International Transport Forum

SIPA
Sustainable Infrastructure Programme in Asia

Welcome to

DECARBONISING PATHWAYS FOR FREIGHT TRANSPORT IN THE PHILIPPINES

SCENARIO DESIGN WORKSHOP MARITIME AND AVIATION SECTOR

10 November 2022, virtual (Zoom)

The workshop will start at 15:00

Please state your organisation and your name as your Zoom name

On behalf of:

Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

of the Federal Republic of Germany

IKI INTERNATIONAL CLIMATE INITIATIVE

DEPARTMENT OF TRANSPORTATION 1899

OECD

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Sustainable Infrastructure Programme in Asia

DECARBONISING PATHWAYS FOR FREIGHT TRANSPORT IN THE PHILIPPINES

Scenario Building Workshop – Maritime and Aviation Sector

9 & 10 November 2022

Maya ter Laag, Transport Modeller/Analyst at the ITF

On behalf of:

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of the Federal Republic of Germany

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Agenda

- **Introducing the Scenario Analysis Approach**
  - Tour de table
  - Scenario definition
- **Brainstorming Effective Policy Measures**
  - Identification of relevant policy measures
  - Potential for each policy measure
- **Conclusion and next steps**

Policy scenarios for CO_2 reduction

The ITF aims to design **scenarios to assess the CO_2 reduction potential** of different policy pathways. The scenarios explore possible alternative futures, their impacts on the transport system and their externalities.

	Current ambition **Where we are heading**		**Climate ambition** **How far we must go**	
Level of measure implementation:	**As expected / planned**	**Enhanced + New measures considered**	**Enhanced + New measures considered**	**Enhanced + New measures considered**

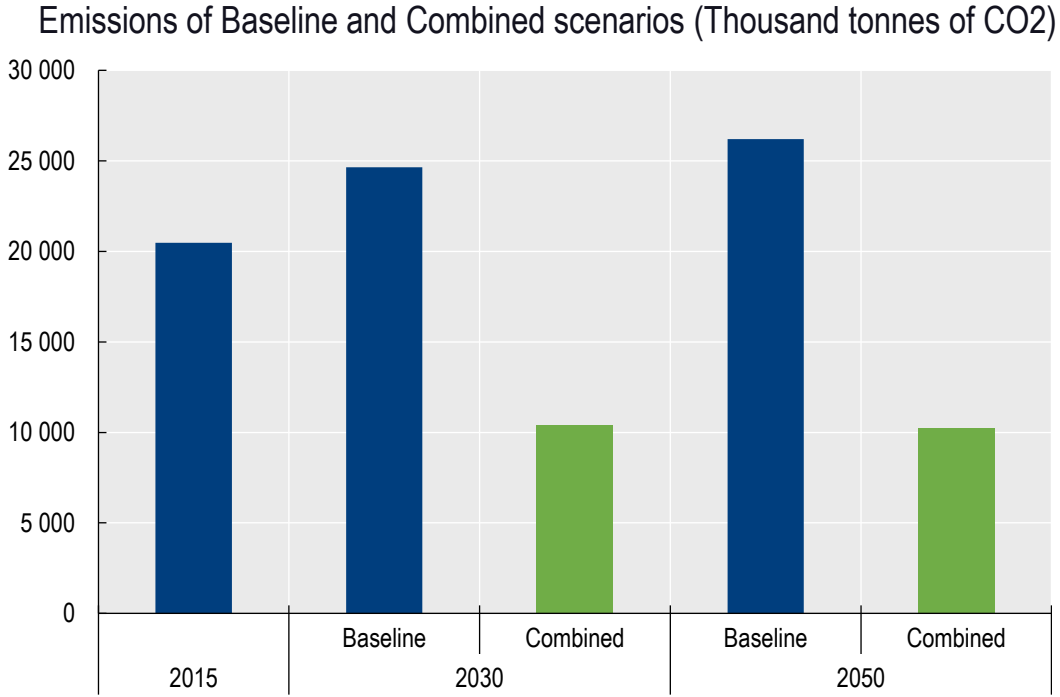
An example: the Argentina study

Outcome:

A scenario with combined decarbonisation measures (intermodal and infrastructure improvements, fleet renewal with transition to gas, urban freight fleet electrification and global decarbonising trends) cuts emissions by half in 2050 compared to 2015 (by around 60% compared to the Baseline in 2050).

Some policies lead to an increase in freight surface transport costs, but also contribute to modal shift from road to other surface modes and the overall decrease in emissions.

A decarbonised world with increased trade regionalisation results in significant changes to trade patterns and the commodity mix.



Scenario building for the Philippines

14 Policy measures / Technology developments / Trends

Vehicle technology development
Technology stocks targets for ships/vessels
Infrastructure developments
Port capacity increase
Nautical highways expansion
Airport capacity increase
Operations management, innovation and digitalisation
Asset sharing and the physical internet
Improving intermodal dwell times

Regulatory instruments
Low emission fuel incentives and investment in
Slow/smart steaming and speed reductions for maritime transport
Economic instruments
Distance charges
Carbon pricing
Other Developments
Rise in e-commerce
Trade regionalisation
Decarbonisation of energy
3D printing

Scenario building for the Philippines

Measure name	Description of the quantified objective		Base value for 2020	2050 ITF scenario **current ambition**
Vehicle technology development				
Technology <u>stocks</u> targets for <u>ships/vessels</u>	Shares of the different technologies in container ships fleet. (in %)	Fuel Oil	100%	100%
		Low-carbon fuels	-	-
Fuel targets for aviation	Share of Sustainable Aviation Fuels (SAFs)		-	-
Use of drones and electric				

Scenario building for the Philippines

Measure name	Description of the quantified objective	Base value for 2020	2050 ITF scenario **current ambition**
Infrastructure development			
Port capacity increase	Percentage of throughput (tonnes) increase	-	-
Airport capacity increase	Percentage of throughput (tonnes) increase	-	-

Scenario building for the Philippines

Measure name	Description of the quantified objective	Base value for 2020	2050 ITF scenario **current ambition**
Operations management, innovation and digitalisation			
Asset sharing and the physical internet	Increase in load factors of maritime freight (in %)	<1%	2%
Improving intermodal dwell times	Reduction in dwell times truck-to-port (%)	?	?
	Reduction in dwell times rail-to-port (%)	?	?
	Reduction in dwell times nautical highways-to-port (%)	?	?

Scenario building for the Philippines

Measure name	Description of the quantified objective	Base value for 2020	2050 ITF scenario **current ambition**
Economic instruments			
Distance charges	Charge per tonne-km (USD)	0	0.01
Carbon pricing	Price per tonne of CO2	0	15

Scenario building for the Philippines

Measure name	Description of the quantified objective	Base value for 2020	2050 ITF scenario **current ambition**
Regulatory instruments			
Slow/smart steaming and speed reductions	Decrease in speed of maritime transport (%)	0	10%

Scenario building for the Philippines

Measure name	Description of the quantified objective	Base value for 2020	2050 ITF scenario **current ambition**
Other developments and trends			
Rise in e-commerce	Additional increase in e-commerce compared to 2015	1%	5.0%
Trade regionalisation	Can include measures such as carbon border taxes	0	0%
Decarbonisation of energy	Decrease in oil and coal trade	0	0%
3D printing	Decrease in international trade	0%	0%

Scenario building for the Philippines

Additional Comments?

Next steps

- **Outcome of this workshop: 3-4 study scenarios (November 2022)**
- **Modelling scenarios (December 2022 - February 2023)**
- **Scenario exploration tool validation (February 2023)**
  - We need your help! Please let us know if you would be interested in validating results for your sector by sending an email to Maya.TERLAAG@itf-oecd.org
- **Dissemination event + tool delivery & training (24-25 April 2023)**

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THANK YOU FOR YOUR ATTENTION

MAYA TER LAAG

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