DECARBONISING PATHWAYS FOR FREIGHT TRANSPORT IN THE PHILIPPINES

Dissemination Meeting

25 April 2023
8:30–16:30 Manila
Welcome and Introduction

Moderator

Dr Guineng Chen
Team Lead
International Transport Forum
Welcome remarks

Leonel De Velez
Assistant Secretary
Department of Transportation
Welcome remarks

Dr Young Tae Kim
Secretary-General
International Transport Forum
High-level Opening Panel Session

*Is the Philippines ready to transition to a low-carbon freight transport future?*

10:00 - 11:30
Sustainable Infrastructure Programme in Asia - Transport

Regional studies

• Assess infrastructure programs’ scope in **Central Asia** and **Southeast Asia** to improve connectivity and reduce environmental costs

• Suggest strategies to finance investments to close infrastructure gaps

• Benchmark national freight transport policies against best practices

National studies

• Develop sustainable transport roadmaps in partnership with national stakeholders

• Identify for which locations, transport sub-sectors, modes and technologies policies can be most effective

• National studies: **Mongolia, Philippines, Uzbekistan**
Low-carbon pathways for the Philippines’ freight sector

Take stock of the national freight transport system.

➢ Contextualise the sector structure, identify policy priorities and collect data

Asses impacts of alternative low-carbon pathways.

➢ Quantify how policy choices could shape activity and emissions across sector segments

Disseminate best practices for low-carbon freight.

➢ Recommendations for effective emission reduction strategies
Green Fleet Scenario: Calls-to-action

Follow international best practices in adopting fuel economy or $\text{CO}_2$ emission standards for trucks.

Identify use cases for early adoption of zero-emission trucks in the Philippines and incentivise fleet conversions.

Promote efficient ships, for example, with differentiated port fees depending on the environmental performance of vessels and investment incentives.
Streamline and digitalise processes to reduce dwell times at cargo transfer points.

Incentivise and enable asset sharing, for example through promoting digital technologies and platforms to connect logistics operators.
Ambitious freight policies can halve sector emissions

Emission trends:
Green Fleet: -61%
Seamless Intermodality: -22%
Is the Philippines ready to transition to a low-carbon freight transport future?

Moderator

Dr Guineng Chen
Team Lead
International Transport Forum

Mr Leonel De Velez
Assistant Secretary
Department of Transportation

Mr James Leather
Chief of the Transport Sector Group
Asian Development Bank

Dr Young Tae Kim
Secretary-General
International Transport Forum

Ms Teresita del Rosario
Chief of Standards Developments
Department of Trade and Industry

Ms Elaine Borejon
Senior Science Research Specialist
Climate Change Commission
Lunch break

11:30 – 13:15
In-Focus Policy Dialogue – Part 1

What are the strengths and missing elements of the Philippines’ current decarbonizing freight transport agenda?

13:15 - 14:15
RESULTS OF THE ITF CURRENT POLICIES SCENARIO FOR THE PHILIPPINES

Mr Diego Botero, Data Officer
International Transport Forum
OUTLINE

1. HOW DID WE BUILD THE CURRENT POLICY SCENARIO?
2. CURRENT TRANSPORT POLICIES
3. MODEL UPDATES
4. RESULTS AND CONCLUSIONS
Combining the effects of each measure, we projected the CO₂ emissions of the transport sector in the Philippines between 2019 and 2050.

In collaboration with Philippines stakeholders we:

- Analysed current transport policies for the Philippines
- Reviewed the planned evolution of the transport network in the coming years
- Updated international trade data by commodity and mode
- Inclusion of the three main nautical highways and other ferry connections

How did we build the Current Policy scenario?
Current transport policies

This scenario presents the evolution of CO₂ emissions if the current measures are implemented as planned but further actions are not considered.

<table>
<thead>
<tr>
<th>Technology stocks target for the LCV fleet</th>
<th>Rail freight expansions</th>
<th>Road upgrades</th>
<th>Eco-driving</th>
<th>Improving intermodal dwell time</th>
<th>Change in the energy mix</th>
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<tr>
<td>Target level: 10-30% zero-emission LCV sales/registrations between 2030 and 2050. (implementation starts in 2025).</td>
<td>Two new rail lines in Luzon (SCR and SLH); operational by 2026.</td>
<td>From provincial to tertiary road: 10-30% by 2030 and 2050.</td>
<td>This has already been implemented. This policy has the potential of reducing CO₂ emissions by 1-2.5% in 2030 and by 5% in 2050.</td>
<td>Truck-to-port: reduced by 20% in 2030 and by 45% in 2050.</td>
<td>A decrease in oil and coal trade is expected to start by 2025.</td>
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<td>From tertiary to secondary road: 30-50% in 2030 and 2050.</td>
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<td>Rail-to-port: reduced by 20% in 2030 and 2050.</td>
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<td>From secondary to primary road: 10-30% in 2030 and 30-50% in 2050.</td>
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<td>Shipping-to-port: reduced by 20% in 2030 and by 45% in 2050.</td>
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Infrastructure updates

Centroids and inland infrastructure

Legend
- International Centroids
- Road network
- Subic-Clark Railway (SCR)
- South Long-Heul (SLH)
- Airports
- Ports

Source: Department of Transportation, International Transport Forum, Open Street Map (2023)

Nautical highways

Legend
- International Centroids
- Ports
- Western Nautical Highway
- Central Nautical Highway
- Eastern Nautical Highway
- Road network

Source: Department of Transportation, International Transport Forum, Open Street Map (2023)
Freight transport is set to more than quadruple until 2050

- Trade will exceed 2 trillion tkm by 2050
- Economic growth in the SEA region drives trade
- International transactions present increasing share

Total Freight Transport in Current Ambition Scenario (tkm)
Trucks and ships remain the main transport modes

- Trucks set to increase domestic modal share
- Cargo rail is expected to remain uncommon
- Aviation crucial for time-sensitive, valuable goods
- Maritime dominates international trade

Freight transport modal share by year (based on tkm)

- Domestic
- International

0% - 100%

Air | Pipelines | Rail | Road | Sea

2022 - | 2030 - | 2050 - | 2022 - | 2030 - | 2050 -
Tank-to-wheel emissions to reach 50 million tCO$_2$ by 2050

Road emissions to increase stronger than maritime despite lower traffic growth

Decarbonising road transport is a priority
In conclusion

1. Freight transport is set to more than triple in the Philippines
2. Maritime transport will be the dominant mode
3. Road domestic transport will represent the main source of emissions in 2050
4. It is essential to decouple freight transport growth and CO$_2$ emissions
5. Decarbonising trucks and promoting a modal shift towards more efficient modes are priorities for upcoming years
6. Decarbonisation must be done without ignoring the crucial role that sea-born freight represents for the country
What are the strengths and missing elements of the Philippines' current decarbonising freight transport agenda?

Moderator

Mr Till Bunsen
Policy Analyst
International Transport Forum

Ms Anne Mariano
Chief Advisor
Deutsche Gesellschaft für Internationale Zusammenarbeit

Mr Edmund Trazo
Global HSSE Director
International Container Terminal Services

Ms Sofia Fulmaran
Officer Strategic Planning Division
Civil Aviation Authority of the Philippines

Mr Francis Ray Almora
Regional Director
Land Transportation Office

Ms Joyce Rivera
OIC Program Manager
Department of Transportation
Coffee break

14:15 – 14:45
In-Focus Policy Dialogue – Part 2

What is the successful pathway to reaching the climate goal for freight transport in the Philippines?

14:45 - 16:15
RESULTS OF THE ITF CLIMATE AMBITION SCENARIOS FOR THE PHILIPPINES

Mr Till Bunsen, Policy Analyst
International Transport Forum

Supported by:
Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection
IKI CLIMATE INITIATIVE

based on a decision of the German Bundestag
OUTLINE

1. INCREASED AMBITION SCENARIOS
2. RESULTS
3. POLICY RECOMMENDATIONS
Assessing two Climate Ambition Scenarios

**Green fleet:**
- Vehicle technology improvements through truck fleet renewal
- Stricter fuel economy standards for diesel trucks
- Fleet renewal/vessel refurbishment to reduce the share of fuel-oil-intensive ships

**Seamless Intermodality:**
- Infrastructure improvement to increase port capacity
- Infrastructure improvement to reduce dwell times
- Asset sharing to increase load factors
Vehicle replacements and intermodal transport do not oppress sector growth

Freight transport by scenario and year (tkm)

- **2022**: Current policy
- **2030**: Green fleet
- **2050**: Seamless intermodality

<table>
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Ambitious freight policies can halve sector emissions

Investing in more efficient trucks and ships can reduce emissions by 61% in 2050, below current levels.

Zero-emission trucks are the most effective measures to decarbonize road freight.

Savings from intermodal transport are lower than in the green fleet scenario, at 22%.
Modal shares do not vary significantly between scenarios

Modal share by year and scenario (based on tkm)

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- **Air**
- **Rail**
- **Road**
- **Sea**

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SIPA
Green Fleet Scenario: Calls-to-action

Follow international best practices in adopting fuel economy or CO₂ emission standards for trucks.

Identify use cases for early adoption of zero-emission trucks in the Philippines and incentivise fleet conversions.

Promote efficient ships, for example, with differentiated port fees depending on the environmental performance of vessels and investment incentives.
Seamless Intermodality Scenario: Calls-to-action

1. Invest in port capacity expansions and maximise utilisation of existing assets to enable maritime transport to capture a higher modal share.

2. Streamline and digitalise processes to reduce dwell times at cargo transfer points.

3. Incentivise and enable asset sharing, for example through promoting digital technologies and platforms to connect logistics operators.
What is the successful pathway to reaching the climate goal for freight transport in the Philippines?

Mr Arnold Belver
Development Management Officer IV
Climate Change Commission

Ms Joyce Rivera
OIC Program Manager
Department of Transportation

Mr Marion Alcanzare
Transport Researcher
Clean Air Asia

Mr Felicisimo Pangilinan, Jr -
Director for Planning Service
Department of Transportation
SIPA Philippines Wrap up

Dr Guineng Chen
Team Lead
International Transport Forum
Closing remarks

Mr Timothy John Batan
Undersecretary
Department of Transportation
Ms Anke Reiffenstuel
Ambassador
Embassy of the Federal Republic of Germany
Closing remarks

Dr Young Tae Kim
Secretary-General
International Transport Forum