



The project is funded by the European Commission's  
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# EU Transport GHG: Routes to 2050?

Illustrative scenario tool

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# Overview of the presentation

- How does the tool fit in to the rest of the project?
- What is the purpose of the tool?
- How will the tool be used?
- What will the tool cover?
- What will be the outputs from the tool?
- How will it work?
- Assumptions

# How does the tool fit into the rest of the project?

- The tool is a key element of part 2 of the project
- The tool will draw on the key findings from the technical and non-technical papers
  - Feasibility of technical and non-technical options
  - Costs
  - Carbon abatement potential
- The tool will be used to generate figures for the final report
- Draft outputs from the tool will be discussed at the stakeholder meeting in late January

# What is the purpose of the tool?

- Provide some indicative estimates of the impacts of the main policy instruments
  - Costs, carbon savings, co-benefits
- Estimate the impact of implementing groups of policy instruments simultaneously
  - i.e. testing scenarios
- Allow stakeholders to experiment with combining different groups of policy instruments
  - Excel-based
  - Tool will be available to download from the project website

# How will the tool be used?

- The tool will contribute to the EC's early ideas on a policy framework for reducing GHG emissions from the transport sector
  - It will allow users to gain some preliminary insight into the scale of action that will be required
- However...
  - The tool will not be the basis on which the EC makes decisions
  - More detailed modelling will be required to fully assess the impacts of each policy option/policy instrument
- Stakeholders will have plenty of future opportunities to critique the costs and benefits of policy options and policy instruments

# What will the tool cover?

- All transport modes
  - Road transport will be covered in most detail as it is the largest source of transport emission
- The Impacts of the main (technical and non-technical) options and policy instruments described in the respective papers, for example:
  - Power train options
  - Taxes
  - Regulations setting new CO<sub>2</sub> limits for vehicles
  - Policy instruments that improve energy efficiency (traffic management, improved speed enforcement)
- Many of the impacts will be considered in a very simple fashion

# What will be the outputs from the tool?

- For each policy instrument the tool will provide indicative estimates of:
  - Carbon savings
  - Cost to society
  - Cost to the consumer
- It is also hoped that the tool will be able to provide indicative estimates of:
  - Air quality impacts
  - Energy security impacts
- These figures will be presented in tabular and graphical form

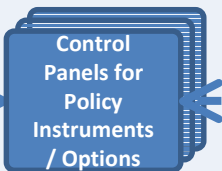
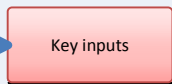
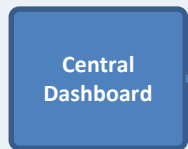
# How will the tool work?

- The user will be able set certain parameters from:
  - The central dashboard
  - The individual ‘control panels’ for each policy option or policy instrument
- These parameters will include:
  - Transport demand
  - Modal split
  - Split of power train technologies (for road vehicles)
  - Energy consumption of each power train technology (for road vehicles)
- The user will be able to set these parameters for 6 timescales:
  - 2010, 2015, 2020, 2030, 2040 and 2050

## How will the tool work? (2)

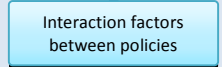
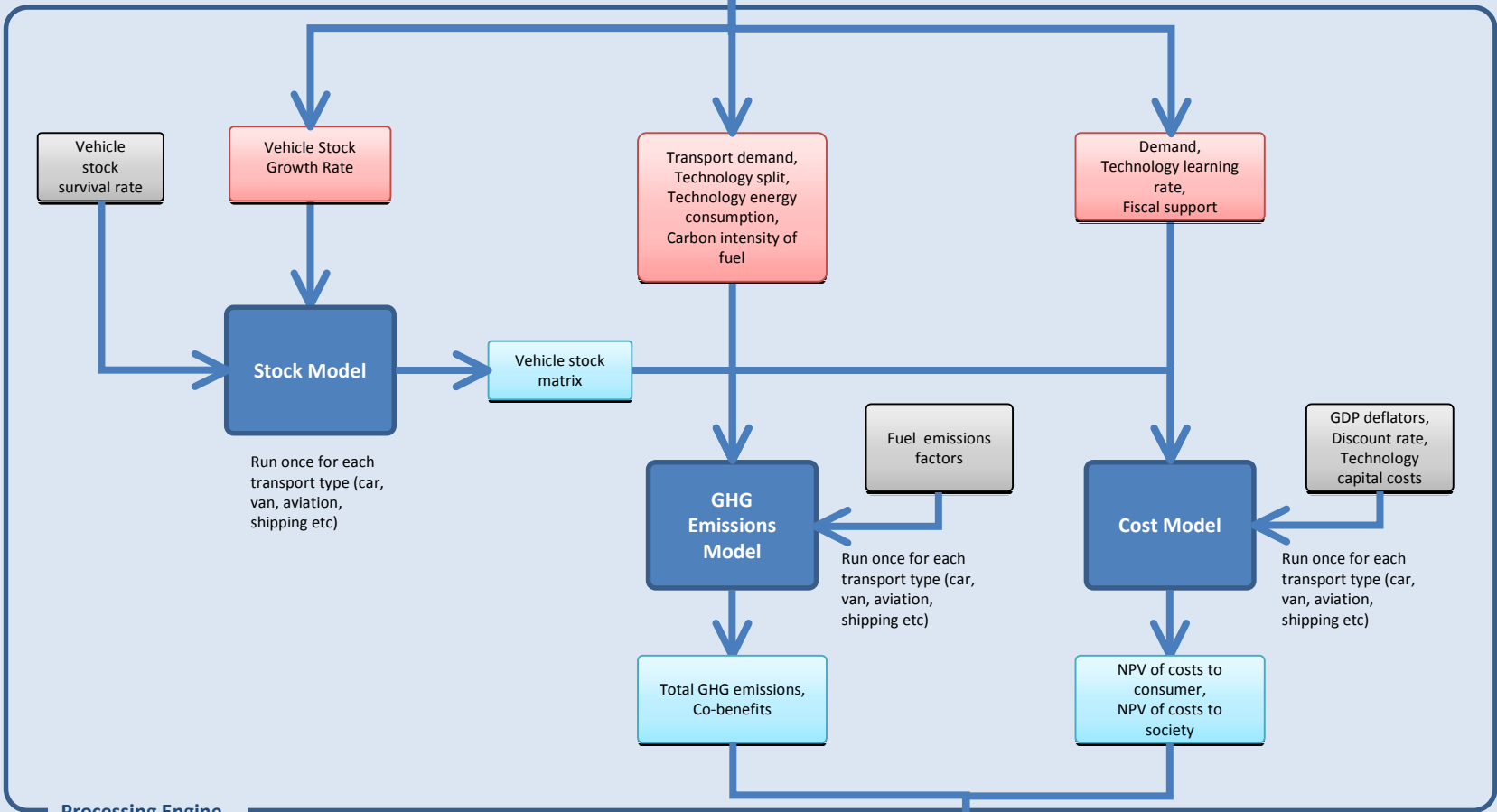
- The central dashboard will also allow the user to form a group of policy objectives/instruments I.e. a scenario
- The data from the central dashboard and the control panels will be passed to 3 'engines' within the tool:
  - Stock model
  - Carbon emissions model
  - Cost model
- These engines will calculate the results for each policy objective/instrument in turn before passing them to a results table

INPUTS



One worksheet for each policy instrument or option

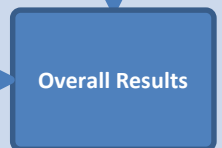
PROCESSING



OUTPUTS



Run once for each policy instrument or option



# Main Assumptions

- The carbon impacts of the policy instruments will be underpinned by a range of assumptions:
  - Influence on demand, modal split, split of power train technologies, energy consumption etc
- Most parameters inserted for 6 timescales: 2010, 2015, 2020, 2030, 2040 and 2050.
- Linear interpolation is used to generate values for intervening years
- For road and rail modes 'Stock' and 'Activity' projections are taken from TREMOVE.
- Road vehicle survival rates based on UK vehicle registration data.

# Draft list of policy instruments / objectives to be covered

## **Policy instruments**

### ***Road***

- Reduce the GHG intensity of road transport fuel
- Progressively tighter mandatory car CO2 targets
- Regulation of car maximum acceleration
- Mandatory CO2 targets for vans and HGVs
- Increase the cost of use of land-based transport through fuel taxes
- Full internalization of non-climate external costs

# Draft list of policy instruments / objectives to be covered

## **Policy instruments continued....**

### ***Aviation***

- Reduce the GHG intensity of aviation fuel
- Fuel tax for aviation
- Mandatory CO2 targets for planes

### ***Shipping***

- Increase the cost of maritime shipping
- Mandatory CO2 targets for ships

# Draft list of policy instruments / objectives to be covered

- The draft list of policy instruments does not feature rail or inland waterways since these modes only contribute 1% and 2% to transport GHG emissions

## **Policy objectives**

- Support for electric and hydrogen technologies for road modes
- Employ a suite of technical options for each mode
- Improved speed enforcement
- Harmonised EU motorway speed limits
- Speed optimisation for road transport

# Draft list of policy instruments / objectives to be covered

## **Policy objectives continued...**

- Fuel-efficient driver training for all modes
- Better traffic management
- Improved spatial planning
- Package of mobility management measures including improved public transport
- Package of cycling and walking improvement measures
- Reform of commuter car taxation
- Removal of x% of perverse incentives for transport



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# EU Transport GHG: Routes to 2050?

Any questions??

Partners

[www.eutransportghg2050.eu](http://www.eutransportghg2050.eu)

