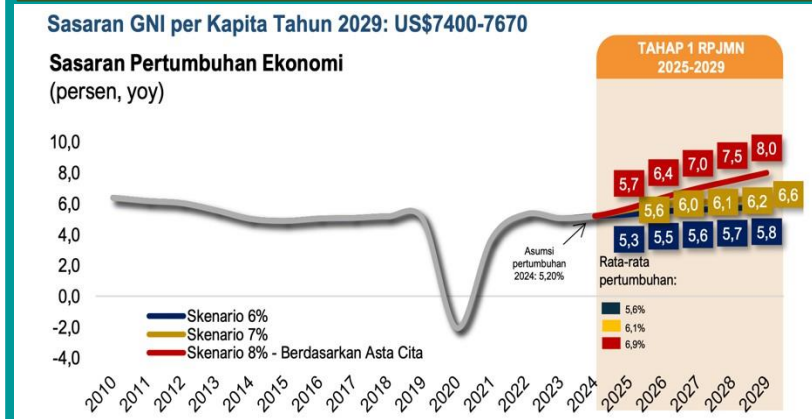
RPJPN will ensure the principles of development agenda implementation, guarantee planning and funding consistency, control and evaluation frameworks, incentive systems, modification mechanisms, and effective public communication.

Article 14

The 2025-2045 RPJPN must be a guideline for the preparation of master plans, national strategies, road maps, or other terms related to the elaboration of the field of long-term and medium-term National Development Planning

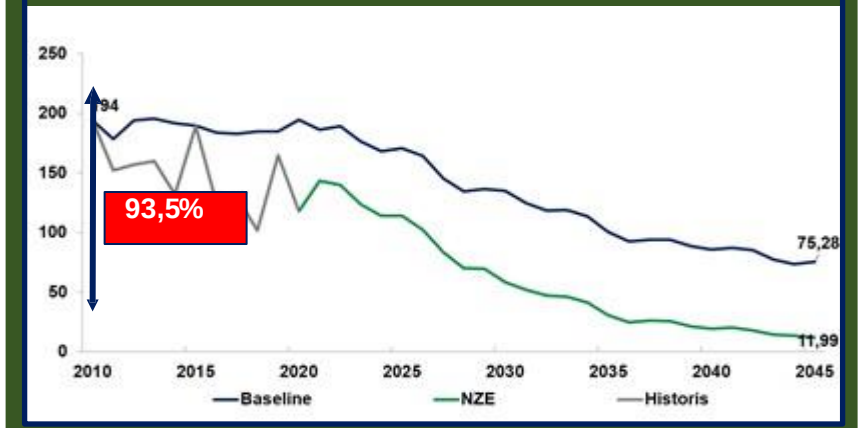
- Top 5 economies in the world – GDP per capita of USD 30,300 from USD 5,500
- Less inequality – reducing extreme poverty rate to 0% from 6.0-7.0%
- International influence – Global Power Index to top 15 countries from 34th rank
- Future-ready workforce – Human Capital Index to 0.73 from 0.54
- Net Zero Emission – lower greenhouse gas intensity to 93.5% from 38.6%

Phase I Scenario (2025-2029)



8%	Economic Growth
0%	Extreme Poverty
0.372-0.375	Gini Index or Gini Ratio
4.0 -5.0	Unemployment Rate

The Emissions Intensity Reduction



The Emissions Intensity Reduction Target

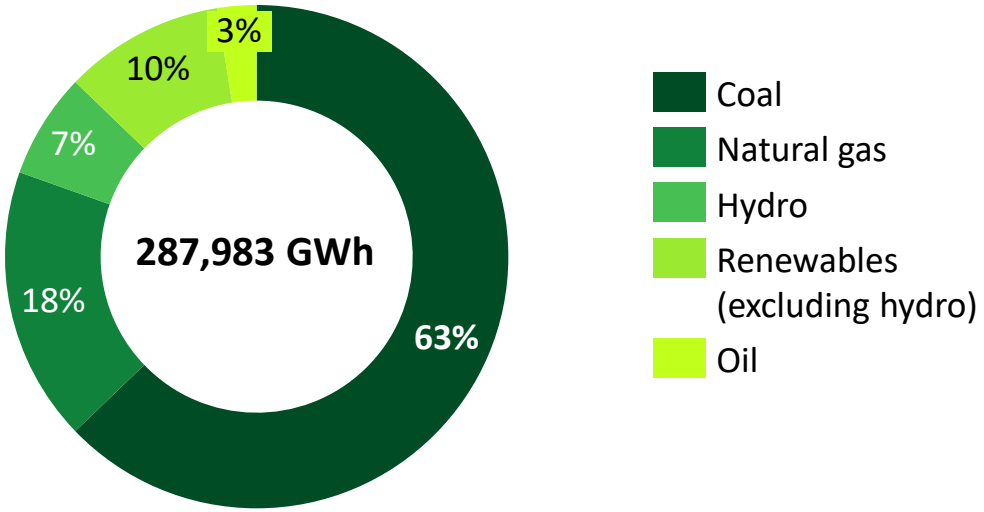
Phase I	Phase II	Phase III	Phase IV
62,37%	77,29%	88,48%	93,53%

Source: Law No. 59 Year 2024 RPJPN 2025-2045

Indonesia must seek other alternatives to accelerate the realization of the country's significant potential for decarbonization

Current role of coal in the energy mix

Indonesia's electricity generation by source (2020)



- **Coal power plants comprised 63%** of Indonesia's electricity generation in 2020.
- In 2022, **the total capacity of coal fired power plants (CFPP) amounted to 40 GW.**

Potential for decarbonization

World's largest **nickel (2.8 Bn tons)** deposits

94 million hectares of forests (50% of total land)

3000+ GW of **solar energy** potential

75 GW of **hydro energy** potential

Decarbonization Strategy Through by the Carbon Pricing Roadmap

Economy

- Economic impacts differ by sector and across society
- Market characteristics determine market operation

Environment

- Emissions profile helps identify emissions to cover
- Emissions targets define the mitigation required

Governance

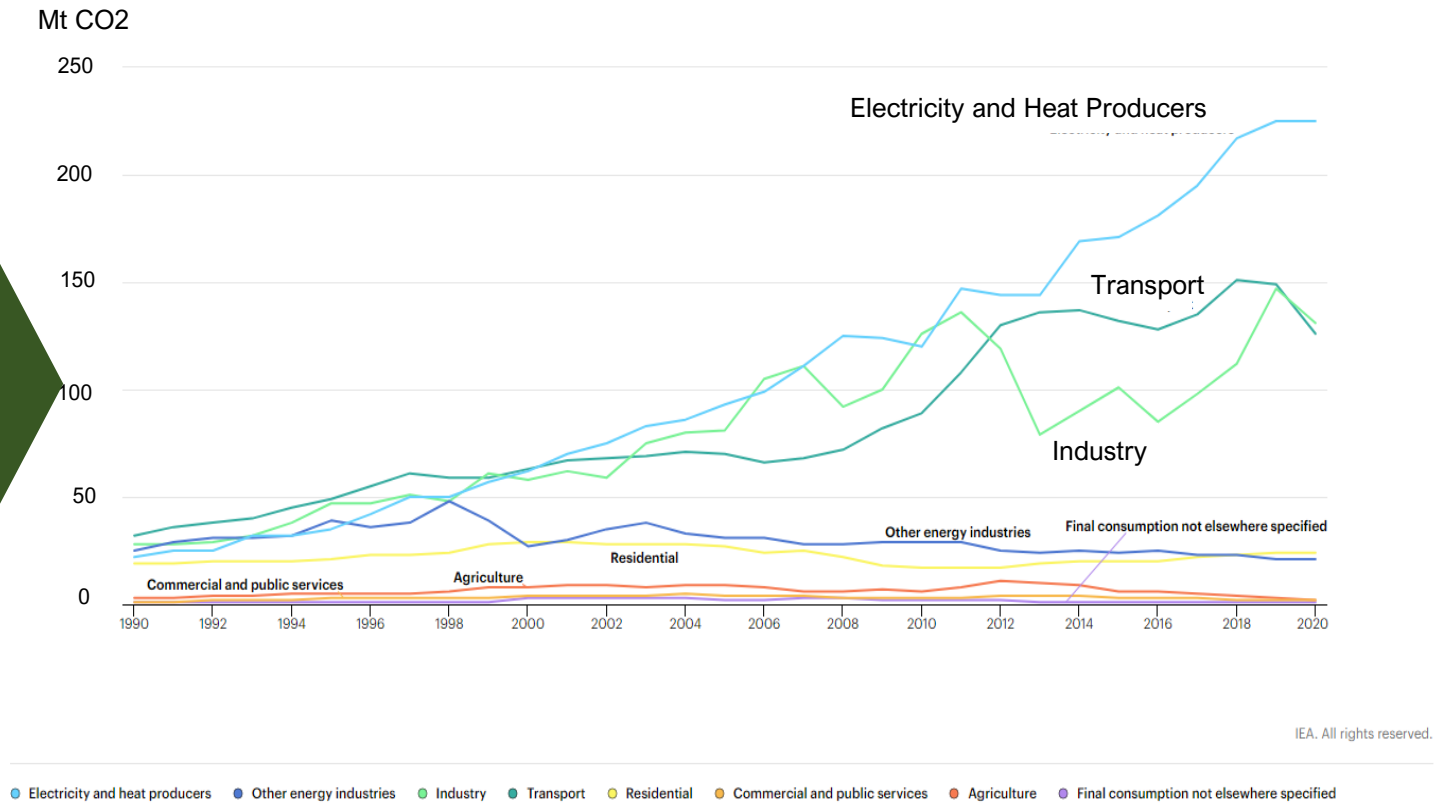
- Institutions influence oversight and MRV processes
- Legal considerations can limit implementation options

Politics

- Political considerations determine feasible options set
- Stakeholder interests and public opinion need to be considered

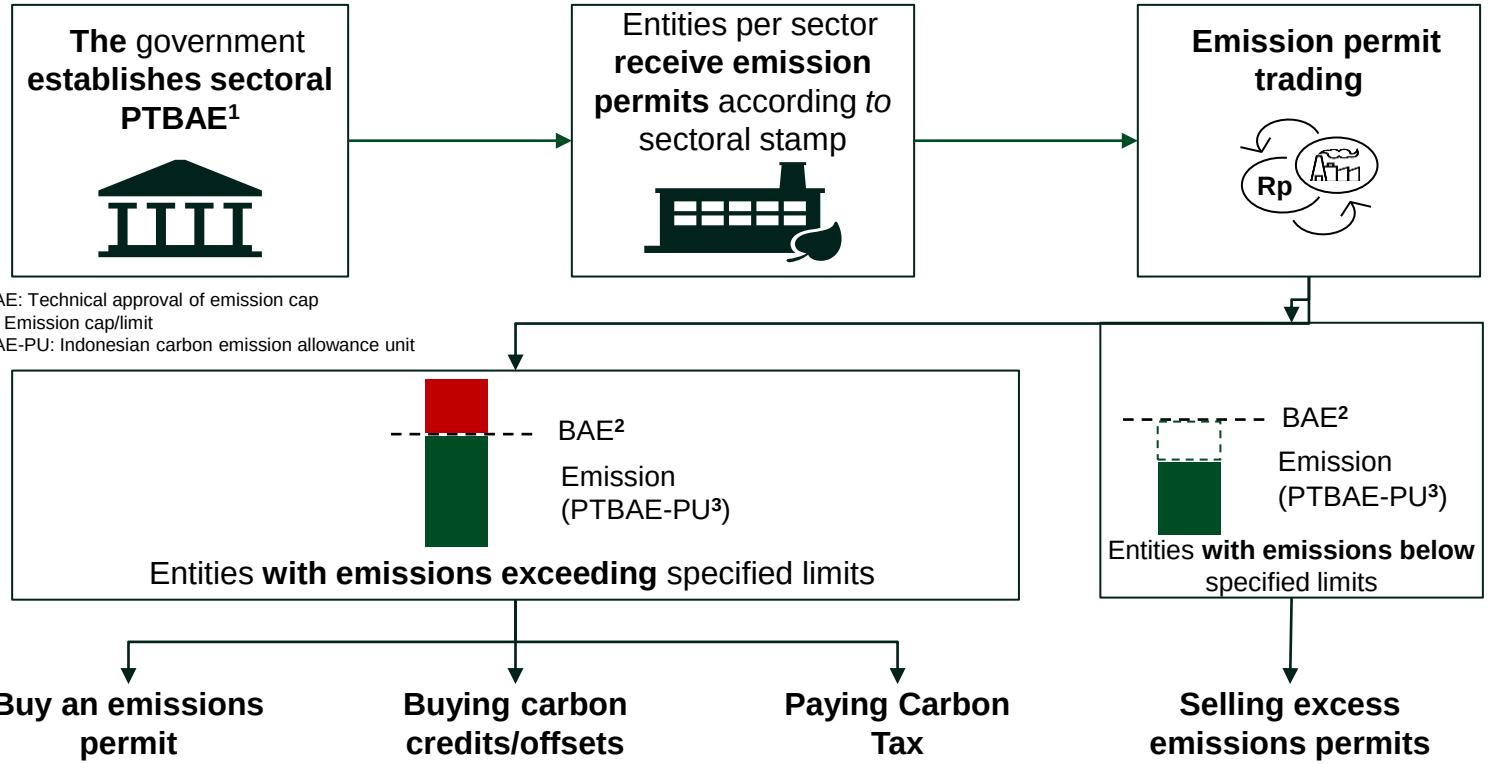
Source: PMR-World Bank, 2021.

IEA estimated sources of Indonesia's CO2 emissions over time 30 years (MtCo2eq.)



In these emissions estimates, transport and industry sectors show high contributions to overall emissions and both of them, will be a priority for next carbon pricing road map

ETS is used by Indonesia to ensure sectoral emissions and pathway to achieve Net Zero Emission (Decarbonizations)



1. PTBAE: Technical approval of emission cap
2. BAE: Emission cap/limit
3. PTBAE-PU: Indonesian carbon emission allowance unit

Regulatory framework

Law No. 7/2021 on Harmonization of Taxation Regulation

Law No. 4/2023 on Development and Strengthening the Financial Sector

Presidential Regulation 98/2021 on overall framework for economic value of carbon in Indonesia

MoEF Regulation No. 21/2022 on overall carbon market implementation guideline (including carbon units issuance and allocation process)

MEMR Regulation No. 16/2022 on Power Sector Carbon ETS Implementation Procedures

MoEF Regulation No. 7/2023 on FOLU Sector Carbon ETS Implementation Procedures

OJK Regulation 14/2023 on carbon trading via the carbon exchange

Current carbon units	Cross-sectoral trade				
	FOLU (Ministry of Environment & Forestry)	**Waste** (Ministry of Environment & Forestry)	**Energy** (Ministry of Energy & Mineral Resource)	**Industry** (Ministry of Industry)	**Agriculture** (Ministry of Agriculture)
PTBAE-PU	✓	✗	✓	✗	✗

- VCM is not well accepted within government yet, government prioritizes the use of domestic mechanism
- There is initiative to develop CO2 avoidance credits from CFPP early retirement and CCS

✓ Available ✗ Not available

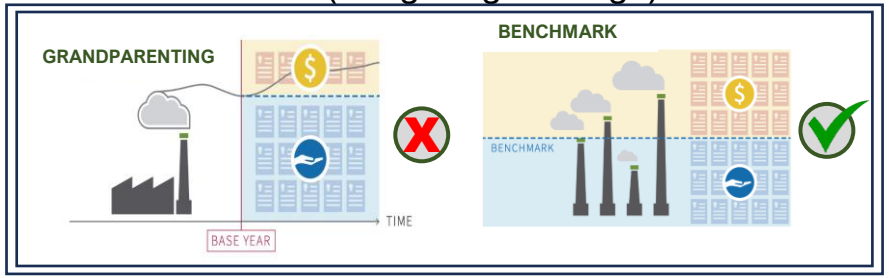
The Overview of Indonesian ETS

1 CAP SETTING

✓ Intensity-Based

2 FREE ALLOCATION METHODS

✓ Benchmark (Weighting Average)



3 MARKET UPDATE

It has started direct trading among the coal-fired power plant. Soon, it will also be transacted through the carbon exchange

Volume of Transaction

7.04 million ton CO_2e

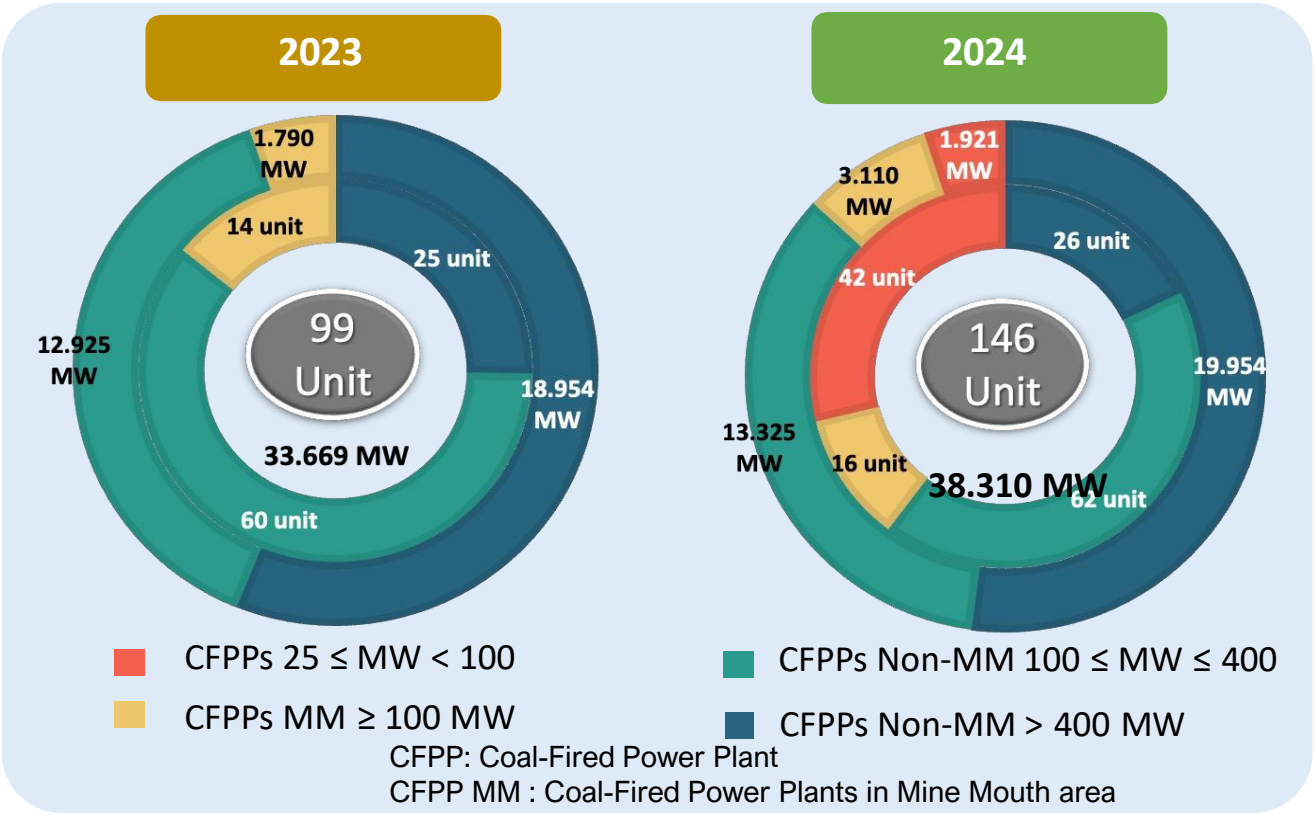
Value of Transaction

IDR 82.87 billion/ USD 5.35 millions

Source: Ministry of Energy and Mineral Resources

4 SCOPE AND THRESHOLD

✓ Coal-Fired Power Plant
✓ Beyond 25 MW



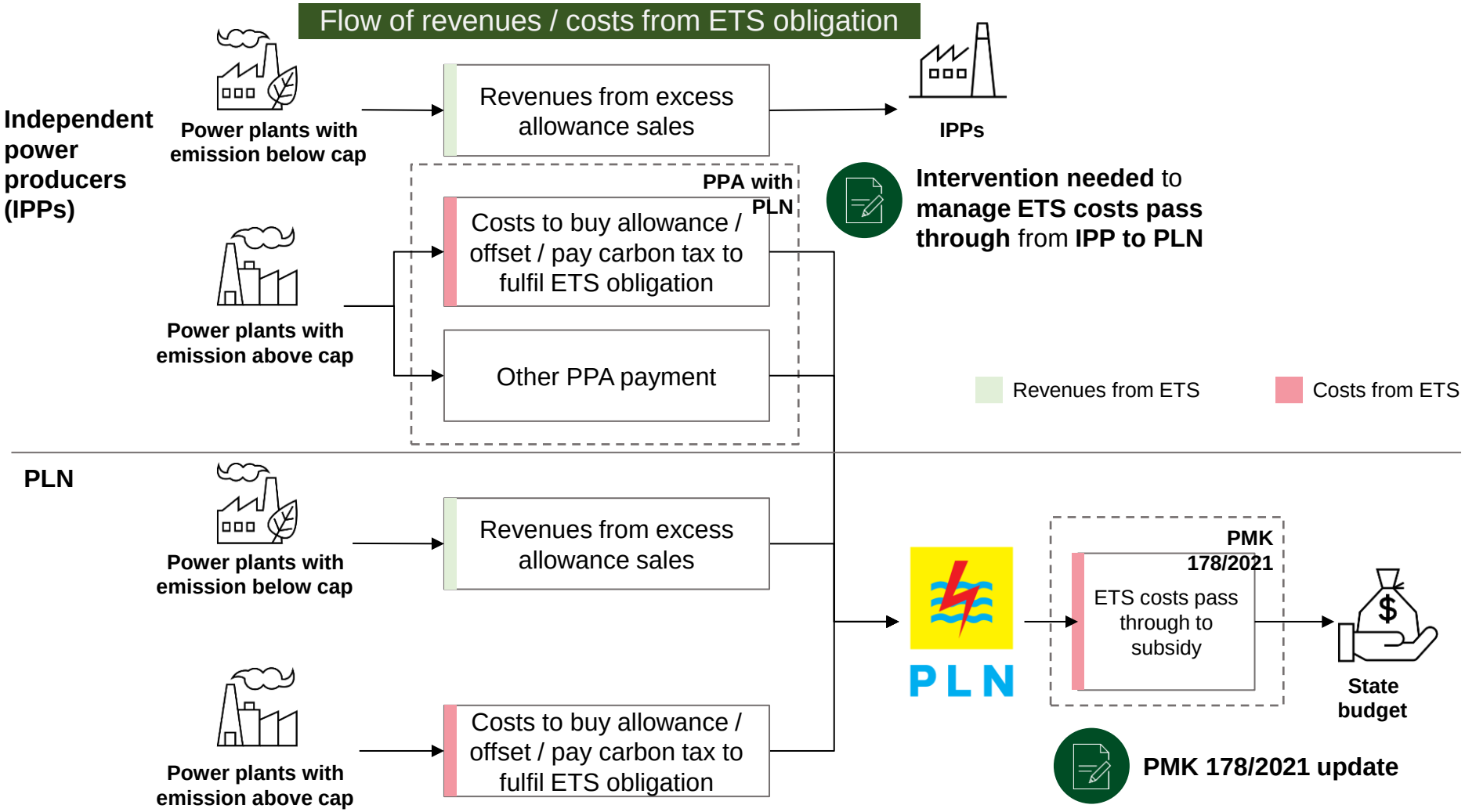
CFPP: Coal-Fired Power Plant
CFPP MM : Coal-Fired Power Plants in Mine Mouth area

5 AUCTION AND BOROWWING-BANKING

Indonesian ETS has not yet implemented the auction and borrowing-banking system (moving forward to implement auction and borrow-banking mechanism)

Current Situation of Indonesian ETS

Intervention needed to manage ETS costs pass through to PLN and the state budget

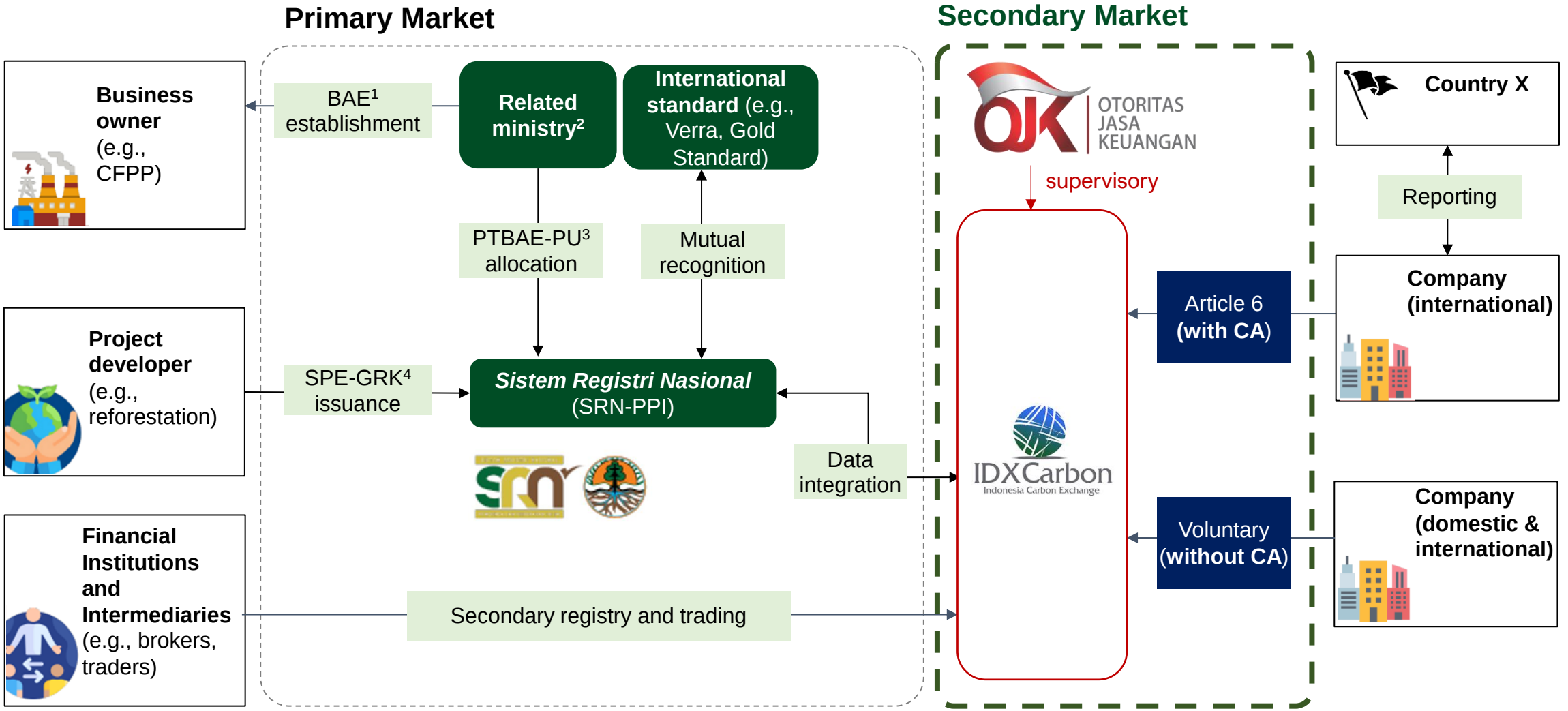


ETS cost pass through to subsidy can be **regulated** by **updating the PMK 178/2021**

However, **intervention needed** in the **mechanism / requirement** under PLN's electricity payment to IPP to **manage the ETS costs pass through** to PLN; potential solutions:

- PPA renegotiation one-by-one
- Minimum specific fuel consumption (SFC) requirement to IPPs, audited by the government need to change PTBAE-PU allocation method under Permen ESDM 16/2022
- Other – for discussion

Indonesia Carbon Trading Ecosystem Currently



1. BAE: Emission cap/limit
2. The technical ministry (e.g., Ministry of Energy and Mineral Resources, Ministry of Environment and Forestry)
3. PTBAE-PU: Indonesian carbon emission allowance unit
4. SPE-GRK: Indonesia carbon credit/emission reduction certificate

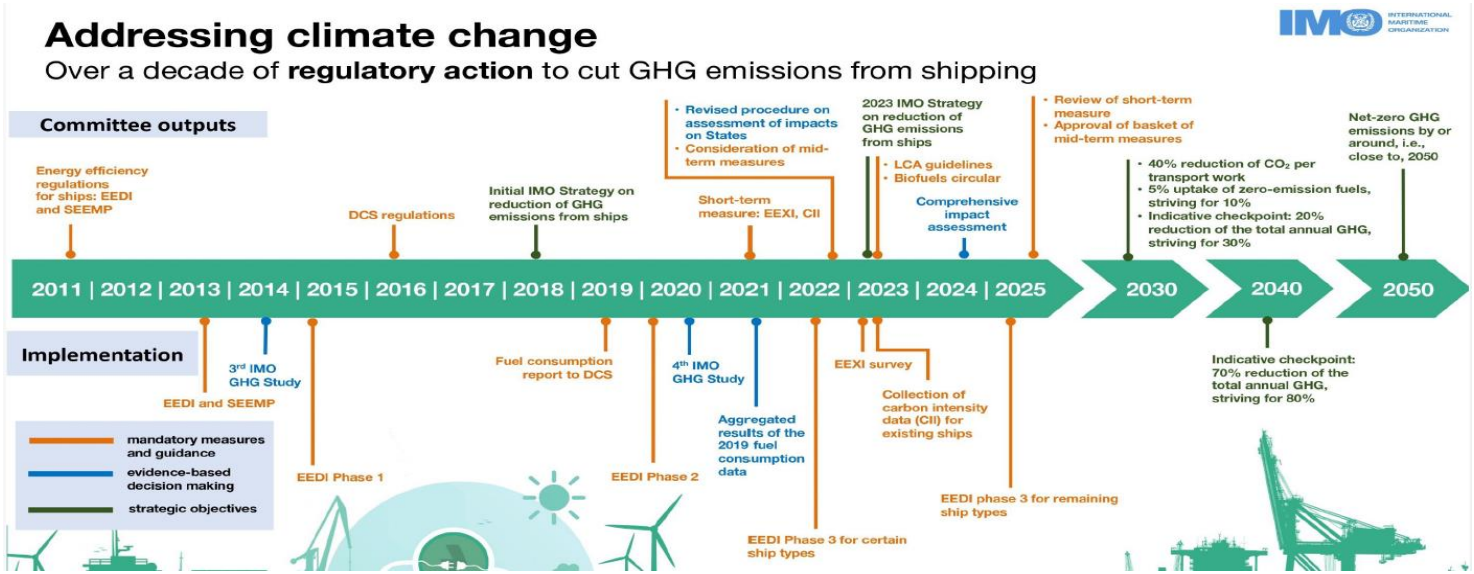
Potential of International ETS Linking in Shipping Maritime Sector

IMO INTERNATIONAL MARITIME ORGANIZATION

Having The Same References
(International References)

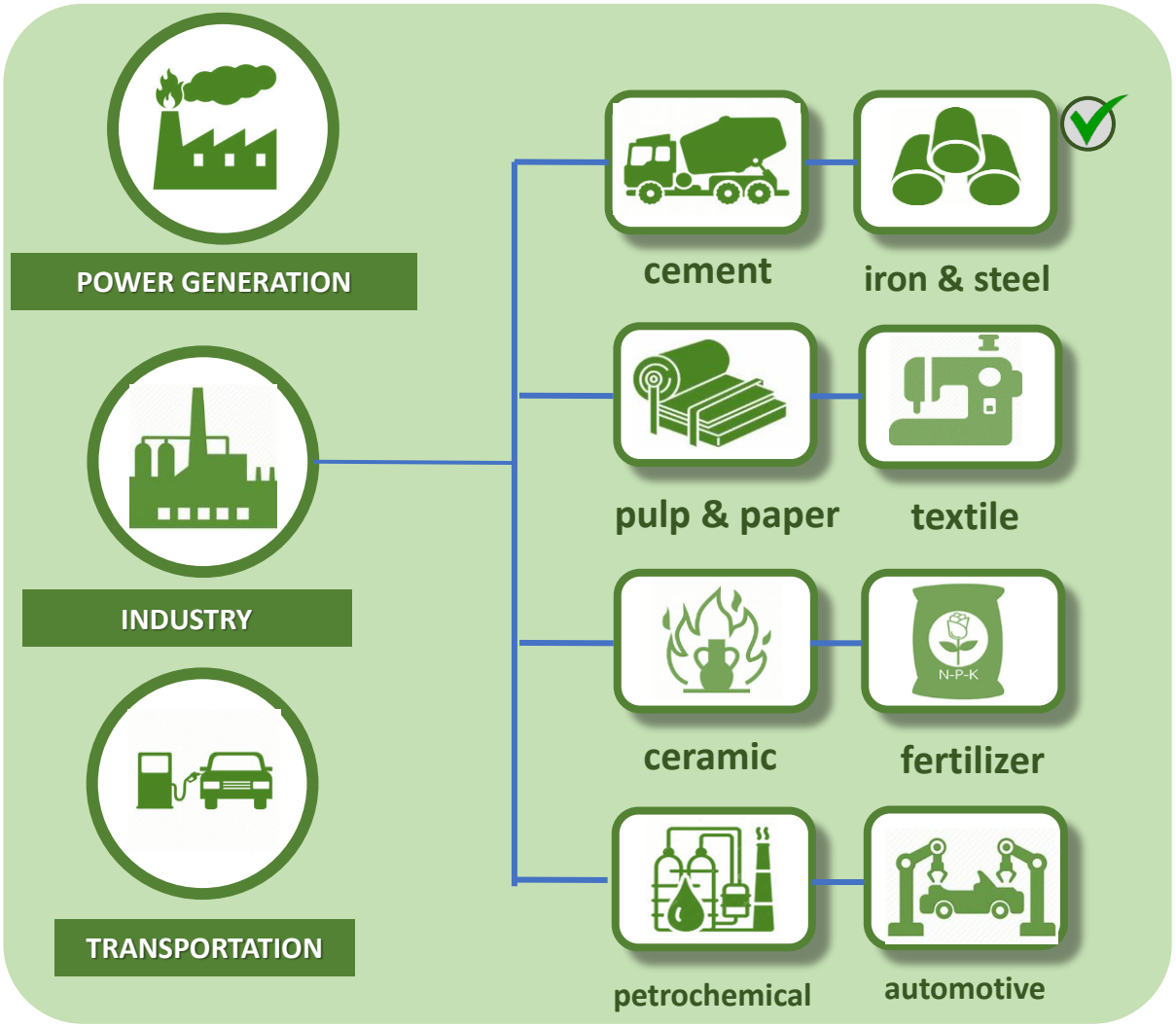
EU ETS MARITIME

INDONESIAN ETS



Moving Forward the Indonesian ETS and Its Development

NEXT CARBON PRICING



CARBON PRICING ROADMAP (SHORT TERM AND LONGTERM)

1. **Aligned roadmap to achieve NDC targets**
2. **Proper selection and designing of carbon pricing instrument to avoid double charging (e.g., expanding ETS to industrial and oil & gas sector)**
3. **Building better data management system (incl. digitalization and technology) to enhance transparency and integrity**
4. **Supporting the creation of one market and one price for all regulated sectors/subsectors ETS and cross learning opportunity between sectors**
5. **Involvement of all related stakeholders (including enterprises, associations, and communities)**
6. **Study on the Potential International ETS Linking in Shipping Maritime and Aviation**
7. **Best Practices of Implementation on International ETS Linking in Shipping Maritime and Aviation**

THANK YOU

GREEN INVESTMENT

DECARBONIZATION

DECARBONIZATION THROUGH BY CARBON PRICING IMPLEMENTATION

ILHAM

The Benefit of ETS Implementation

BEFORE

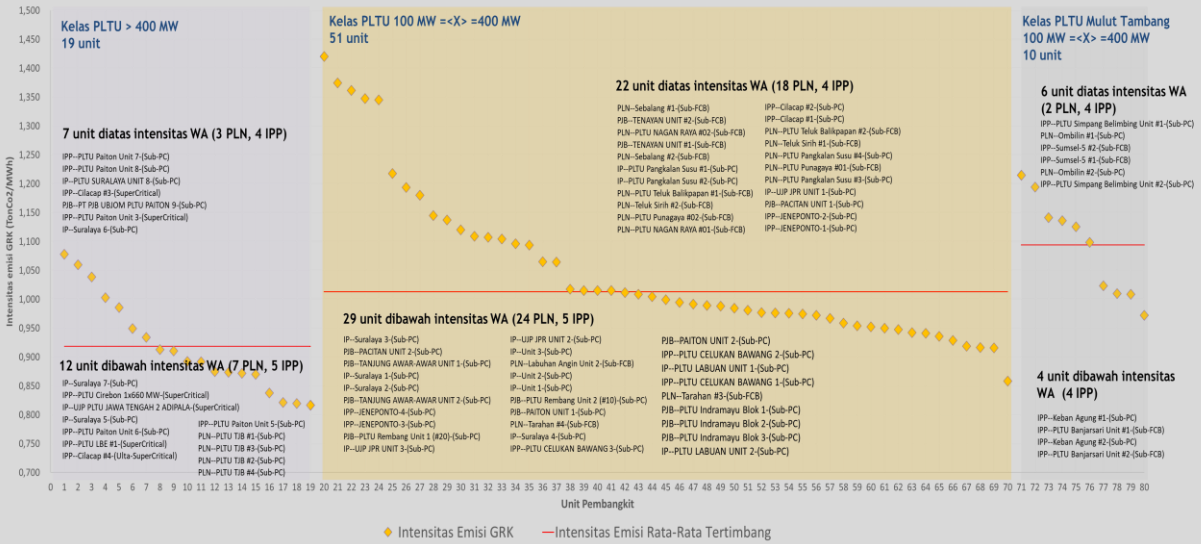
- The quantity of CFPPs which has the emission level (Intensity) of Coal-Fired Power Plants as beyond 1.0 tonCO2/MWh, **is 95 CFPPs**
- The maximum intensity is almost reach **4.0 tonCO2/MWh**

- ❑ From 116 installation unit of CFPPs, the number of CFPP which has emission intensity above to 1.0 ton CO2/MWh = **95 Coal-Fired Power Plants**
- ❑ From 116 installation unit of CFPPs, the number of CFPP which has emission intensity above to .1.5 ton CO2/MWh = **52 Coal-Fired Power Plants**
- ❑ From 116 installation unit of CFPPs, the number of CFPP which has emission intensity aboveto 2.0 ton CO2/MWh = **20 Coal-Fired Power Plants**

AFTER

- The quantity of CFPPs which has the emission level (Intensity) of Coal-Fired Power Plants as beyond 1.0 tonCO2/MWh**, is 32 CFPPs**
- The maximum intensity is 1.5 tonCO2/MWh

Total Surplus dan Defisit Grup Perusahaan (tCO2)			
PLTU PLN Surplus	PLTU PLN Defisit	PLTU IPP Surplus	PLTU IPP Defisit
4,245,146	2,937,291	1,084,848	2,392,702



(2021)

EU Emissions Trading Scheme's extension to maritime transport

It is crucial to highlight that the extension of the EU ETS to the shipping industry has not been without significant challenges, some of which remain outstanding

Monitoring, Reporting and Verification – the basis for any Emissions Trading Scheme

To facilitate an MRV system, a digital reporting system for users to input data is vital. It is also vital that any MRV system is also aligned with the International Maritime Organization's (IMO) Data Collection System (DCS. It is essential that there is alignment with respect to:

- The metrics used;
- The format of collating and submitting;
- Definitions and the data being requested;
- Submission deadlines and periodic compliance cycles;
- Data integrity and quality with involvement of accredited verifiers

No Double Payment

As a general principle, ship operators should not be expected to pay multiple times for the same emissions which would only add to regulatory uncertainty and create market distortion.
This basket of mid-term measures is still to be finalized and IMO scheme should have primacy. So as to avoid multiple payments being made for the same emissions under multiple regimes, it is recommended that:

- The definition of domestic maritime voyages and emissions within scope of a domestic ETS be made as clear as possible;
- The definition should be drafted so as to avoid overlap with emissions already accounted for on a regional and international basis;
- IMO scheme should have primacy in order to avoid any double payment and if regional schemes exist there should be clear mechanism to avoid paying twice for the same emissions

Avoid as far as possible Double Reporting

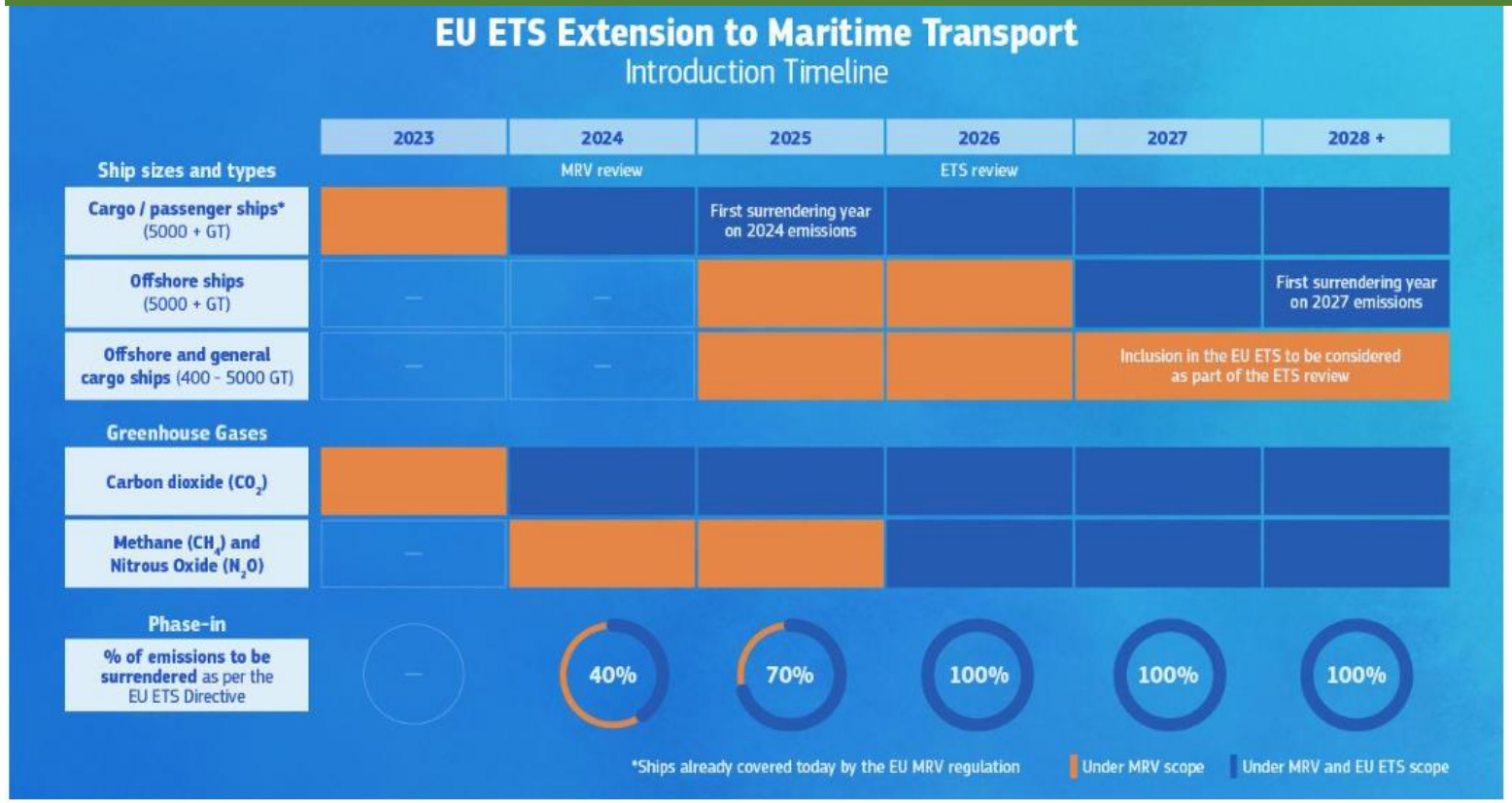
The government should also seek to avoid the duplication of reporting already undertaken on a regional and international level.

Potential of International ETS Linking in Shipping Maritime Sector (1)

Registration of Foreign Entity

Foreign non-EU based shipping companies have experienced multiple challenges. These include difficulties with registering with certain Administering Authorities and opening a Maritime Operator Holding Account (MOHA) for the purposes of purchasing, trading and surrendering EU allowances to cover relevant emissions

EU Emissions Trading Scheme – Maritime Timeline



Note the possibility of the EU amending its ETS if sufficient progress is made at IMO

Source: FAQ – Maritime transport in EU Emissions Trading Scheme (ETS) - https://climate.ec.europa.eu/eu-action/transport/reducing-emissions-shipping-sector/faq-maritime-transport-eu-emissions-trading-system-ets_en#timing--scope