

Decarbonising Transport in Emerging Economies (DTEE) - Azerbaijan

Azerbaijan Non-Urban Freight Model training session



Recalling the context

- The ITF team has worked with the Azerbaijan Ministry of Digital Development and Transport and the Baku Transport Authority to build 3 tools that allow to assess the impact of policy measures on transport demand and related emissions to 2050.
- The 3 tools are MS Excel-based and cover:
 - Passenger transport in Baku
 - Passenger transport in Azerbaijan (excl. Baku)
 - Freight transport in Azerbaijan **[FOCUS OF THIS PRESENTATION]**
- The tools (incl. training material) are made available to any interested stakeholders

Recalling the context

- The tools should **help policy makers put in place efficient policy measures** to reduce carbon emissions from transport.
- Results may feed national or international policy documents (e.g. national transport plans or updates of Azerbaijan's NDC).
- The tools were developed in the context of the [Decarbonising Transport in Emerging Economies project](http://www.itf-oecd.org/dtee) (www.itf-oecd.org/dtee)

Goal of the meeting

Present the international freight transport visualization tool

Objectives:

- Model users are able to understand and use the tool for scenario analysis
- Use this presentation as a manual for future users

This training presentation should be used together with the model methodology note

The Non-urban International Freight Model

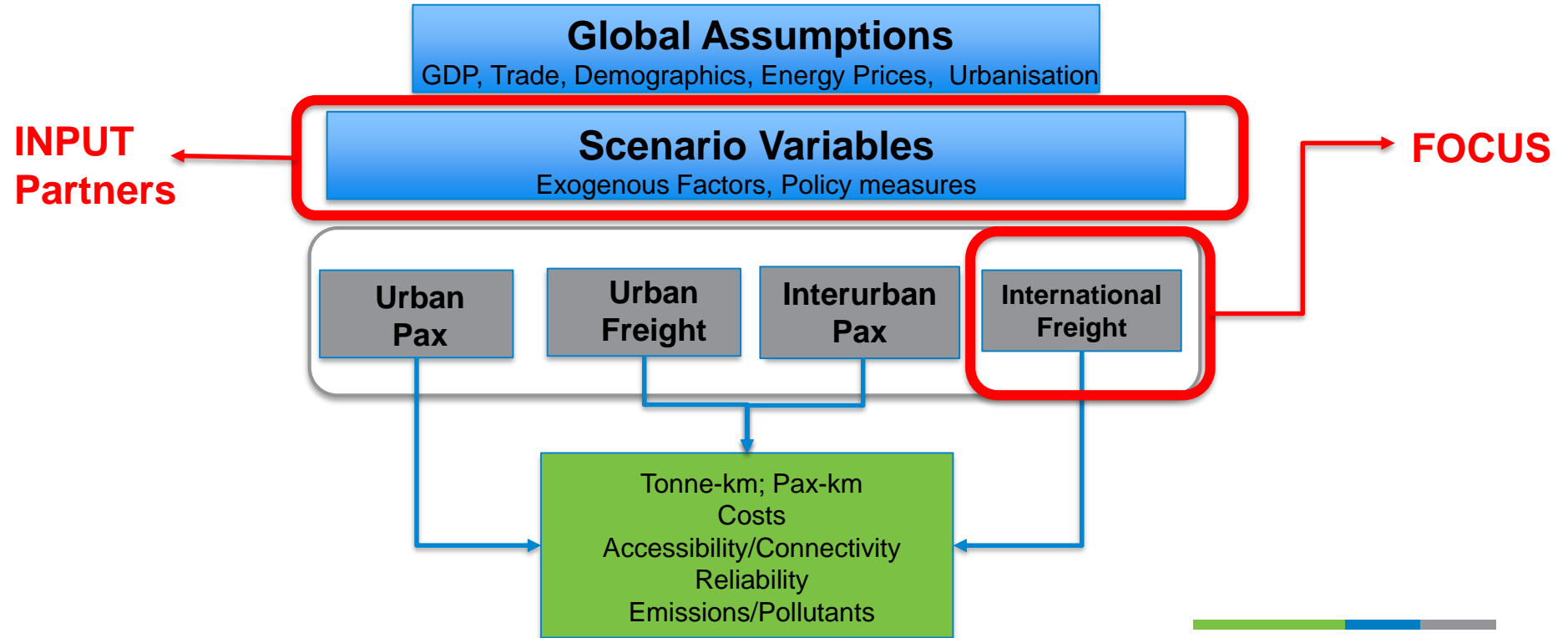


ITF Modelling framework

- Allows testing the impact of various **policies, measures, and trends** for freight and passenger travel
- Scenarios are built into the models with **direct stakeholder engagement** to ensure the inclusion of **relevant and interesting policy scenarios.**
- **Simultaneous estimation** in **common multimodal network** and zoning system



ITF Modelling framework



Overview

- **Project relied on the Global Freight Model**
- **Policy Scenarios designed in direct collaboration**
 - The ITF does not advocate for particular solutions
 - The inclusion or exclusion of a particular model does not imply a value judgement
- **Output** was generated for three different **timeframes: 2015, 2030, and 2050**
- Required **extensive validation** of data at the national scale



National Refinement

- The **in-house Global Freight model** was refined to best represent characteristics for Azerbaijan
- Such work included:
 1. updates to the national **transport infrastructure** network
 2. **data validation** exercises

Freight Scenarios For Azerbaijan

Policy scenarios for CO₂ reduction

1

Baseline

No measures are implemented that will influence travel demand or CO₂ emissions during the 2020-2050 period.

This scenario constitutes a **“do nothing” reference** against which the effectiveness of CO₂ reduction policies in the other two scenarios is tested.

2

Current policies

Azerbaijan’s **transport policy measures currently planned** to influence travel demand or CO₂ emissions are carried out during the 2020-2050 period.

If no further plans are established or measures taken to reduce transport CO₂ emissions, this scenario **reflects the most likely future** for Azerbaijan.

3

Climate ambition

Additional measures are introduced on top of the current policies scenario, to better align Azerbaijan’s transport CO₂ emissions with reaching the Paris Climate Agreement.



The visualization tool



Visualization Tool

- **Companion Data Explorer** MS Excel-based tool
- Allows you to explore **additional results** from the 3 freight transport decarbonisation scenarios
 - **Sections**
 - Freight **Transport Emissions**
 - Freight **Transport Activity**
 - **Modal Share**
 - **9** interactive graphs



Visualization Tool (Components)

- **Dashboard**
 - 9 interactive graphs
 - Text extracts from associated ITF report
 - Buttons
- **MetaData**
 - Overall framework
 - Description of Scenarios
- **Background datasheets**
 - Tabular model results



Visualization Tool

Decarbonizing Transport In Emerging Economies: Azerbaijan

Dashboard: Policy Scenarios for Decarbonising Azerbaijan's Transport System

This publication provides the results of three scenarios that were developed to assess the impact of policy measures on freight transport demand and related costs, emissions and shipping times in Azerbaijan. It highlights measures and trends that will have significant impact on the country's transport system and its connections with other world regions in the decades to come.

LINK TO REPORT: [Policy Scenarios for Decarbonising Azerbaijan's Transport System](#)

Policy scenarios for freight transport

1

Baseline

No measures are implemented that will influence transport demand or CO₂ emissions during the 2020-2050 period. This scenario constitutes a 'no nothing' reference against which the effectiveness of CO₂ reduction policies in the other two scenarios is tested.

2

Current policies

Azerbaijan's transport policy measures currently planned in reference base demand of CO₂ emissions are carried out during the 2020-2050 period. If no further policy are introduced or measures taken to reduce transport CO₂ emissions, this scenario reflects the most likely future for Azerbaijan.

3

Climate ambition

Additional measures are introduced on top of the current policies scenario, to better align Azerbaijan's transport CO₂ emissions with reaching the Paris Climate Agreement.
[Additional details at: az1000.az](#)

DASHBOARD DECARBONISATION - DTEE AZERBAIJAN

Figure 1
Annual transport CO₂ emissions in Azerbaijan in 2015, 2030 and 2050 by scenario and segment of demand

Scenario: Base / Current / Climate ambition / Current policies

Year: 2015 / 2030 / 2050

Segment: Freight transport / Passenger excluding taxi / Passenger transport taxi

Year	Base	Current	Climate ambition	Current policies
2015	~1.2	~1.2	~1.2	~1.2
2030	~1.6	~1.6	~1.6	~1.6
2050	~2.6	~1.0	~0.7	~2.3

Figure 2
Annual Freight transport CO₂ emissions in Azerbaijan in 2015, 2030 and 2050 by scenario and region

Scenario: Base / Current / Climate ambition / Current policies

Year: 2015 / 2030 / 2050

Region: Africa / Asia / Azerbaijan / Europe & India / Europe / Latin America / Middle East / North America / Pacific / Transasia / Turkey / Other

Year	Scenario	Azerbaijan	Other Regions
2015	Base	~1.2	~0.0
2030	Current	~1.6	~0.0
2050	Climate ambition	~0.7	~0.0
2050	Current policies	~2.3	~0.0

TEXT EXTRACTS

SLIDE 9
Ambitious policies can have annual transport CO₂ emissions by 2050

Reductions in annual CO₂ emissions can only be achieved in the climate ambition scenario.

Current policies are insufficient to keep transport CO₂ emissions to grow by around 25% in the period from 2015-50 (see the current policies scenario).

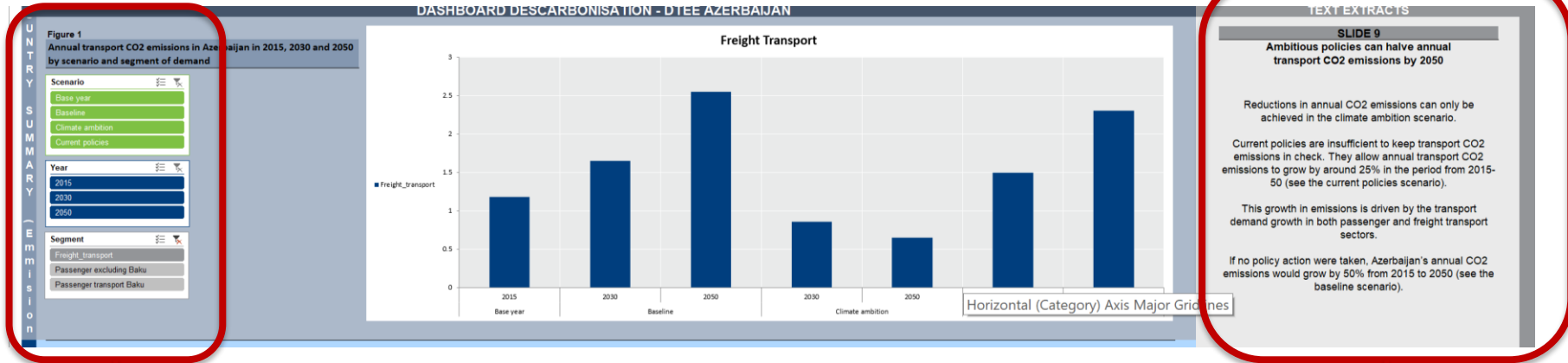
This growth in emissions is driven by the transport demand growth in both passenger and freight transport sectors.

If no policy action were taken, Azerbaijan's annual CO₂ emissions would grow by 50% from 2015 to 2050 (see the baseline scenario).

Visualization Tool



Dashboard (Zoom in)



Interactive buttons to generate new graphs and explore the freight model results

Associated text extract from the report, to provide context

MetaData

Button to access the
dashboard

Links to
associated
data tables
for each of
the graphs

Dashboard Developers: John P Pritchard, Pablo Vazano
Associated Report: [Policy Scenarios for Decarbonizing Argentina's Transport System](#)
[DASHBOARD DTEE Azerbaijan](#)

Go to DASHBOARD DTEE AZERBAIJAN

SHEETS			
	Worksheet	Description	Type
Meta	Meta	Información general	Info
Dashboard	Dashboard	Herramienta de exploración de los datos	Dashboard
Back up DATA	Back up DATA	Data tabular de resultados	Date
EMISSIONS	1	Figure 1	Plot
	2	Figure 2	Plot
	3	Figure 3	Plot
	4	Figure 4	Plot
	5	Figure 5	Plot
ACTIVITY	6	Figure 6	Plot
	7	Figure 7	Plot
	8	Figure 8	Plot

Background Datasheets

Navigation
Buttons

Go to DASHBOARD DTEE AZERBAIJAN Go to Metadata

Scenario	Year	Mode	RO	Region	Region2	CO2_Inv	CO2_Inv	CO2_TCE	CO2_TCE	CO2_TCE	CO2_TCE	Inv_Inv	Inv_Inv	Inv_Inv	Inv_Inv	Inv_Inv	Inv_Inv	Inv_Inv	Inv_Inv
Baseline	2015	Air	AGO	SSA	Africa	3356.6444	11574.7504	11570.395	0	0.7065	8412	12097.818	85983.1952	0	0	949176033			
869 Baseline	2030	Air	AGO	SSA	Africa	72422.6653	15578.5967	88001.282	-0.2130758	-0.2130758	51218.6835	11017.378	62236.0615	-0.2303533	-0.2303533	744018449			
1734 Baseline	2050	Air	AGO	SSA	Africa	94291.2902	21481.8399	115721.1	0.03480038	0.03480038	65077.6361	14809.0576	79888.8937	-0.0120731	-0.0120731	1007902908			

Tabular
model
Results