



# EU policy framework for decarbonising road vehicles and fuels

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- *Regulation 443/2009 (CO<sub>2</sub> cars) and Regulation 510/2011 (CO<sub>2</sub> vans) establish new vehicle fleet average CO<sub>2</sub> targets:*
  - **130 g/km in 2012-2015 for cars**
  - **175 g/km in 2014-17 for vans**
- *Commission proposals to implement 2020 targets:*
  - **95 g/km for cars**
  - **147 g/km for vans**
- *Directive 98/70 (Fuel Quality) establishes Low Carbon Fuel Standard:*
  - **6% reduction in road fuel GHG intensity by 2020**



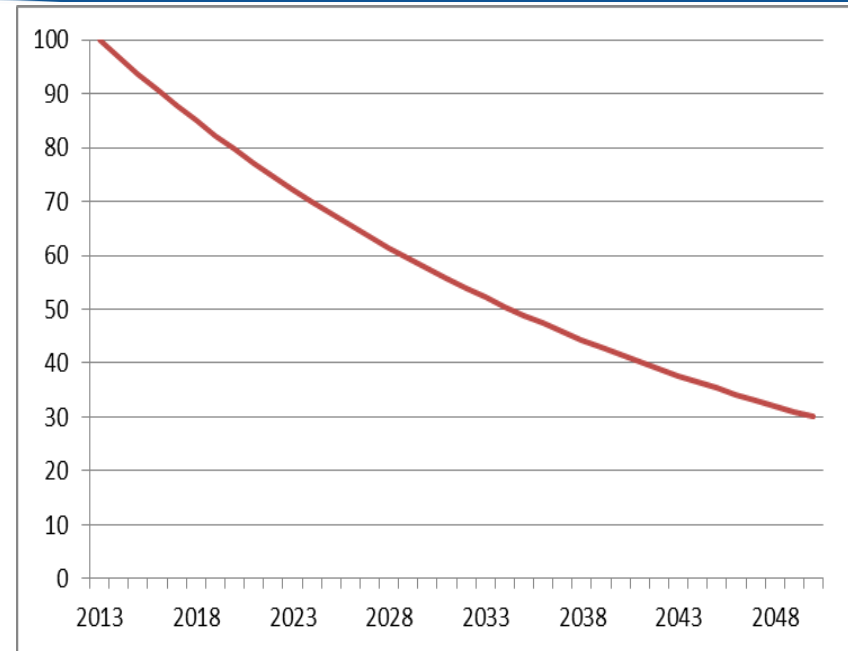
- *Finalisation of consideration by co-legislators of Commission proposals for 2020 targets.*
- *Start of work on post-2020 LDV CO<sub>2</sub>:*
  - **Some studies finished, others being prepared**
  - **Consultation process to start**
- *Preparation of strategy on HDV CO<sub>2</sub> emissions:*
  - **Impact Assessment prepared**
- *On-going work on development of HDV CO<sub>2</sub> monitoring tool:*
  - **proof of concept tests**
- *Commission proposal on ILUC under discussion*
- *On-going work on LCFS implementation measure:*
  - **Impact Assessment prepared**

# The challenge



## A 70% reduction in transport CO<sub>2</sub> emissions in 37 years

- At a constant annual reduction rate, this requires a 3.2% reduction in emissions every year – shown in the graph.

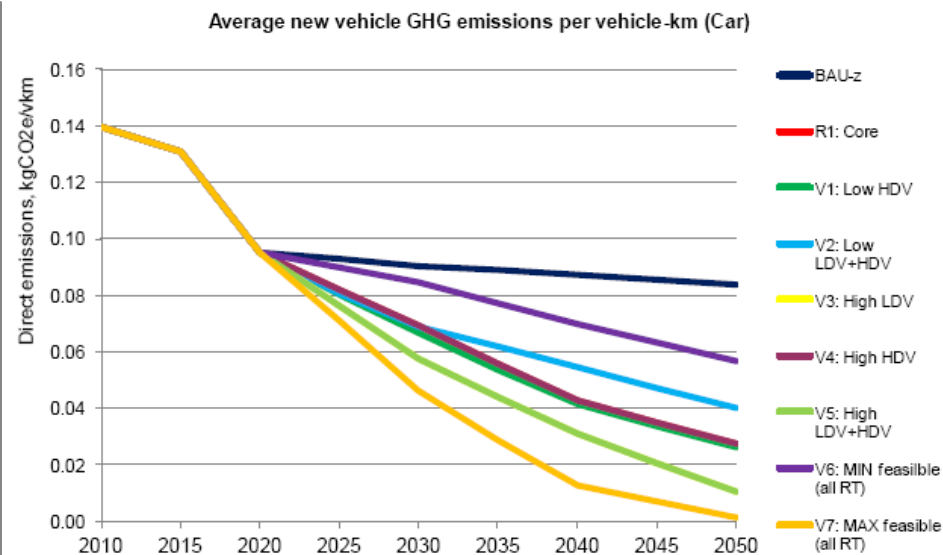
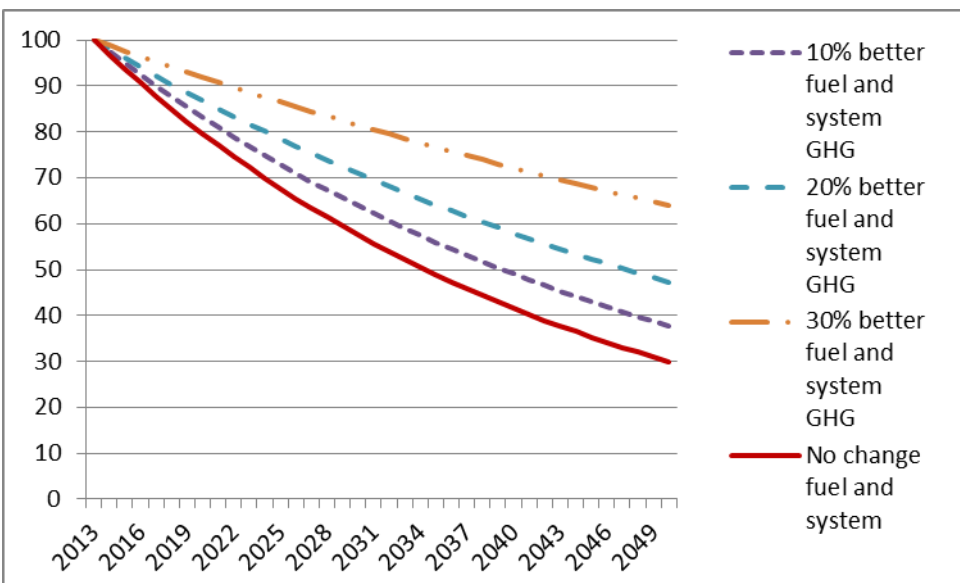


- Reduction rate for each transport sector depends on progress in the others.
- Delaying effect of fleet turnover rates implies need for a faster rate of annual vehicle improvement if this is only achieved through vehicle measures.

# Use all levers



- The effect of reductions in fuel GHG intensity, system efficiency and vehicle CO<sub>2</sub> emissions is multiplicative.
- The left graph illustrates how much reduction would need to come from vehicle improvements if both fuel and system improve by 0, 10, 20 or 30% over the period.
- The right graph illustrates possible car CO<sub>2</sub> target scenarios illustrating the wide variation depending on other policy actions.



*Essential to be able to sufficiently accurately monitor impacts of measures. Otherwise risk diverting effort and resources into activity not delivering desired outcome.*

## **LDV**

- Clear evidence of flexibilities and their exploitation
- Large proportion of reductions due to technology deployment
- WLTP under development. Aim to address some of the problems
- Measurement of MACC emissions under separate cycle

## **HDV**

- Multiplicity of duty cycles, missions, variants
- Computer modelling approach appears most attractive

## **Fuel**

- Explicit recognition of accuracy-complexity trade-off
- Implementing measure for emissions previously proposed
- Impact assessment complete

A number of issues (non-exhaustive) have been raised re LDV CO<sub>2</sub> beyond 2020 that merit assessment:

- **Embedded emissions**

- Explored in "Routes to 2050" study

- **Regulatory metric**

- Two studies completed

- **Footprint as utility parameter**

- Study underway

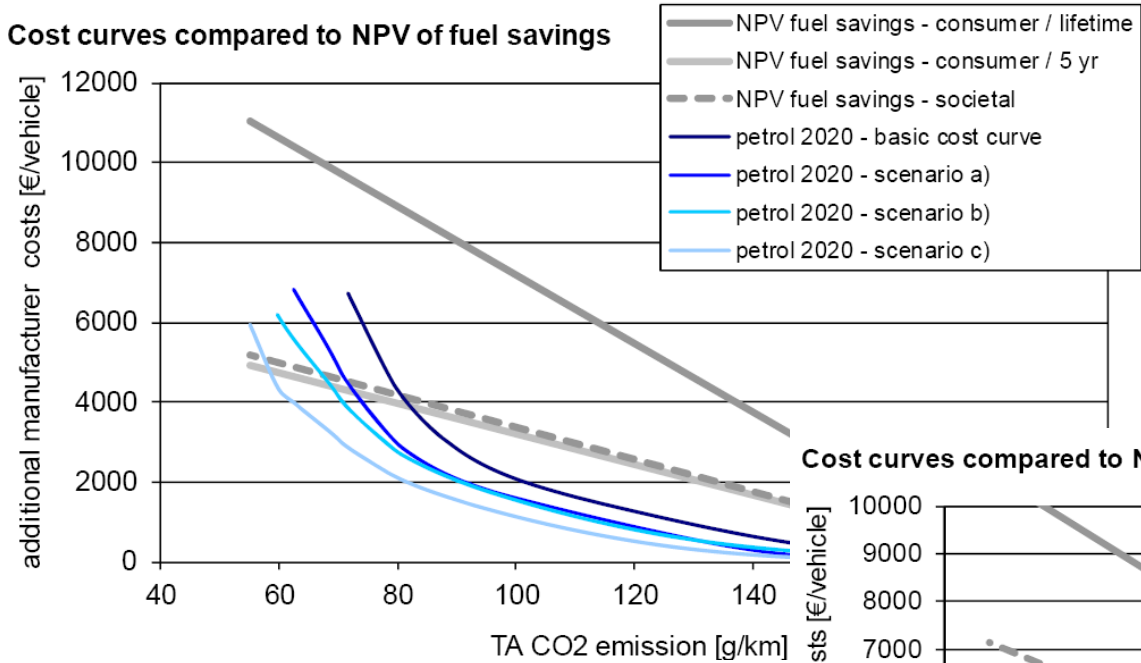
- **The level of ambition**

- In addition a future Impact Assessment is likely to need to consider innovation; technology neutrality; competitiveness...

# Potential?



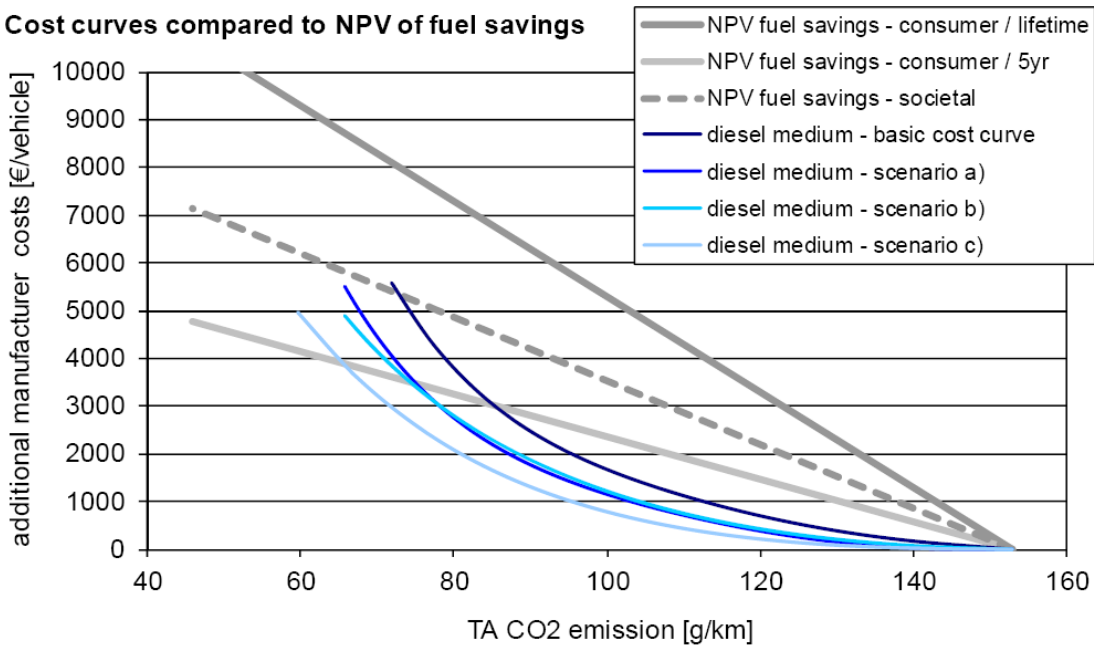
Cost curves compared to NPV of fuel savings



## From current Commission Impact Assessment

Based on 2020 technology assumptions for a medium car

Cost curves compared to NPV of fuel savings





- Consultative Communication on post-2020 LDV regime
- Impact Assessment and proposal for post-2020 LDV targets and modalities
- HDV CO<sub>2</sub> strategy
- Continued development of VECTO tool
- LCFS implementing measure

# Thank you

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