

Welcome to

**DECARBONISING PATHWAYS FOR FREIGHT
TRANSPORT IN THE PHILIPPINES**

SCENARIO DESIGN WORKSHOP ROAD AND RAIL SECTOR

9-10 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





DECARBONISING PATHWAYS FOR FREIGHT TRANSPORT IN THE PHILIPPINES

Scenario Building Workshop – Road and Rail Sector

9 November 2022

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project lead for the Philippines

On behalf of:



of the Federal Republic of Germany





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 CO₂ reduction

The ITF aims to design **scenarios to assess the CO₂ 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

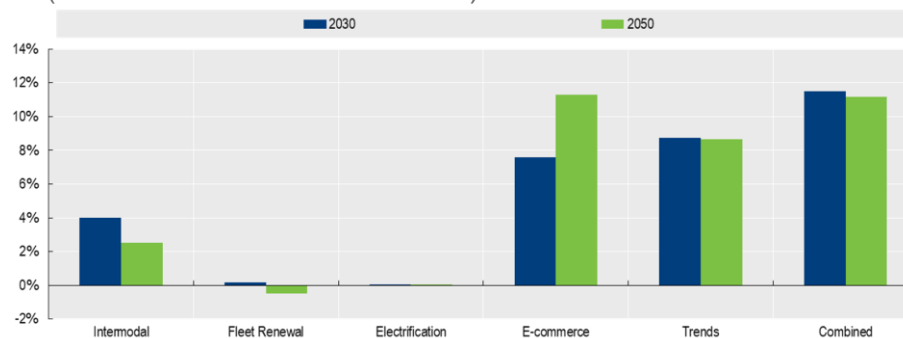
Level of measure
implementation:

As expected / planned	Enhanced + New measures considered	Enhanced + New measures considered	Enhanced + New measures considered
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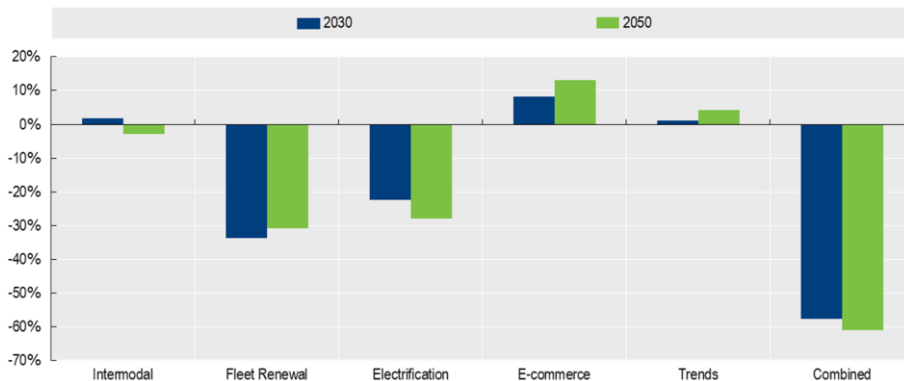


An example: the Argentina study

Variation of demand compared to the baseline scenario
(% based on tonne-kilometres)



Variation of emissions from surface freight transport compared to the baseline scenario (%)





Scenario building for the Philippines

Policy measures / Technology developments / Trends

Vehicle technology development

Technology stocks targets for the 2 and 3 wheeler fleet

Technology stocks targets for the LCV fleet

Technology stocks targets for the truck fleet

Technology targets for rail freight

Infrastructure developments

Rail freight expansion

Road expansion

Road upgrades

Operations management, innovation and digitalisation

Asset sharing and the physical internet

Eco-driving

Improving intermodal dwell times

Economic instruments

Distance charges

Carbon pricing

Regulatory instruments

Speed reductions for road transport

Heavy capacity vehicles (HCV)

Fuel economy standards for internal combustion engine (ICE) vehicles

Emission standards of diesel trucks

Other Developments

Rise in e-commerce



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 the <u>2 and 3 wheeler</u> fleet	Shares of the different vehicle technologies in 2 and 3 wheeler sales/registrations. (in %)	Gasoline	100%
		Zero-emission	-
Technology <u>stocks</u> targets for the <u>LCV</u> fleet	Shares of the different vehicle technologies in LCV sales/registrations. (in %)	Gasoline	56%
		Diesel	42%
		Natural Gas	3%
		Zero-emission	-
Technology <u>stocks</u> targets for the <u>truck</u> fleet	Shares of the different vehicle technologies in lorry sales/registrations. (in %)	Gasoline	5%
		Diesel	94%
		Natural Gas	1%
		Zero-emission	-
Technology targets for <u>rail freight</u>	Shares of the different technologies in rail freight. (in %)	Diesel	100%
		Electric	-



Scenario building for the Philippines

Measure name	Description of the quantified objective	Base value for 2020	2050 ITF scenario current ambition
Infrastructure development			
Rail freight expansion	New to be built rail sections	0km	580km
Road expansion	New to be built road sections	-	-
Road upgrades	Upgrade from provincial to tertiary road (%)	-	-
	Upgrade from tertiary to secondary road (%)	-	-
	Upgrade from secondary to primary road (%)	-	-



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 road freight (in %)	<1%	2%
Eco-driving	Effect on CO2 emissions (% emissions reduction)	0%	4%
Improving intermodal dwell times	Reduction in dwell times truck-to-port (%)	Port-dependent	
	Reduction in dwell times rail-to-port (%)	Port-dependent	
	Reduction in dwell times nautical highways and coastal shipping-to-port (%)	Port-dependent	



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 1000 tonne-kilometres (USD)	0	10
Carbon pricing	Price per tonne of CO2 emissions (USD)	0	150



Scenario building for the Philippines

Measure name	Description of the quantified objective	Base value for 2020	2050 ITF scenario current ambition
Regulatory instruments			
Speed reductions for road transport	Decrease in speed of road transport (%)	0	10%
Heavy capacity vehicles (HCV)	Percentage of road freight done with HCV (%)	0%	2%
Fuel economy standards for internal combustion engine (ICE) vehicles	Reduction in carbon intensity of trucks (%)	-1%	-10%
Emission standards of <u>diesel trucks</u>	Share of emission standards in truck sales/registrations	Euro 4	
		Euro 5	
		Euro 6	



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%



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)**

THANK YOU FOR YOUR ATTENTION

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