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# **Climate change**

## **Implications for transport infrastructure**

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**European Commission**



## Meeting the 2° C objective

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- The overall EU target is to globally not exceed a temperature increase of +2C compared to pre-industrial period.
- 450 ppm by 2100 will give 50% chance to meet the +2C target
- Global GHG emissions reduction by 15 and may be as much as up to 50% by 2050 compared to 1990, implying reductions in developed countries of 60-80% by 2050.
- Global GHG emissions peak before 2020



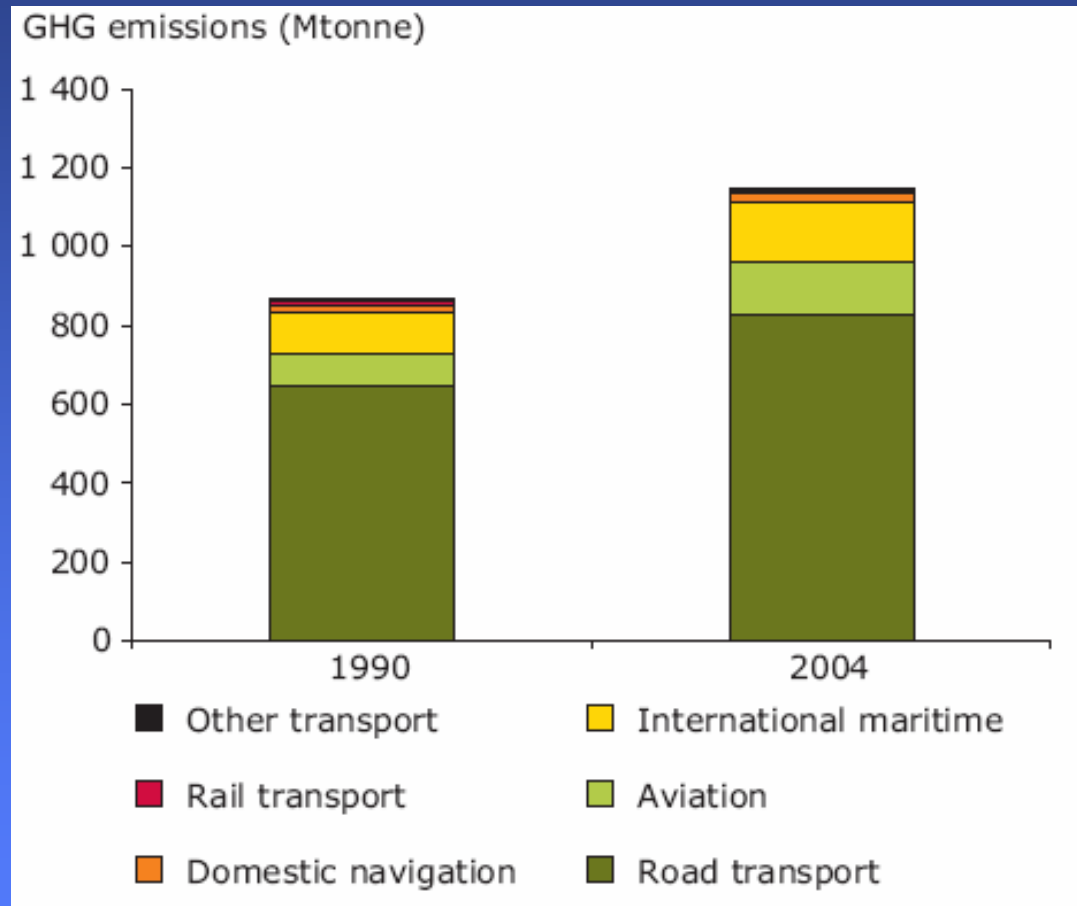
## EU

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- EU has agreed a 20% reduction in GHG emissions by 2020 compared to 1990. (30% if other developed countries take similar action)
- Transport currently represents about quarter of EU GHG emissions.
- Transport is the only major EU sector where emissions are increasing.



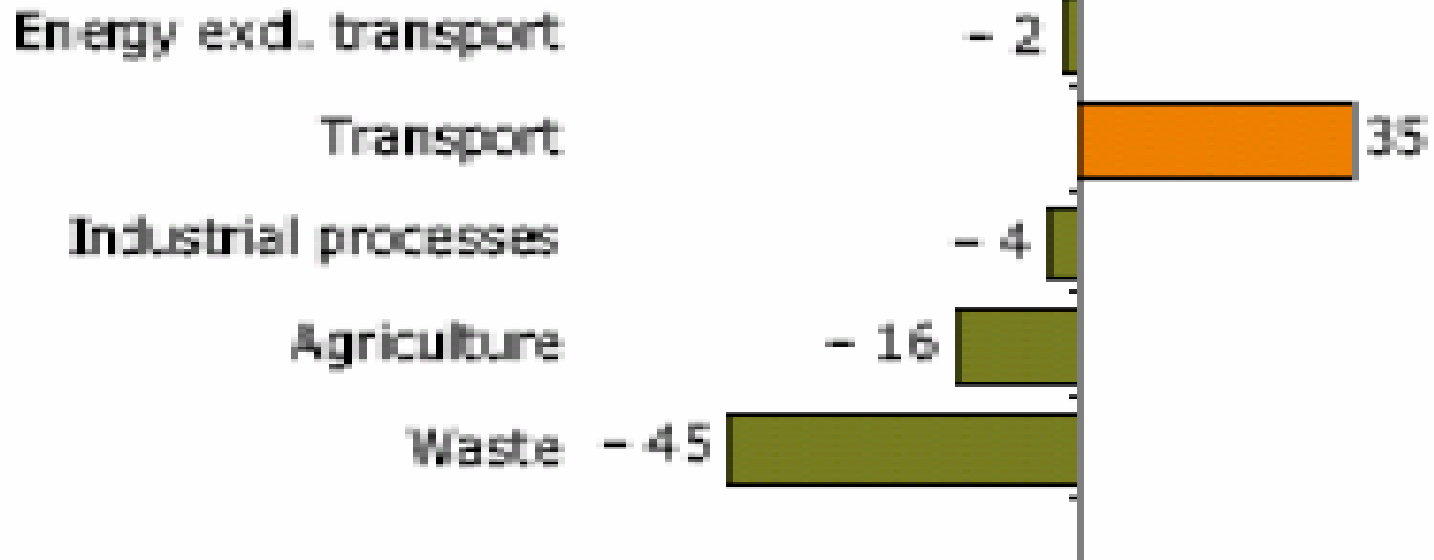
# EU15 Transport GHG Emissions





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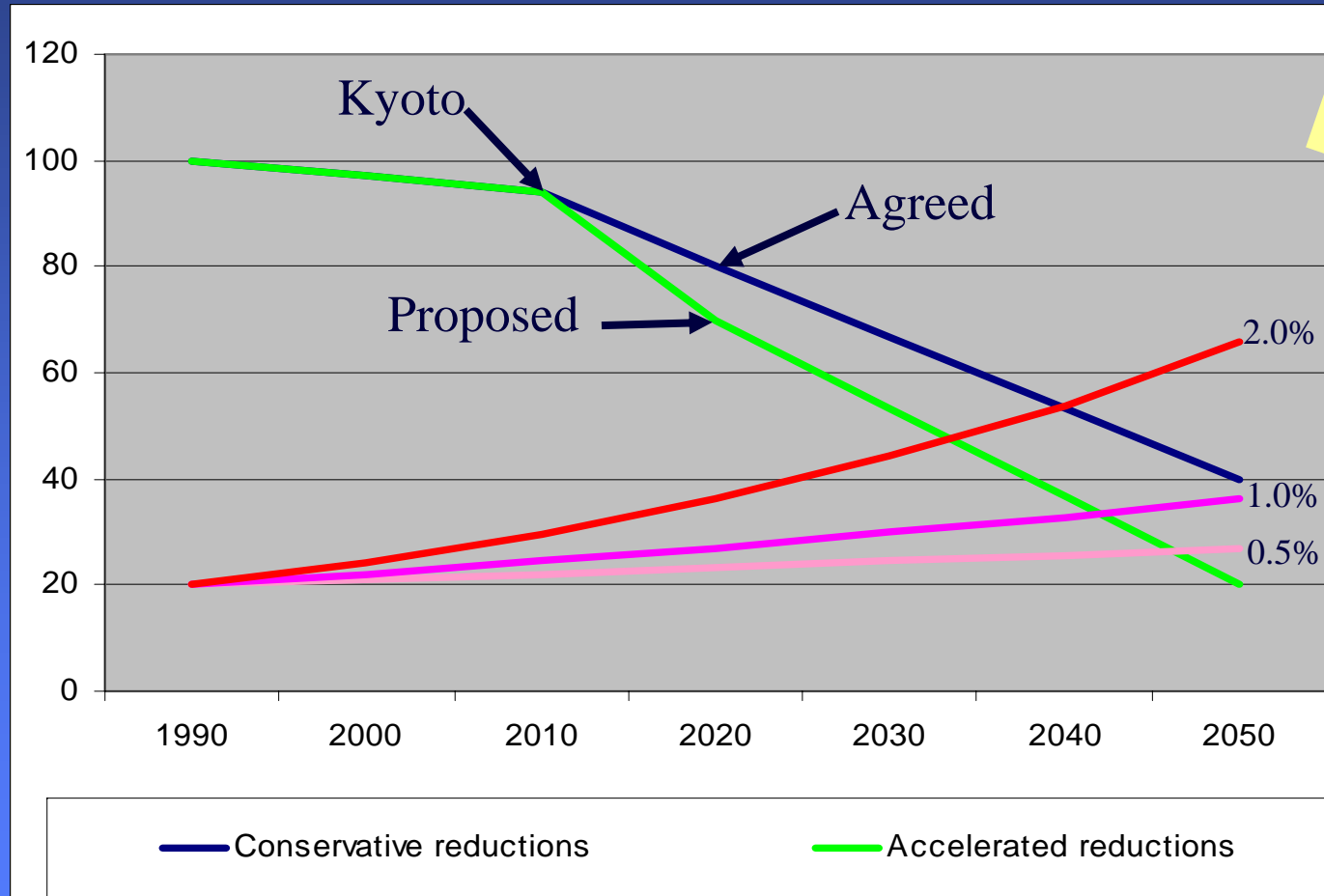
Projections with existing measures base year-2010



**EU-15 GHG emissions from transport are projected to increase further, emissions from other sectors to decrease.**



# Transport growth and emissions reductions



1990-2004  
1.7%



## What needs to be done?

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- **Two possibilities**
  - Reduce amount of energy used for transport
  - Reduce the greenhouse gas intensity of energy used in transport
- **How can energy use in transport be reduced?**
  - More efficient vehicles (more vehicle-km per MJ)
  - More efficient operating practices (more pax or tonne-km per vehicle-km)
  - Improved driving
  - Measures to reduce demand for powered transport (less vehicle-km)



## Some relevant EU initiatives

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- **Proposals for legislation**
  - Directive on aviation and emission trading
  - Car taxation Directive
  - Revision of fuel quality to include GHG
  - Commercial diesel taxation
- **Legislative proposal under development**
  - Regulation on new car efficiency
  - Car labelling
- **Under examination**
  - Ships
  - Heavy Duty Vehicles





## What implications for infrastructure?

**John Holdren, President of the American Association for the Advancement of Science**

- ⌘ 'We basically have three choices – mitigation, adaptation, and suffering.'***
- ⌘ 'We're going to do some of each. The question is what the mix is going to be.'***
- ⌘ 'The more mitigation we do, the less adaptation will be required, and the less suffering there will be.'***



## What implications for infrastructure?

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- Infrastructure has long life.
  - Will it be needed in future?
  - Will it be appropriate in future?
  - Financial implications
- Need to consider
  - Mitigation
  - Adaptation



## Mitigation

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- GHG mitigation might change demand for types of infrastructure e.g.:
  - To supply lower carbon fuels
  - To satisfy mobility needs with less GHG
- GHG mitigation might change demand for use of infrastructure, e.g.:
  - Measures to reduce demand might be needed if carbon intensity cannot be reduced
  - Measures to affect how infrastructure is used



**Thank you for your attention**



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