

# DECARBONISING PATHWAYS FOR FREIGHT TRANSPORT IN THE PHILIPPINES

Dissemination Meeting

25 April 2023  
8:30–16:30 Manila



Supported by:



Federal Ministry  
for the Environment, Nature Conservation,  
Nuclear Safety and Consumer Protection



INTERNATIONAL  
CLIMATE  
INITIATIVE

## 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 CO<sub>2</sub> 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

---

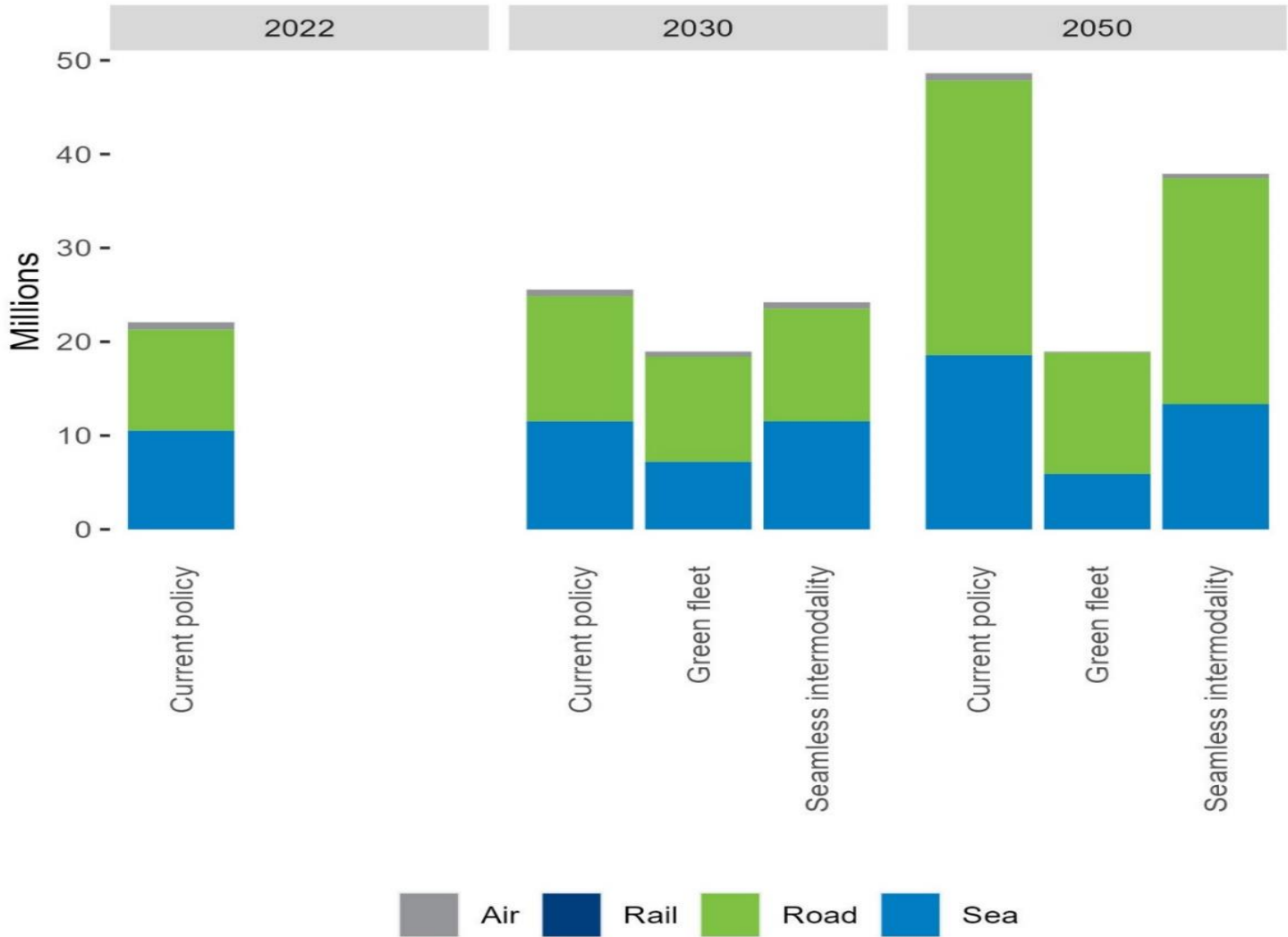
**Invest in port capacity expansions and maximise utilisation of existing assets to enable maritime transport to capture a higher modal share.**

**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



Supported by:



Federal Ministry  
for the Environment, Nature Conservation,  
Nuclear Safety and Consumer Protection



# OUTLINE

1. HOW DID WE BUILD THE CURRENT POLICY SCENARIO?
2. CURRENT TRANSPORT POLICIES
3. MODEL UPDATES
4. RESULTS AND CONCLUSIONS



# How did we build the Current Policy scenario?

## 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

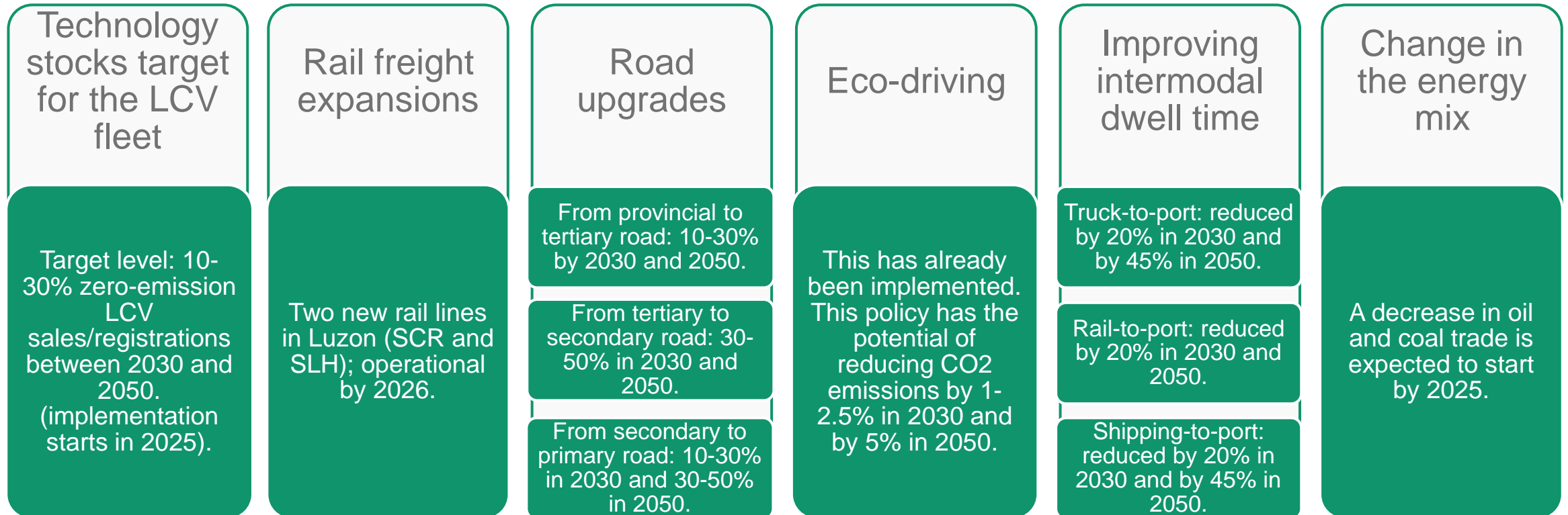
**Combining the effects of each measure, we projected the CO<sub>2</sub> emissions of the transport sector in the Philippines between 2019 and 2050**





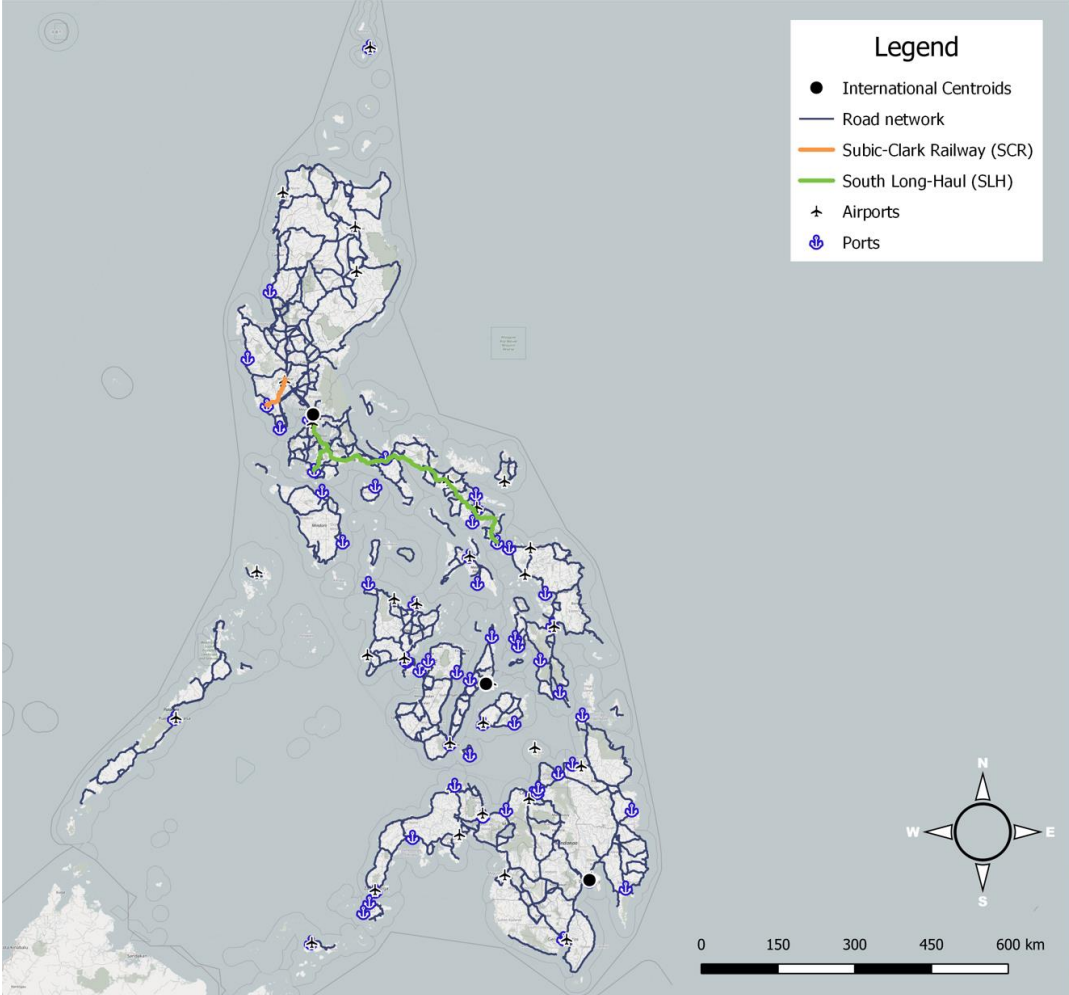
# Current transport policies

This scenario presents the **evolution of CO<sub>2</sub> emissions** if the **current measures** are implemented as planned but further actions are not considered.



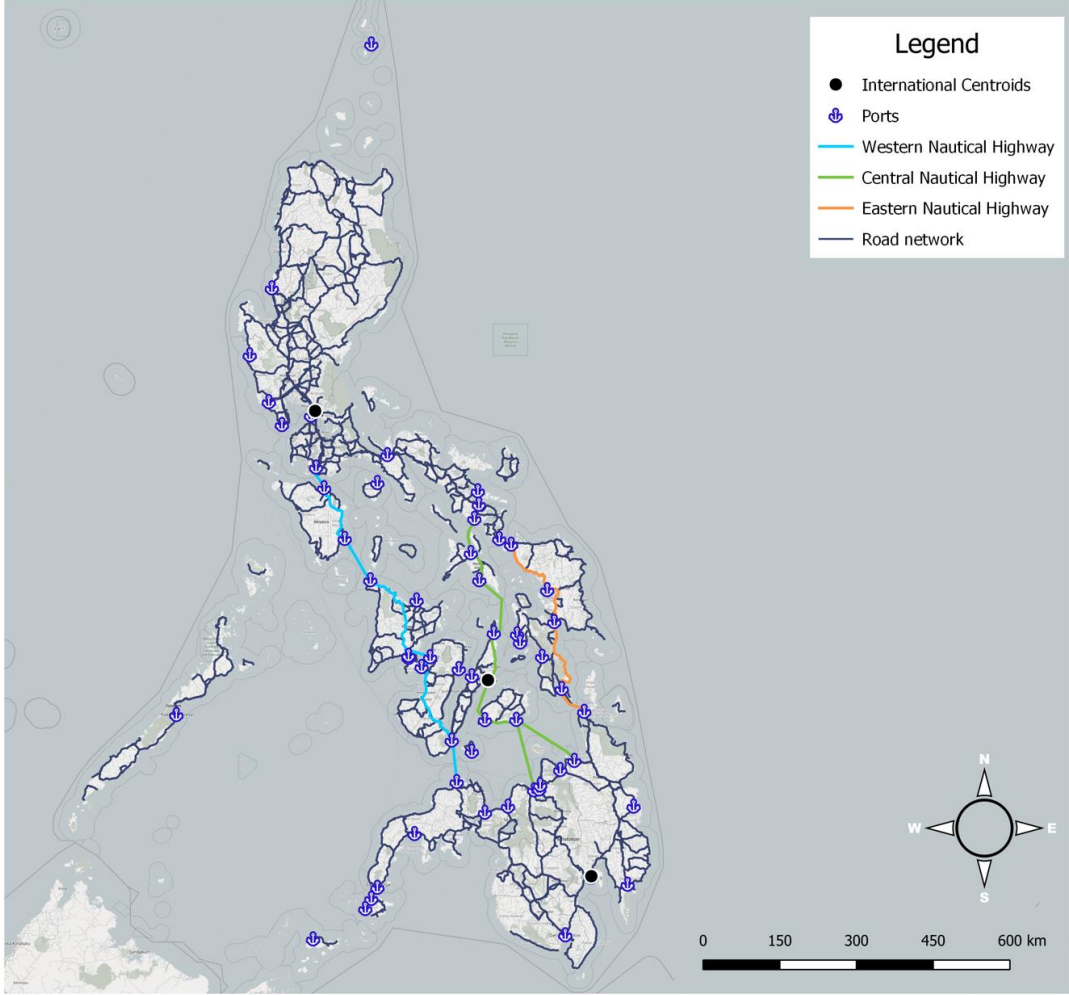
# Infrastructure updates

## Centroids and inland infrastructure



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

## Nautical highways



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



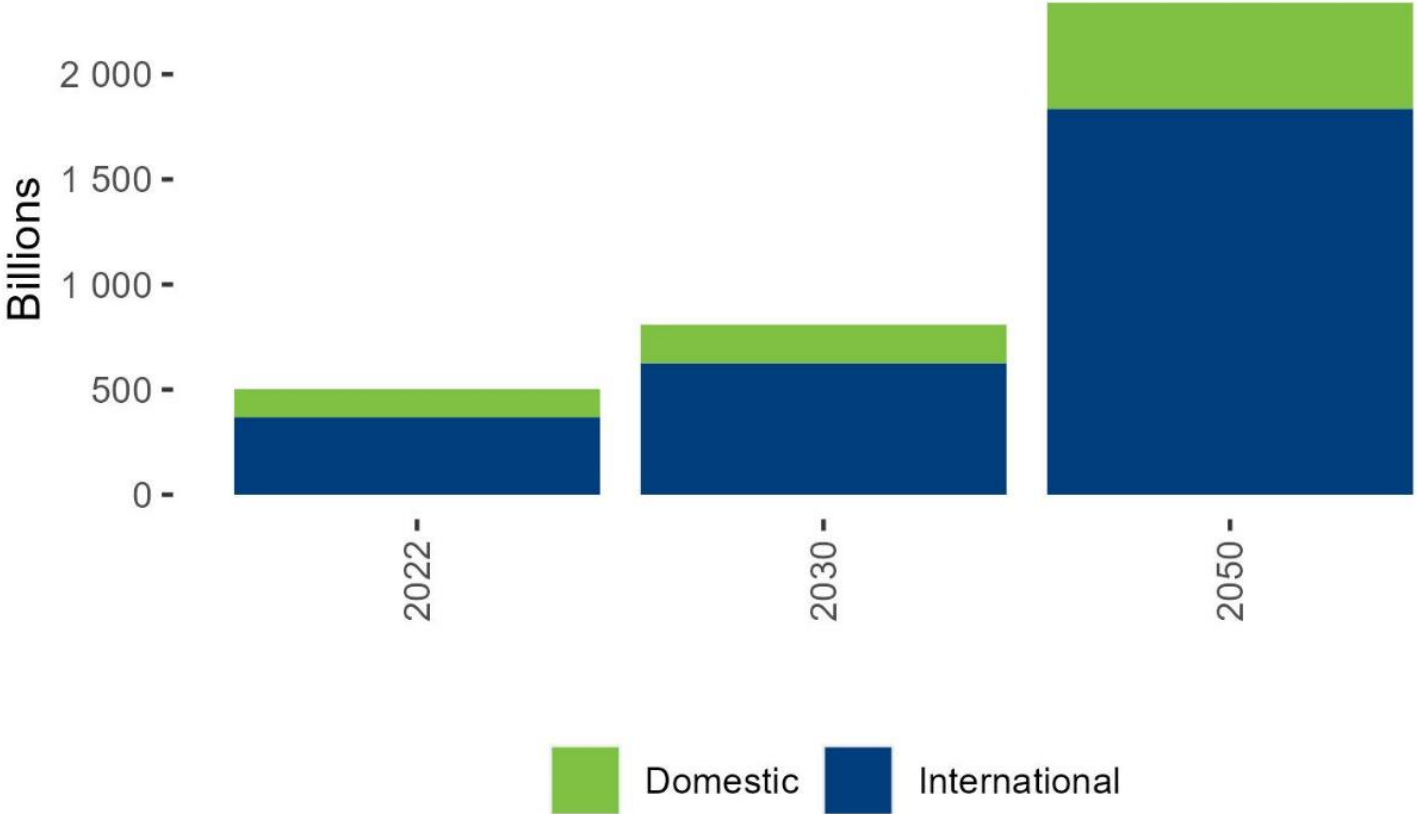
# Freight transport is set to more than quadruple until 2050

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

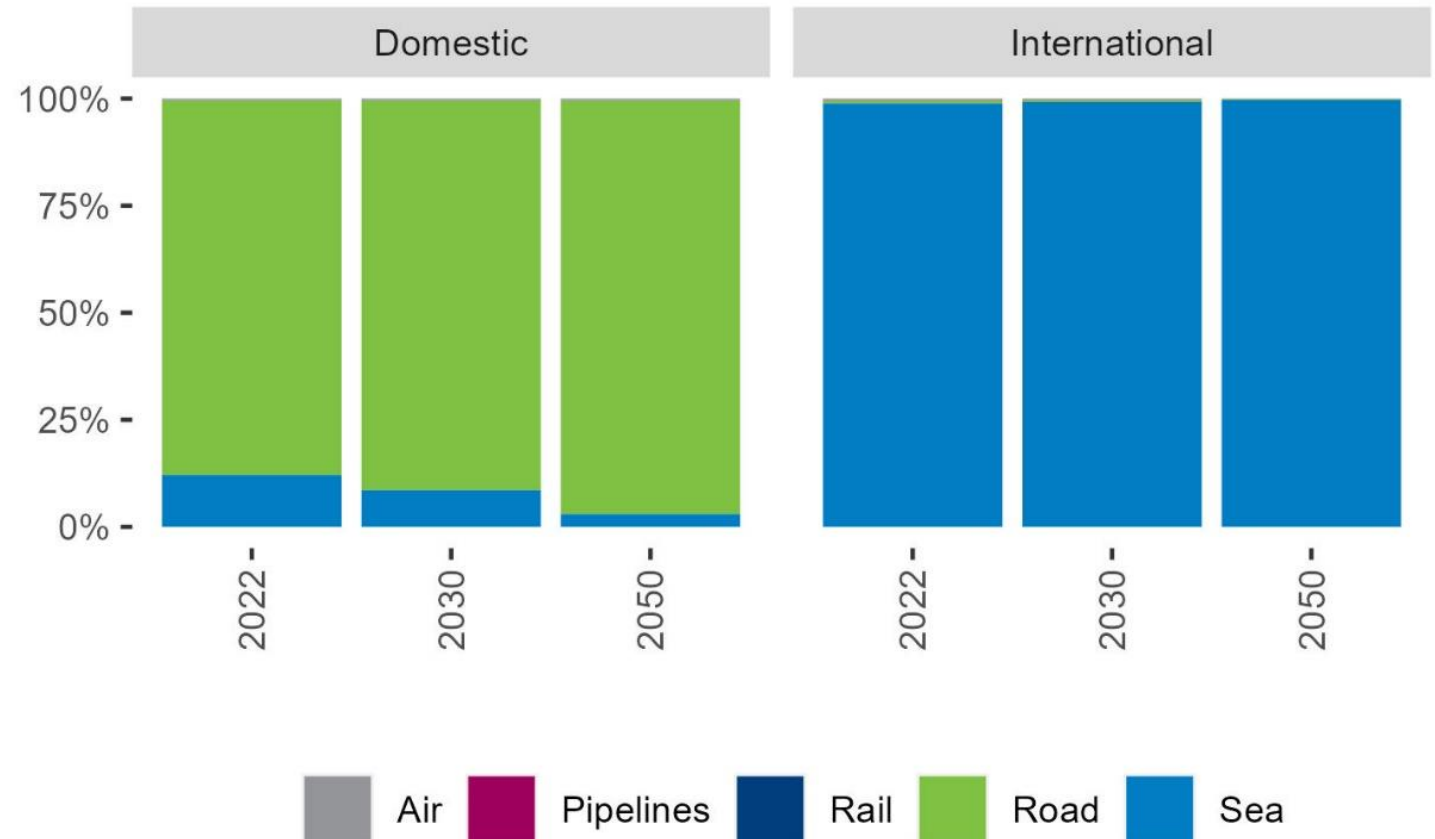
Trucks set to increase domestic modal share

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)



# Tank-to-wheel emissions to reach 50 million tCO<sub>2</sub> by 2050

CO<sub>2</sub> emissions by transport mode and year (ttw)

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<sub>2</sub> 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

**Ms Sofia  
Fulmaran**

Officer Strategic Planning  
Division

Civil Aviation Authority of  
the Philippines

**Mr Edmund  
Trazo**

Global HSSE Director

International Container  
Terminal Services

**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:

# 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



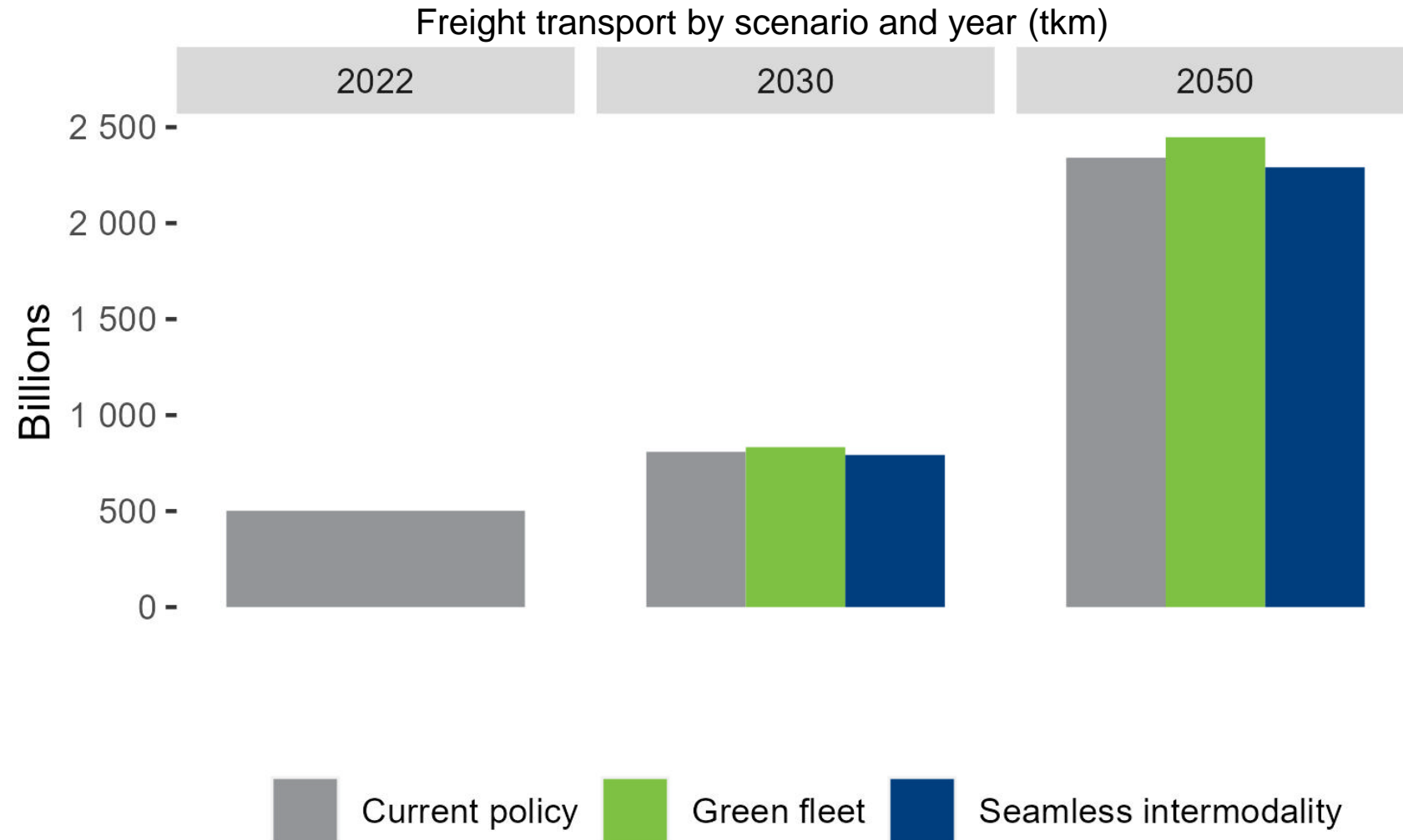
## Seamless Intermodality:

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



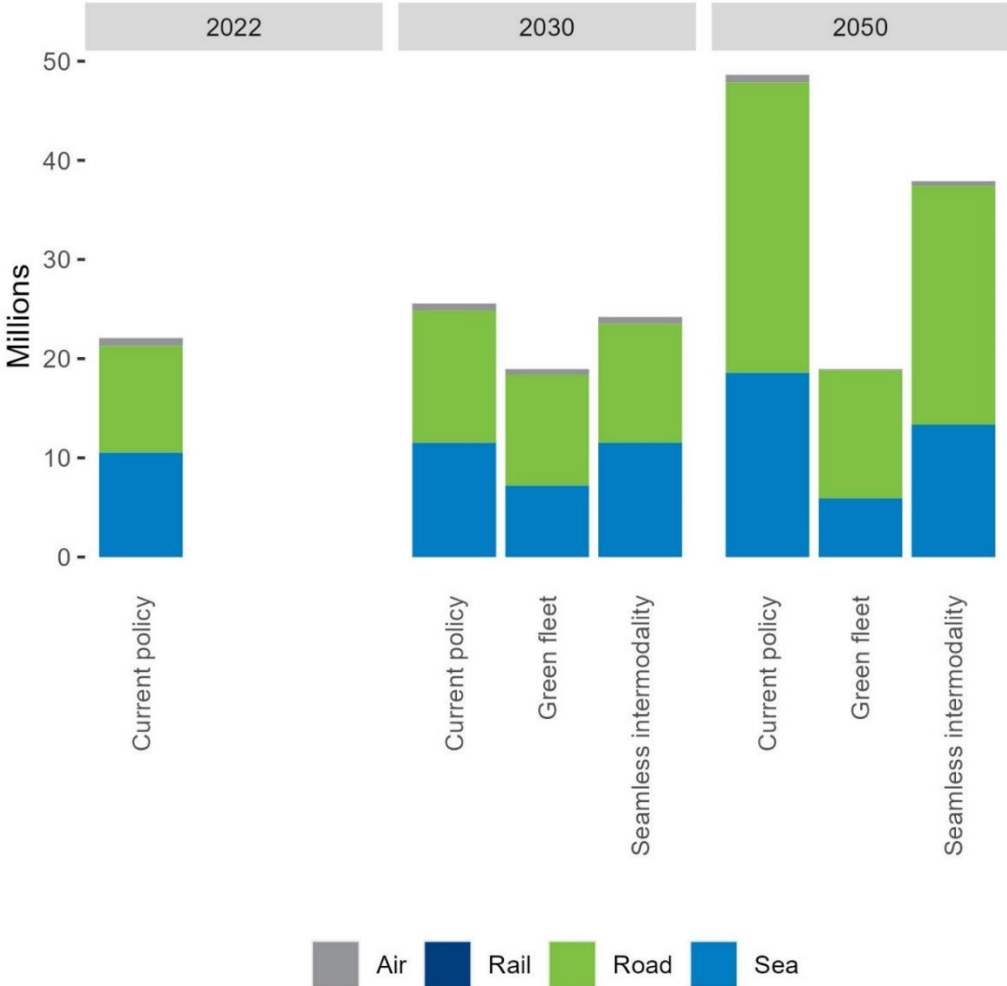
# Ambitious freight policies can halve sector emissions

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

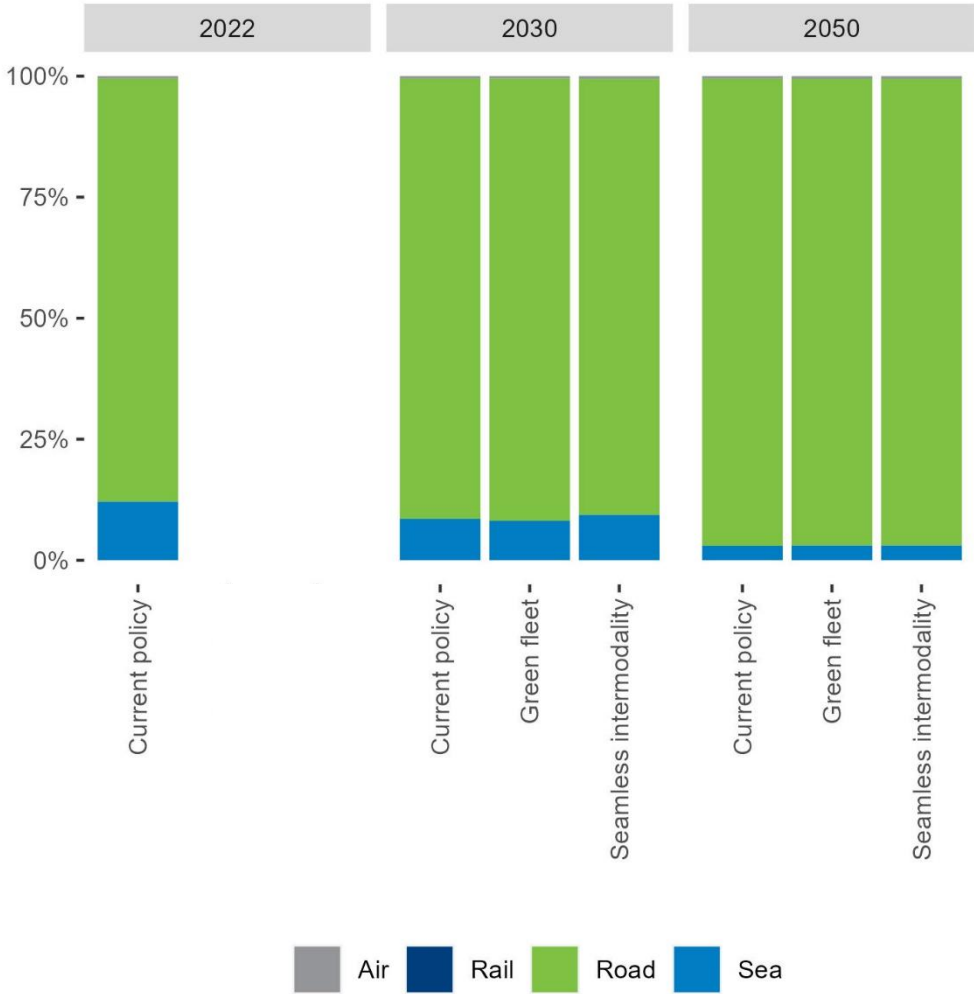
Savings from intermodal transport are lower than in the green fleet scenario, at 22%.

CO<sub>2</sub> emissions by year and scenario (ttw)



# Modal shares do not vary significantly between scenarios

Modal share by year and scenario (based on tkm)



# Green Fleet Scenario: Calls-to-action

---

**Follow international best practices in adopting fuel economy or CO<sub>2</sub> 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

---

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

**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.**



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

**Moderator**



**Dr Guineng Chen**

Team Lead

International Transport Forum

**Mr Arnold  
Belver**

Development Management  
Officer IV

Climate Change Commission

**Mr Marion  
Alcanzare**

Transport Researcher  
Clean Air Asia

**Ms Joyce  
Rivera**

OIC Program  
Manager

Department of Transportation

**Mr Felicisimo  
Pangilinan, Jr -**

Director for Planning  
Service

Department of Transportation



**Dr Guineng Chen**

Team Lead

International Transport Forum



**Mr Timothy John Batan**  
Undersecretary  
Department of Transportation



**Ms Anke Reiffenstuel**  
Ambassador  
Embassy of the Federal Republic of Germany



**Dr Young Tae Kim**  
Secretary-General  
International Transport Forum



## INTERNATIONAL TRANSPORT FORUM

**2 RUE ANDRÉ PASCAL  
F-75775 PARIS CEDEX 16**

## CONTACT US

**Till BUNSEN**

Project Manager

Email: [Till.BUNSEN@itf-oecd.org](mailto:Till.BUNSEN@itf-oecd.org)

**Guineng CHEN**

Transport Programme Lead

Email: [Guineng.CHEN@itf-oecd.org](mailto:Guineng.CHEN@itf-oecd.org)

**Diego BOTERO**

Data Officer

Email: [Diego.BOTERO@itf-oecd.org](mailto:Diego.BOTERO@itf-oecd.org)