



TRAFIKVERKET

# Scenarios towards 2045

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Helen Lindblom, Swedish Transport Administration (STA)

Expert on climate and energy transition

National coordinator at the STA for the transport sector's climate transition

# Purpose of scenarios – the authorities' perspective within transportation

- Several authorities involved in scenario making: Swedish Transport Administration, Energy Agency, Environmental Protection Agency, Transport Analysis
  - different roles and focus but very high level of cooperation
- Analyse CO<sub>2</sub>-emissions within the climate framework including reporting to EU and UN
- Produce national forecasts on traffic volumes as a baseline for planning transport infrastructure
- Policy instrument analysis
- Government's budget work (taxes, support schemes etc)

# Scenario techniques used

- Mostly forecast – predictive scenarios
- But sometimes also explorative scenarios with different possible futures
- Almost always based on policy measures;
  - WEM: with existing policy measures
  - WAM: with additional policy measures
- Sometimes the scenarios are "goal achieving", i.e. the policy measures are adjusted in order for the scenarios to reach the climate targets
- Focus today:
  - Forecasts – with existing policy measures
  - Road transport

# Climate targets

- National targets
  - Domestic transport emissions: -70% in 2030 compared to 2010
  - Net zero by 2045: -85% compared to 1990
    - The Swedish Transport Administration's interpretation: the transport sector must reach zero in order to make room for other sectors that are more difficult to abate
- EU commitment within the Effort Sharing Regulation: -50% by 2030 compared to 2005 (cumulative target)
- The EU's long-term goal: climate neutrality by 2050

# 3 areas for reducing climate emissions

- More efficient vehicles (including electrification)
- Replace the remaining petrol and diesel with renewable/fossil-free alternatives
- Reduce traffic volumes

# Scenarios for 2030 and 2045

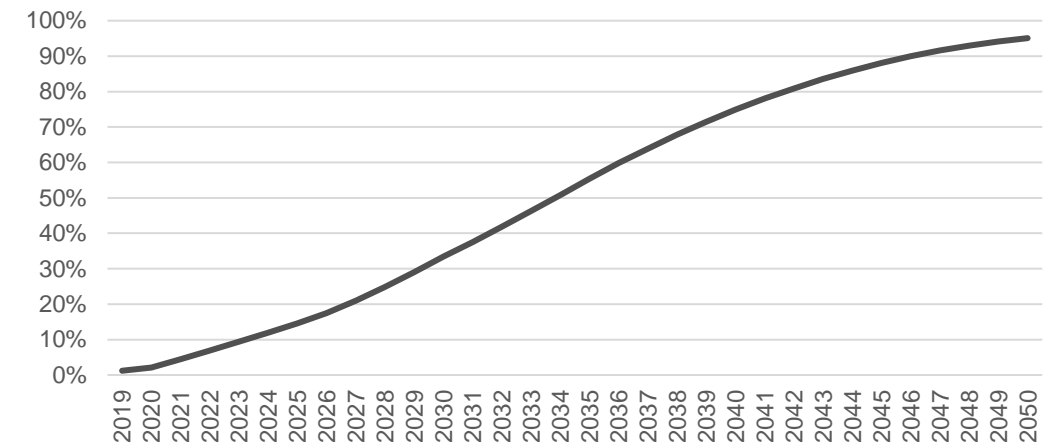
- "PM Vägtrafikens utsläpp" [Vägtrafikens utsläpp 2023](#)
- 4 scenarios;
  - Reference scenario – existing policy measures
  - Slower electrification for heavy trucks
  - Extreme electrification – 100% electric vehicles in new sales from 2024 onwards
  - Zero traffic growth – traffic work at 2023 level for all scenario years
- (Small adjustments has been made in this presentation compared to the report in March due to changes in policy measures in 2024)



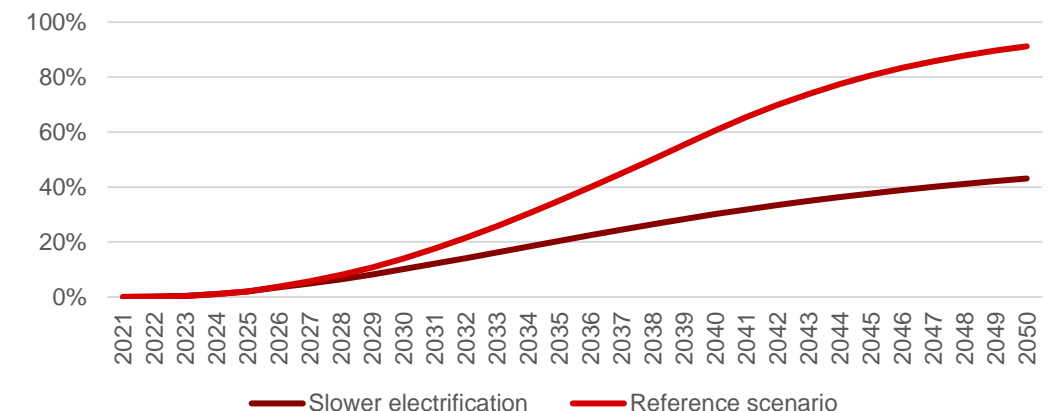
# More efficient vehicles/electrification

- The EU's CO2 requirements are important prerequisites:
  - Light vehicles: zero emissions by 2035
  - Heavy vehicles: -90% in 2040 compared to 2019/2020
  - A rapid shift to zero emission vehicles (i.e. electricity or hydrogen)
- An excel model to calculate how different assumptions in new sales will affect the total fleet ([Omsättningsverktyget, Emissionsberäkningsmodellen HBEFA – Bransch](#))
- Zero emission vehicles could also be hydrogen (fuel cell or combustion)

Share of zero emission, fleet of passenger cars

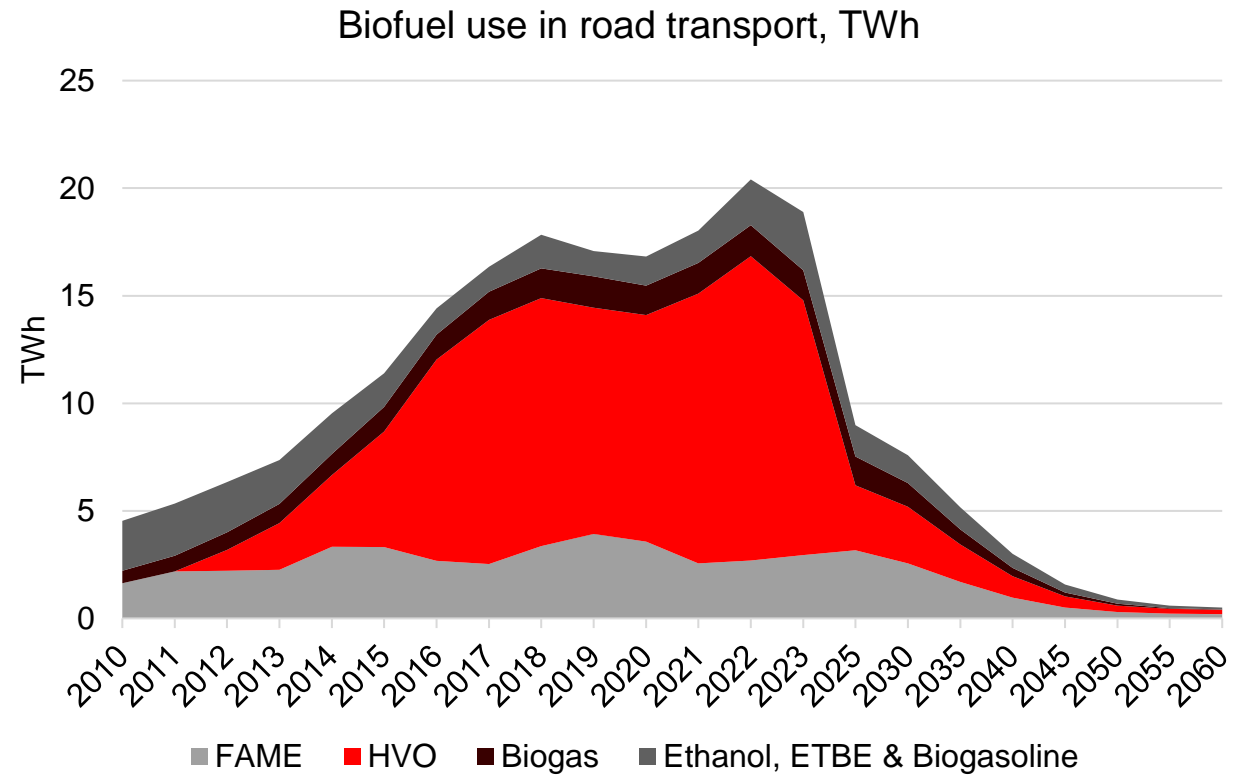


Share of zero emission, fleet of heavy duty vehicles



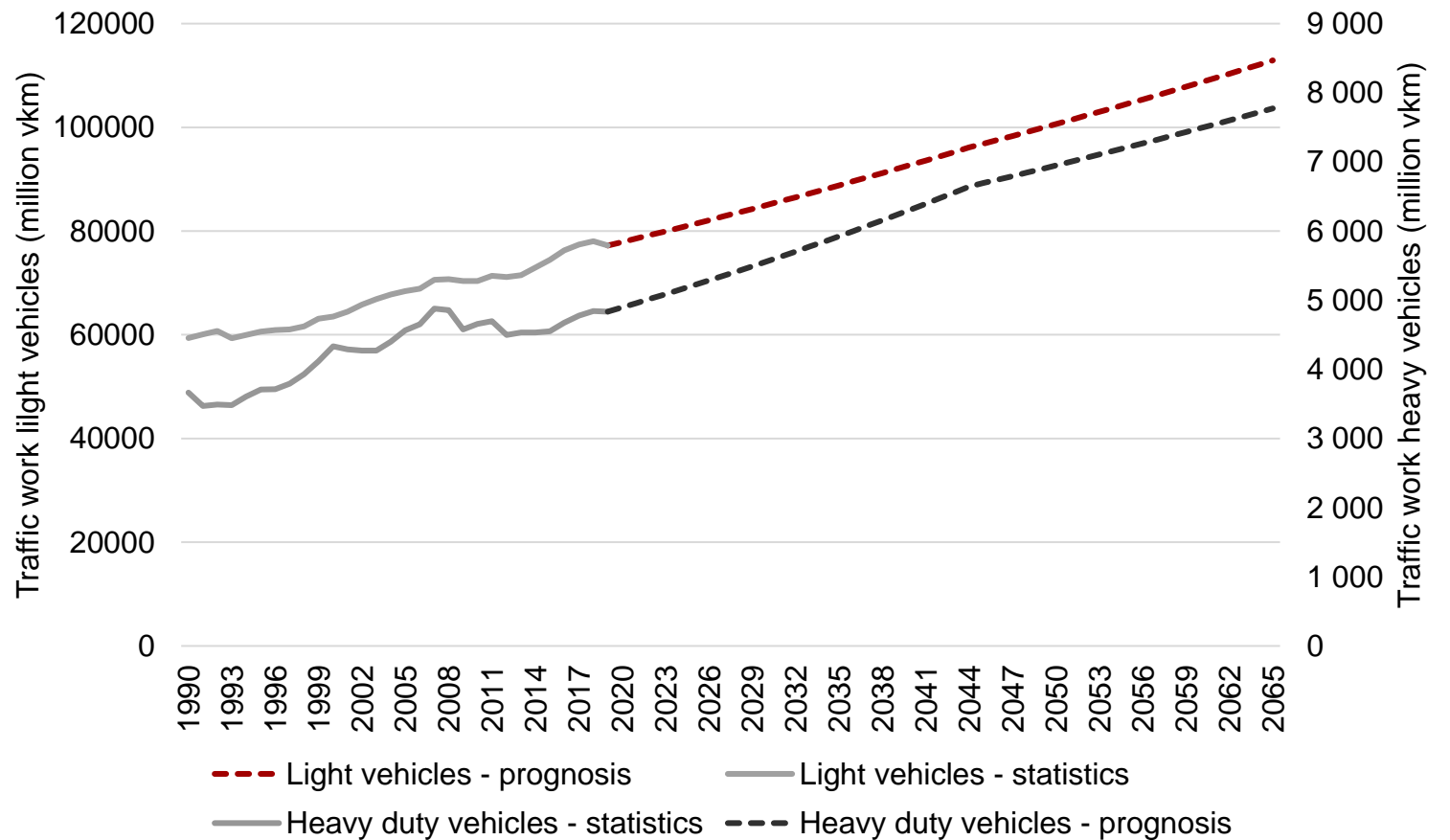
# Use of biofuels

- An important starting point is the existing policy measures, i.e. the reduction obligation
  - 10% for petrol and diesel from 2025
- Some high blend biofuels but small volumes in comparison
- This is not the development biofuels we "wish for" – it shows how the situation could be with existing policies

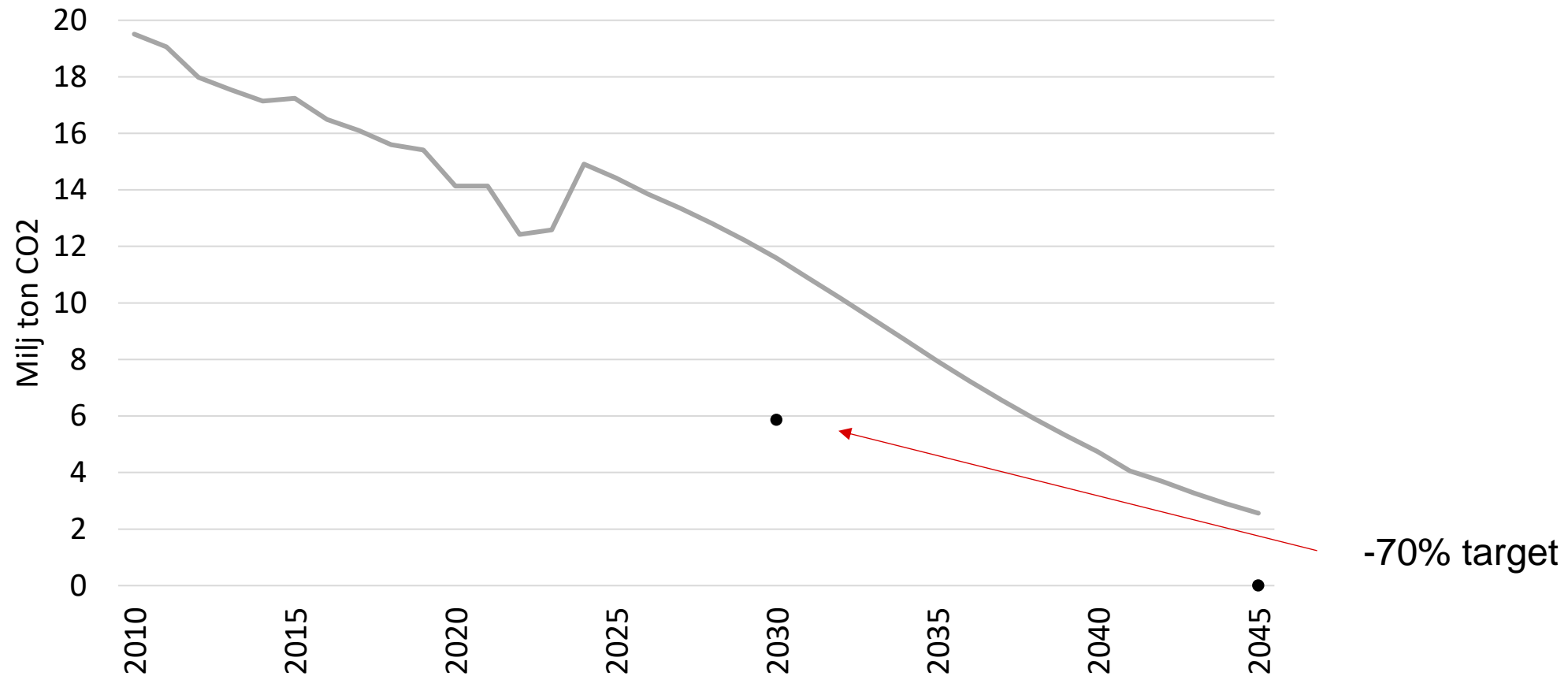


# Traffic volumes

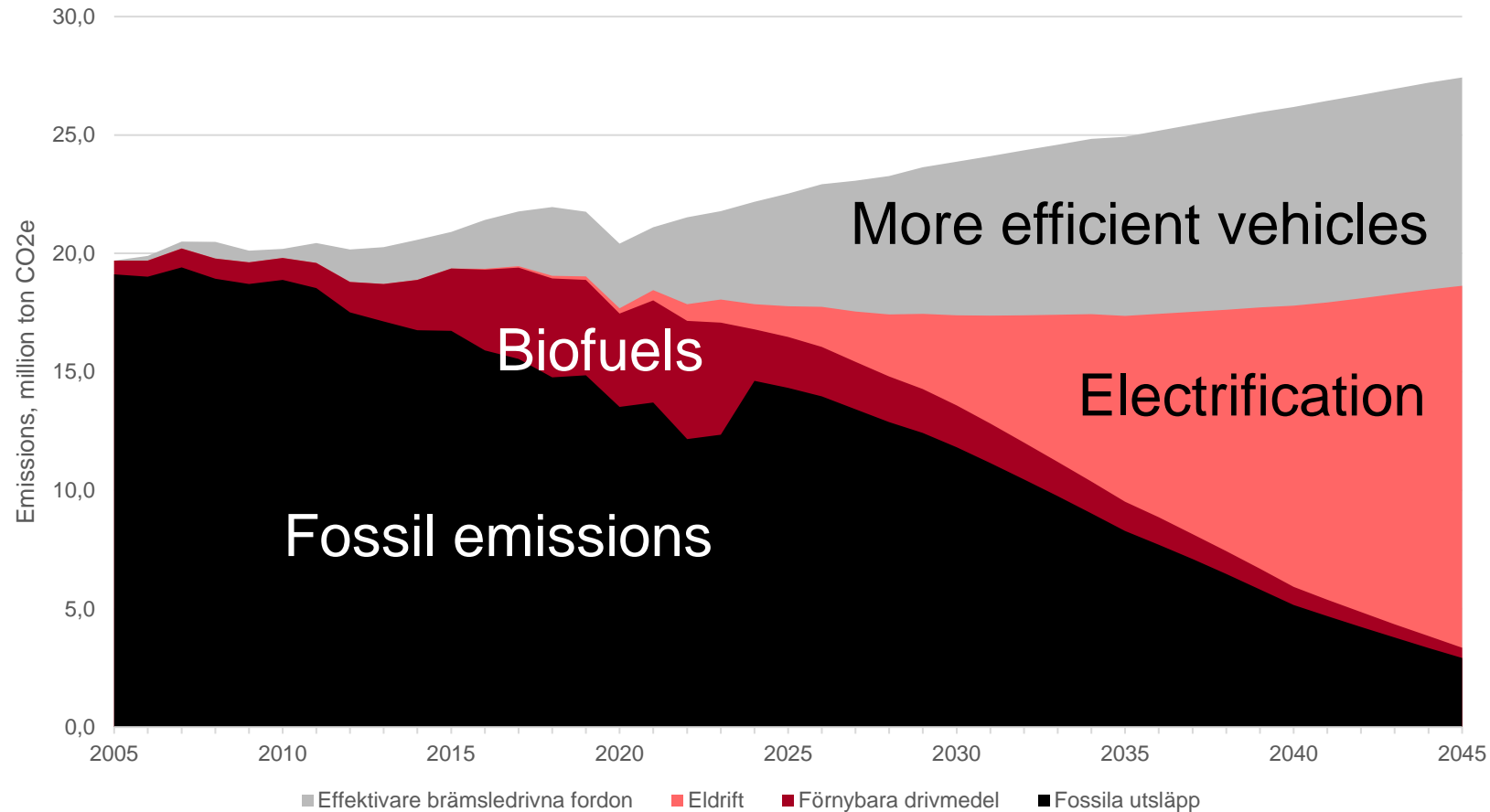
- Drivers are primarily population growth and economic growth
- Cost of driving is also a factor
- Read more: [Basprognoser - Bransch](#)



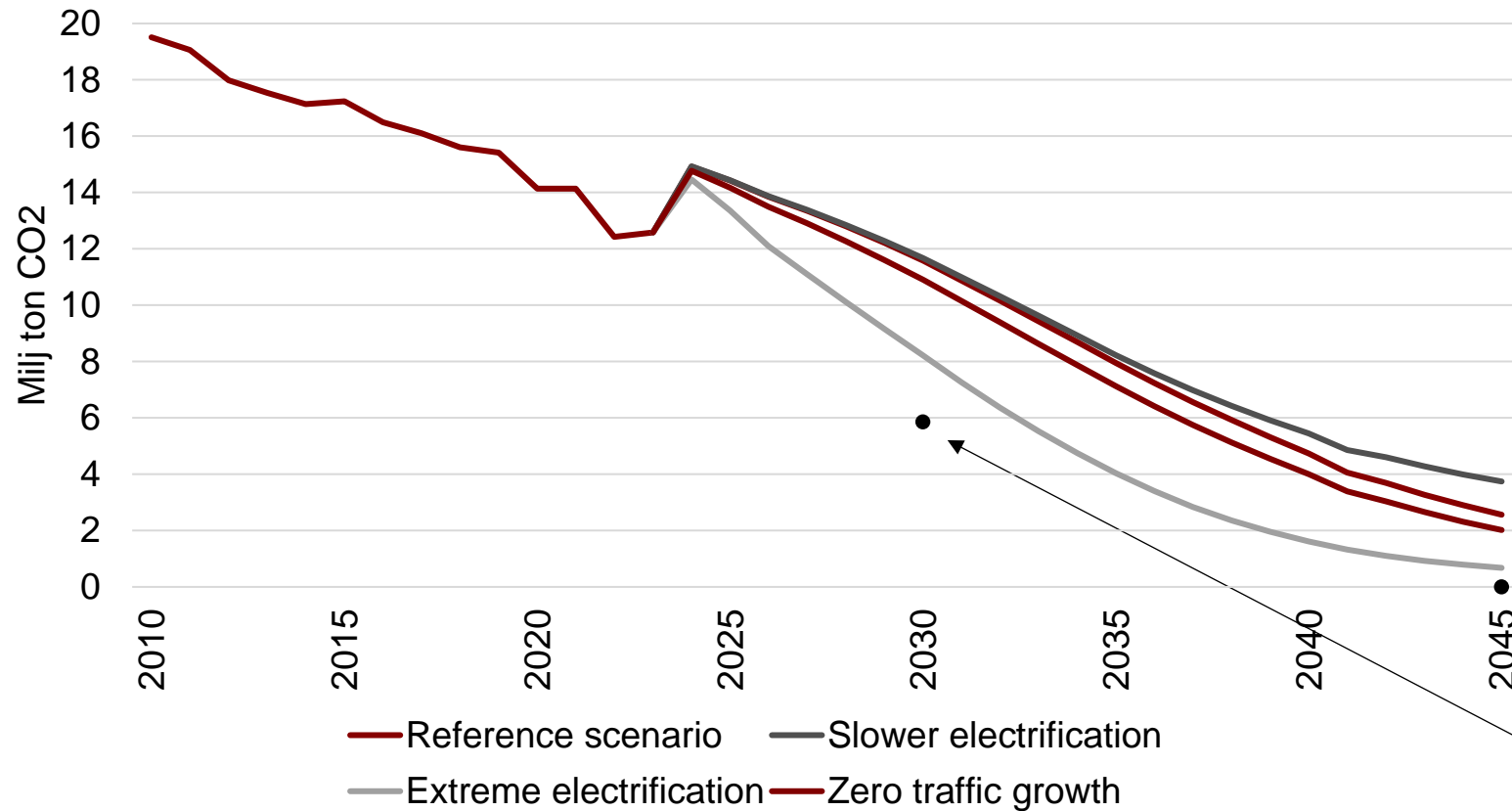
# Reference scenario will not reach the climate targets



# Reference scenario – existing policy measures



# All 4 scenarios

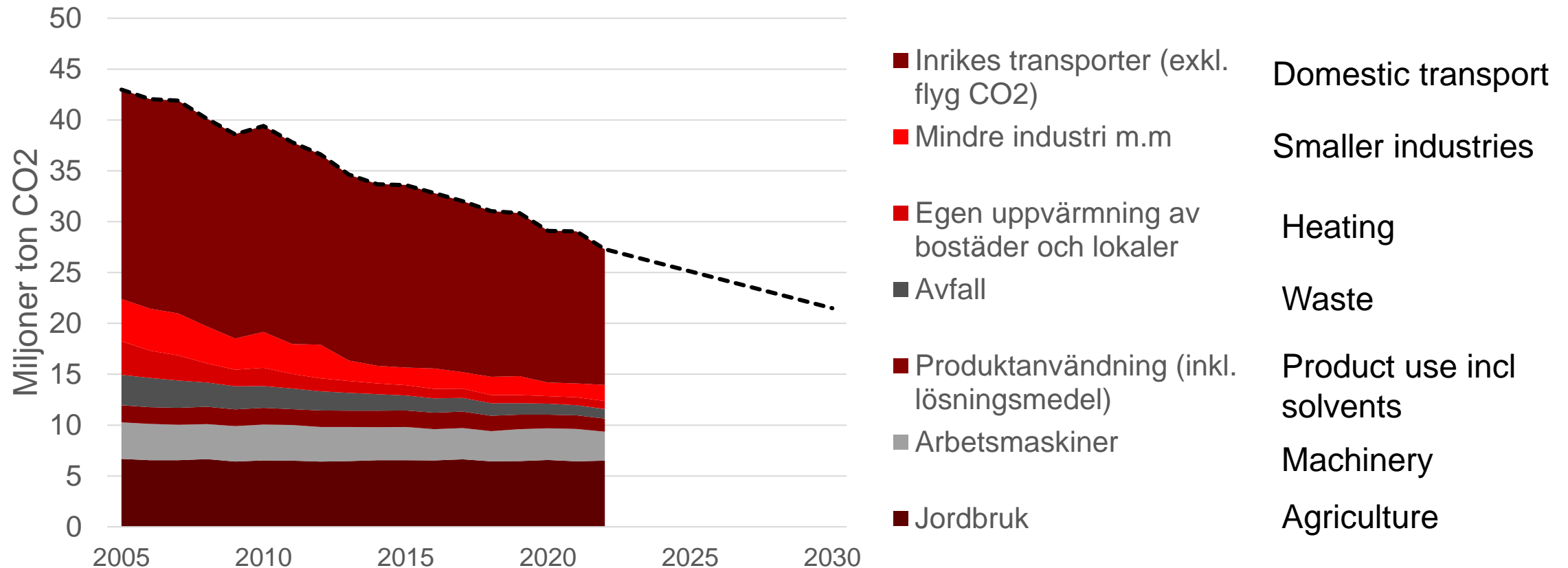


Not even "extreme electrification" will be enough to reach the 2030 target with 10% reduction obligation

A lot of biofuels would be needed to reach the target

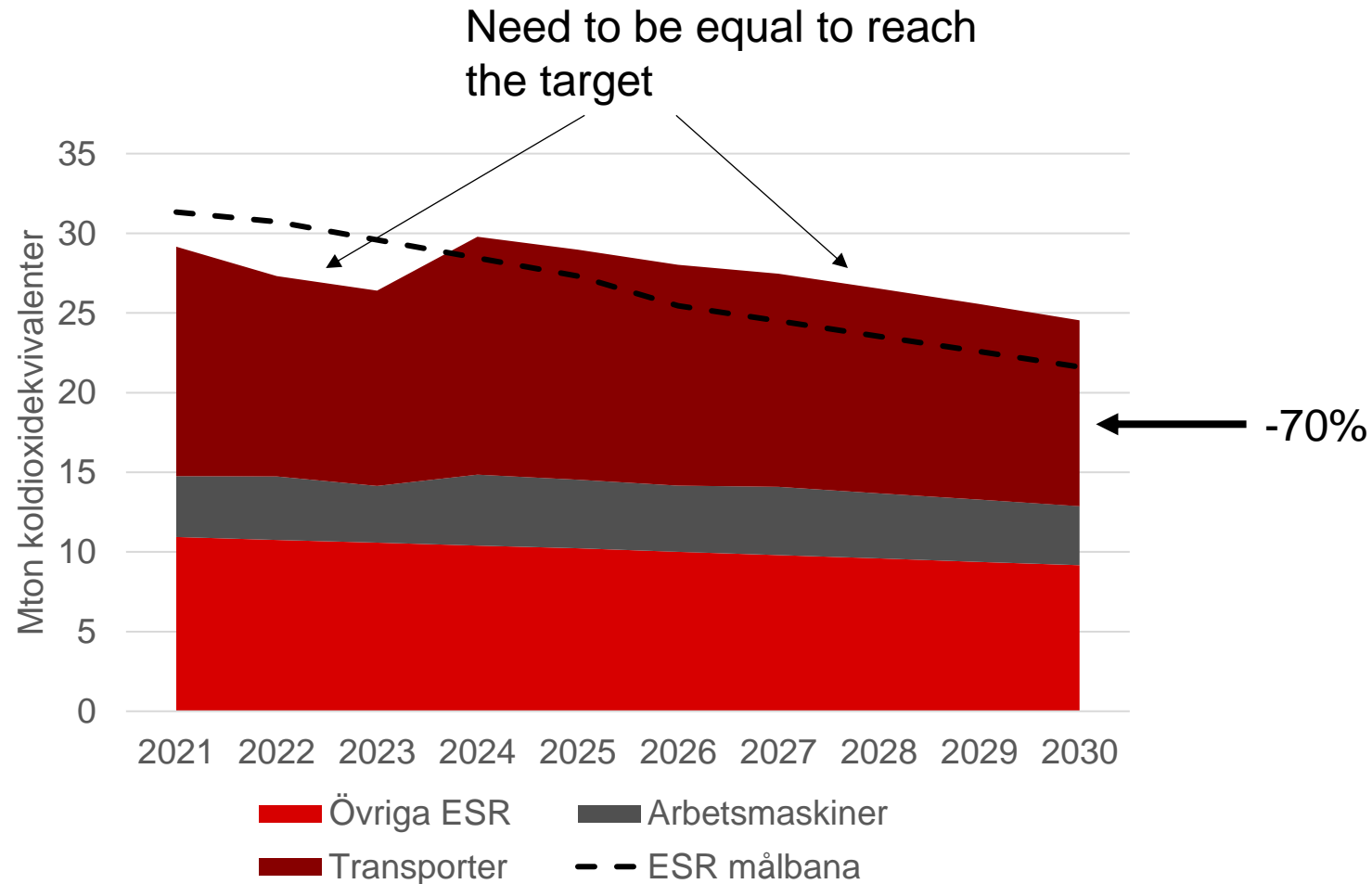
-70% target

# Transport sector a large part of ESR



# ESR target 2030 within reach

- With 10% reduction obligation the ESR target is within reach but margins are small
- Careful monitoring of accumulated emissions
- There are different ways to meet the ESR commitment:
  - Reduce emissions
  - Use of flexibility mechanisms
  - (Not reaching the targets – fines?)



# Comments/conclusions

- Scenarios are crucial to determine whether or not current policy mix is sufficient
- EU legislation is a very important driver for the policy measures on national level – and therefore also scenarios
- Even if measures have been decided (and hence included in the scenarios with existing measures) there are still a lot of issues to be solved when it comes to implementation, especially electrification
- EU reference scenario: [EU Reference Scenario 2020 - European Commission](#)

# Thank you!

[Helen.lindblom@trafikverket.se](mailto:Helen.lindblom@trafikverket.se)