

# Roadmap for a fossil fuel independent transport system in 2030

# The project

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- Aim: Establish a Roadmap for a fossil fuel independent transport system in 2030
- Domestic transport, including non-road mobile machinery
- Broad participation (+ 40 organizations, working groups, seminars, ...)
- Final report in early 2013, conference the 7th of February
- Financed by Elforsk

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# Background

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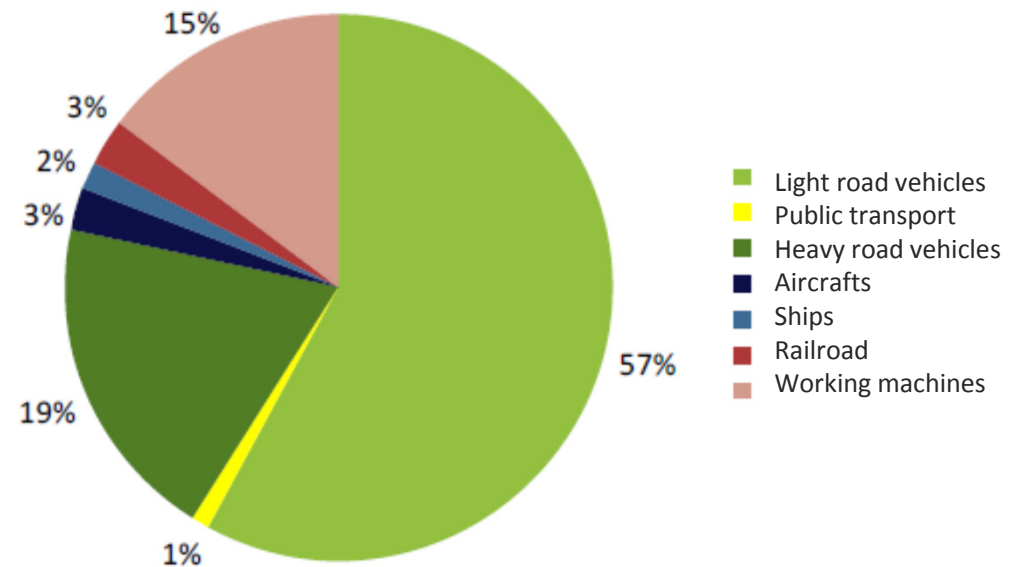
- Inspired by the government's national goal of a vehicle fleet independent of fossil fuels by 2030
- 2010: Fossil fuel independent transports by 2030 – a vision project
- 2011: Ten concrete measures and ten "low hanging fruits" – elements for an action plan

# System boundary, vehicles & measures



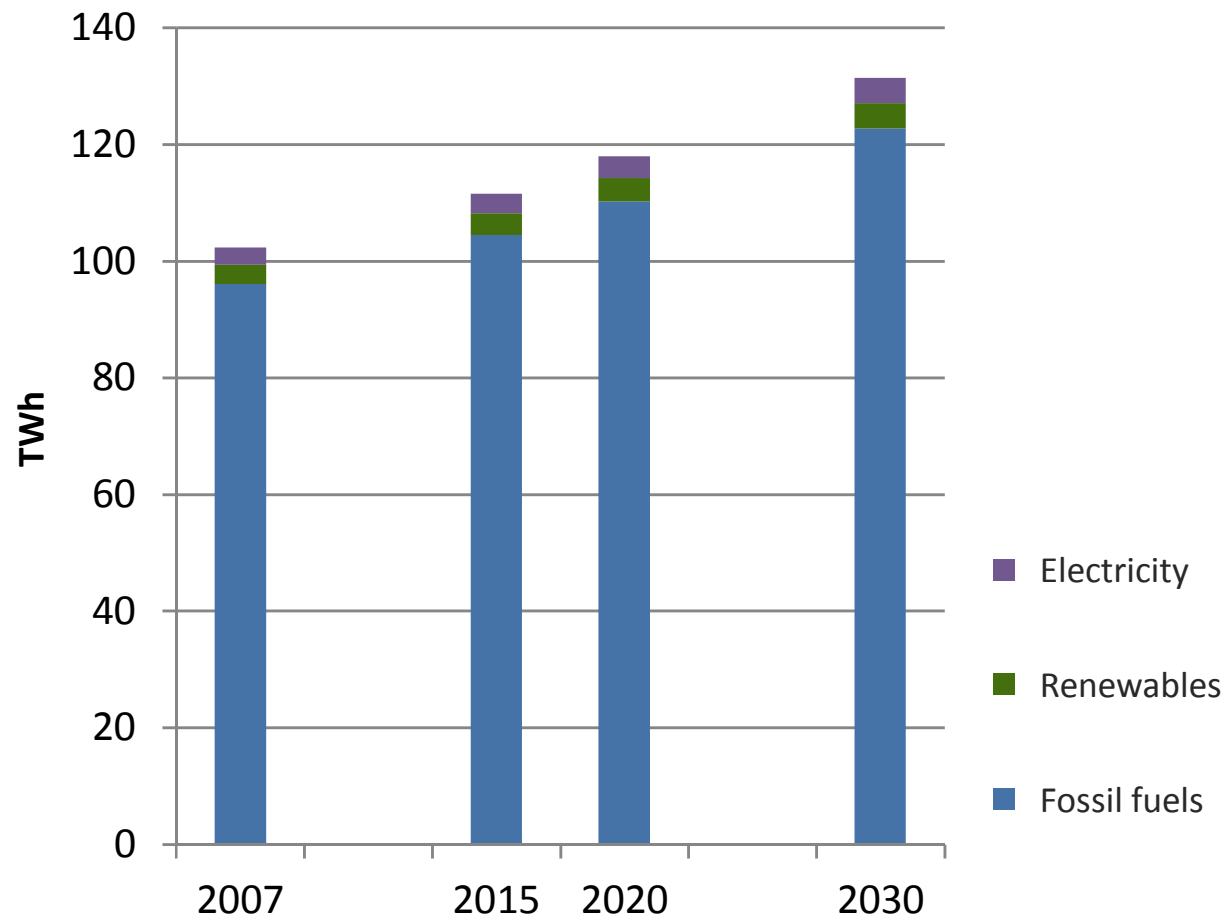
- Private cars
- Mopeds & motor cycles
- Light trucks
- Heavy trucks
- Buses
- Ships
- Aircrafts
- Railway
- Non-road mobile machinery

Swedish domestic transports – energy use

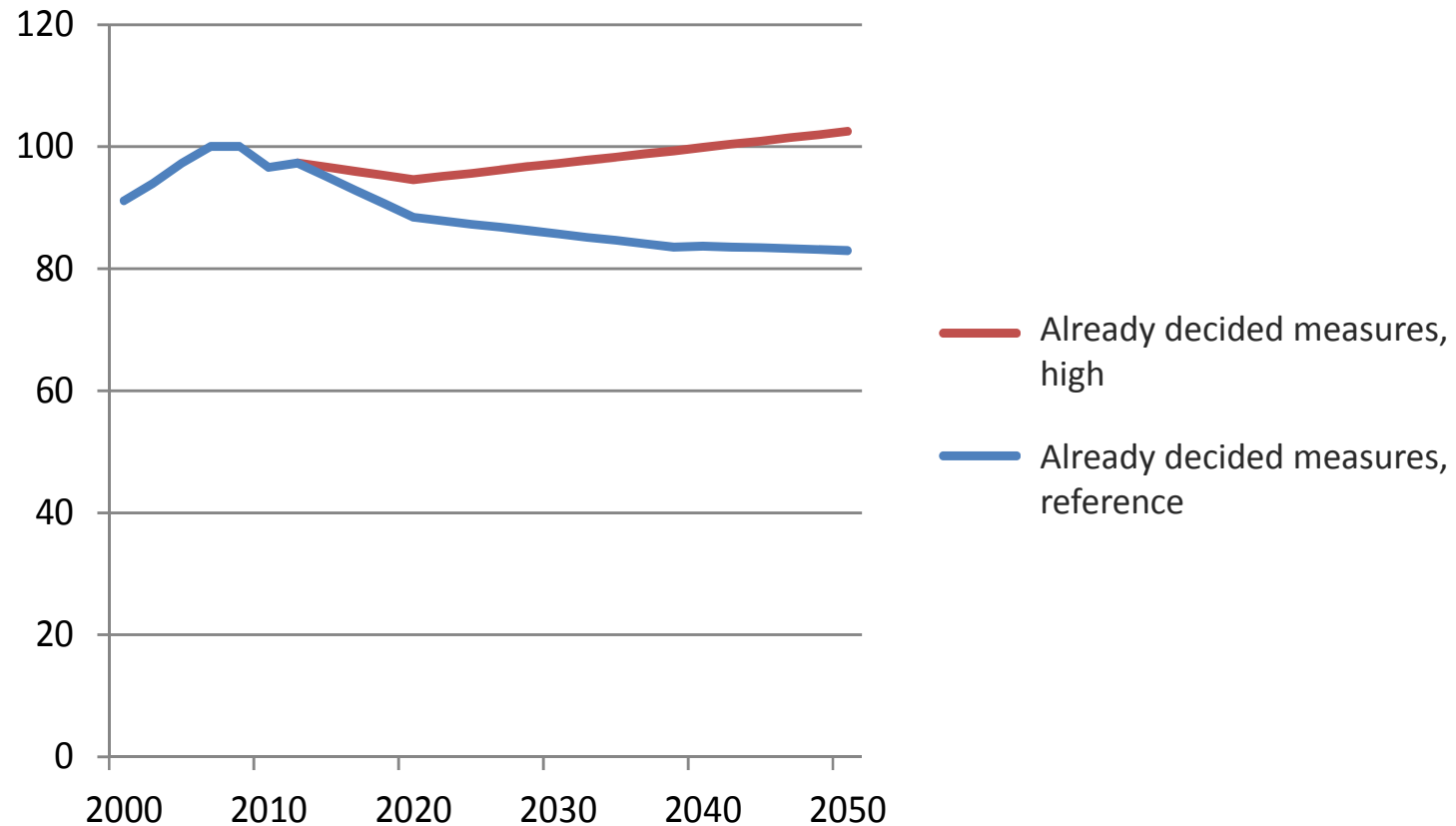


1. Reduced demand for transport
2. Modal switch
3. Increased efficiency
4. Fuel switch

# Development without improved efficiency and without fuel mix changes (static projection)

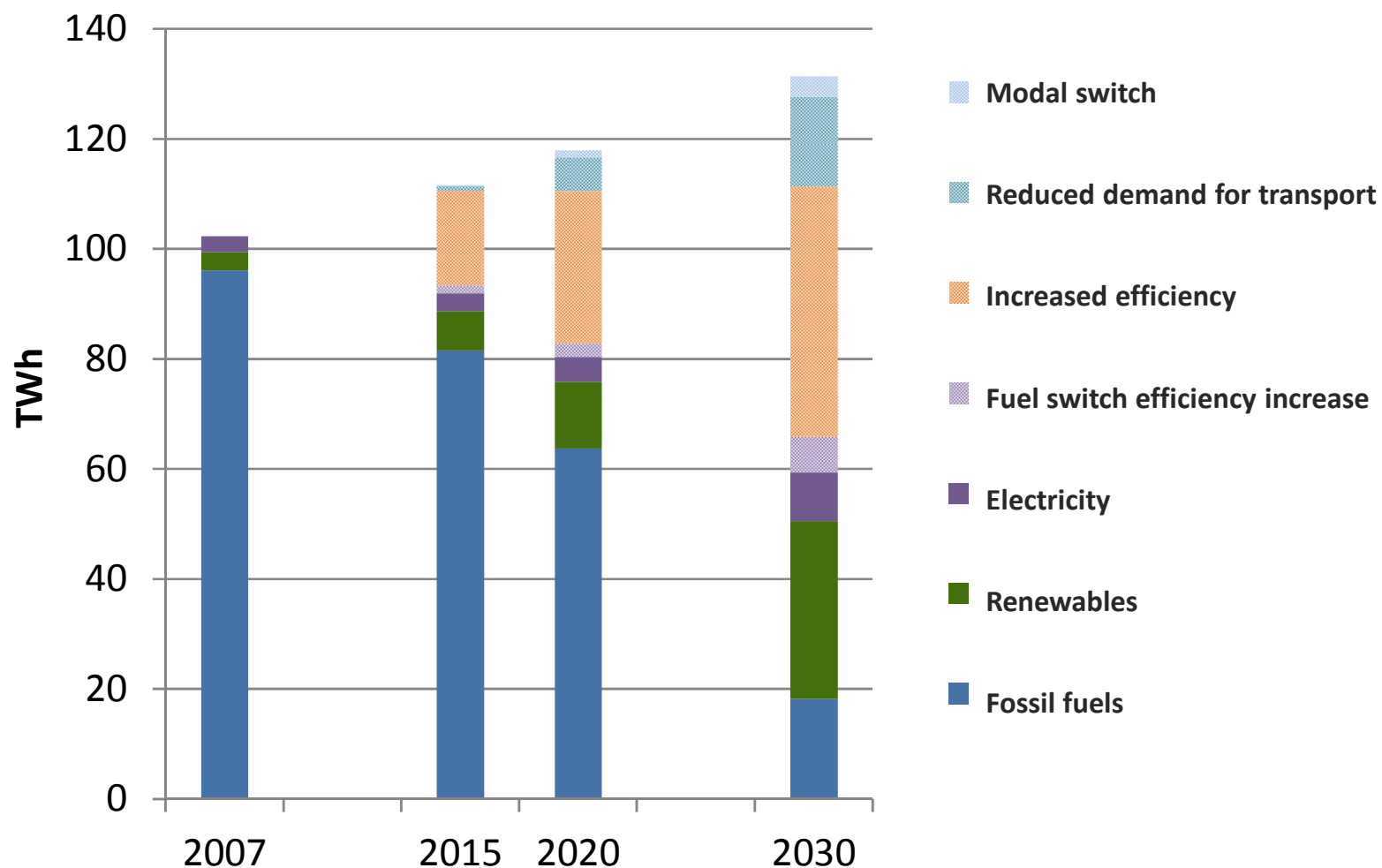


# Use of fossil fuels for road transport – development including already decided measures



Source: the Swedish Transport Administration

# Total fuel use in the Reference scenario



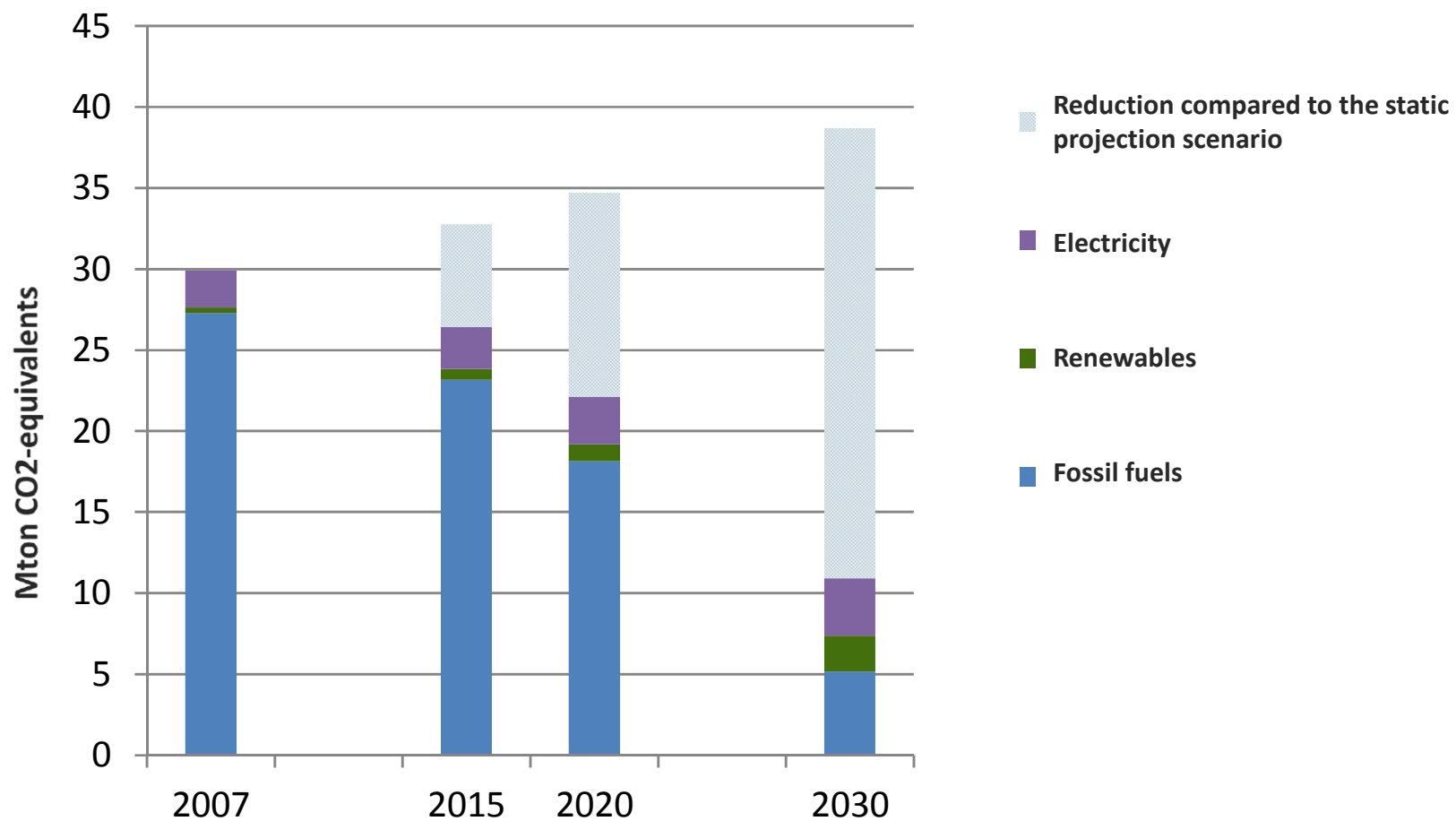
# Emissions in the Roadmap scenario

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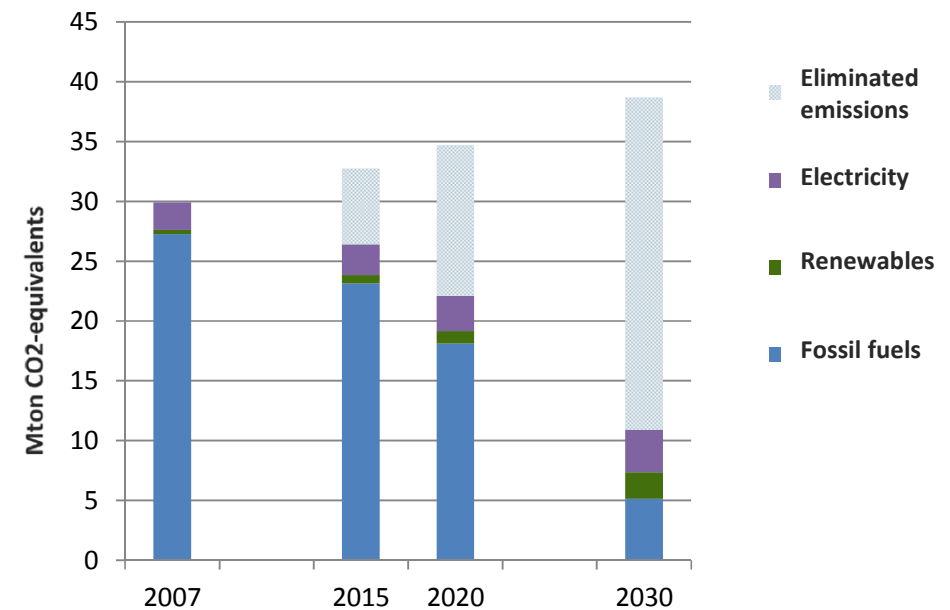
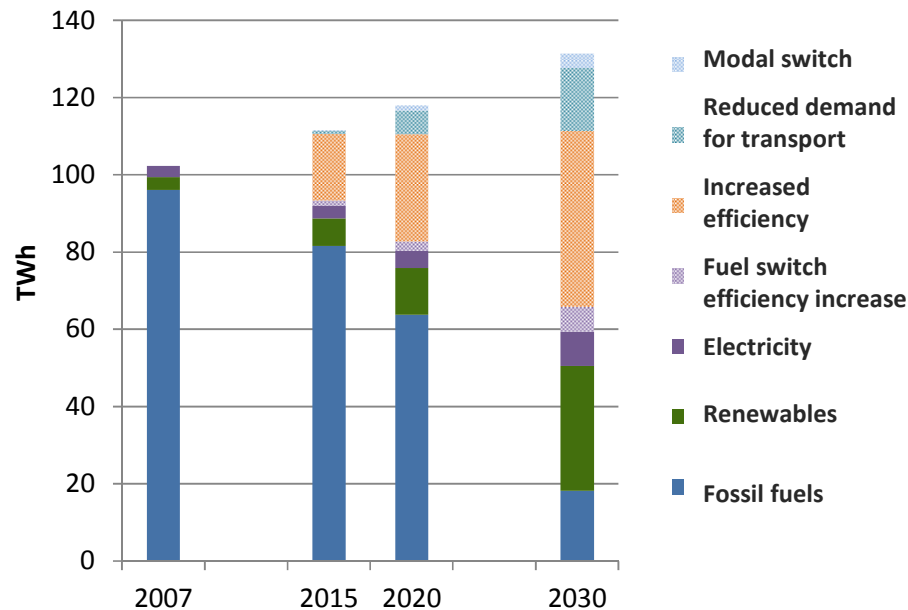
- Emissions of greenhouse gases
- CO<sub>2</sub>-equivalents
- "Well-to-wheel"
- How electricity is viewed:
  - Long-term marginal approach, European power system
  - Partly depending on assumptions on future CO<sub>2</sub>-prices etc.
  - Roadmap-scenario: 800 -> 400 kg CO<sub>2</sub> / MWh
    - 2050 even lower emissions, < 100 kg CO<sub>2</sub> / MWh
  - Sensitivity calculations with alternative electricity emission assumptions



# Emissions of greenhouse gases in the Roadmap scenario



# Total fuel use and emissions of greenhouse gases in the Reference scenario



- Fossil fuel use: - 80 % (compared with 2007)
- Greenhouse gas emissions: - 65 % (compared with 2007)

# Key findings

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1. It is possible to reduce the use of fossil fuel by 80 %
2. A concrete definition of the long-term goal is essential
3. All types of measures need to be used
4. A broad mix of policy instruments, as soon as possible
5. More efficient vehicles is an important part of the solution
6. Second generation biofuels are needed
7. Business as usual will not lead to the goal, large efforts are needed
8. Swedish ambitions are partly limited by international development
9. There is a broad interest in contributing to reduced use of fossil fuels
10. The new governmental investigation has shown an interest in the roadmap project

Thank you!

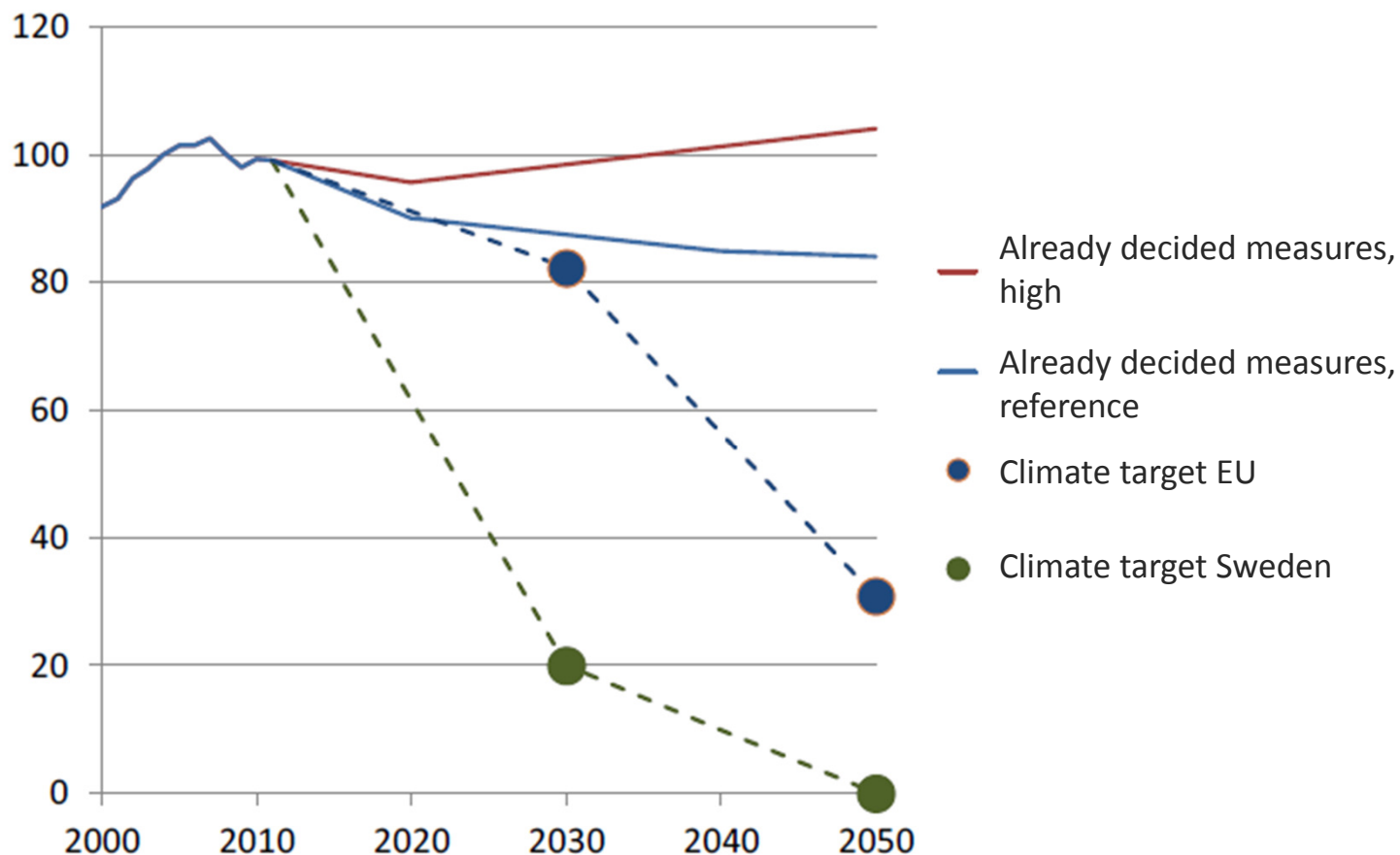
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[www.transportroadmap.se](http://www.transportroadmap.se)

# Use of fossil fuels for road transport – different ambitions



Source: the Swedish Transport Administration

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# Tentative contents of the final report

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1. Description of the project
2. Definition of the goal
3. The development of the transport system towards 2030
  - Energy use
  - Greenhouse gas emissions
  - Costs
4. Important measures, choices and decisions
5. Policy instruments
6. Towards 2050
7. Discussion about differences in assessments