



# Swedish GHG scenarios for road traffic - effect on NOx emissions

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# Introduction

- Swedish national climate target aims at 70% reduction of fossil GHG from domestic transportation 2010-2030
- Reach target via combination of electrification, biofuels, higher fuel taxes, improved transportation efficiency, etc
- Several GHG scenarios made by Swedish Transport Administration for road traffic\*
- GHG scenarios' effect on NOx emissions?
- Difficult to meet EU NECD target 2030 for NOx

\*Tool for analyses of policies and measures (in Swedish): <https://bransch.trafikverket.se/tjanster/system-och-verktyg/Prognos--och-analysverktyg/scenarioverktyget-for-styrmedelsanalyser/>

# Method

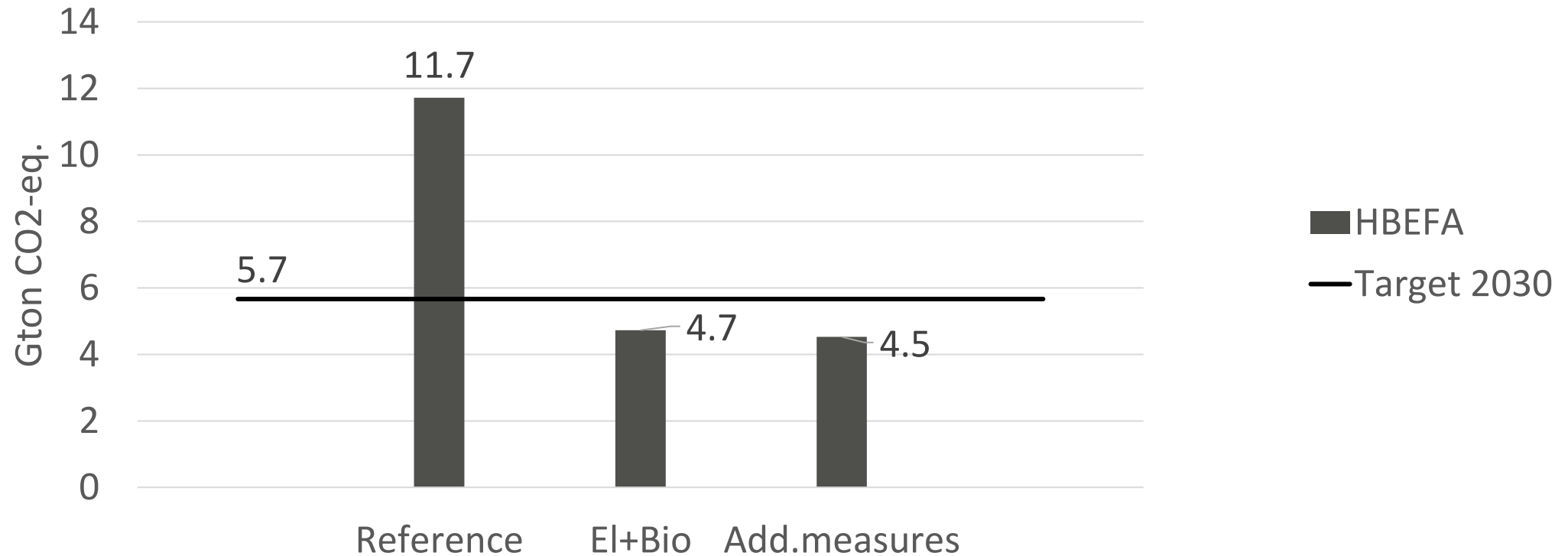
- Estimation of NO<sub>x</sub> emissions for road traffic using the HBEFA\* model 2030
- Three scenarios 2030
  - Reference: baseline for Swedish GHG and AP emission scenarios to EU
  - Electrification + Biofuels: High share of electric vehicles, High share of biofuels
  - Additional measures: Higher fuel taxes, Mileage taxes

*\*Handbook Emission Factors for Road Transport*

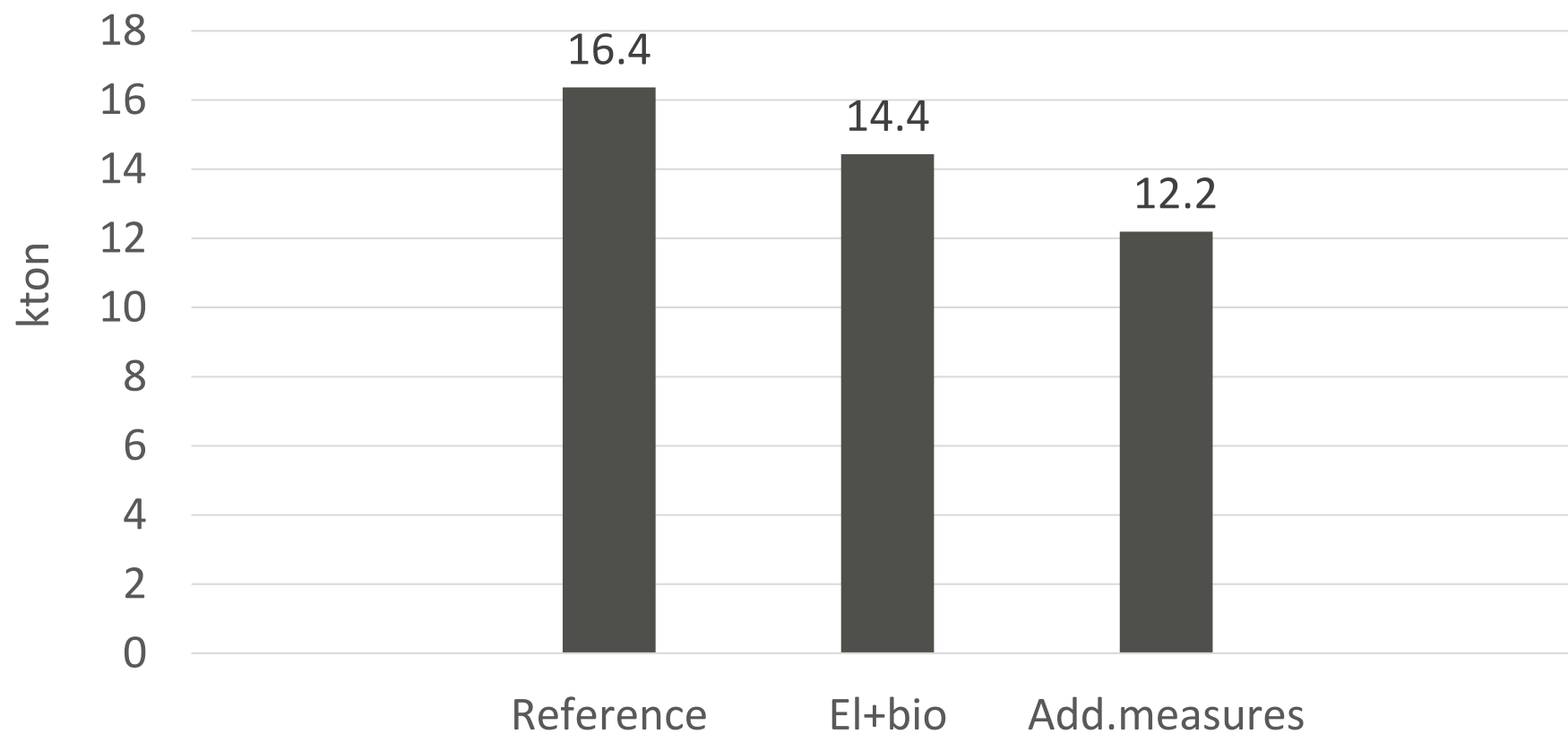
# GHG scenarios 2030: Reference, Electrification+Biofuels and Additional measures

Year 2030	Reference	Electrification + Biofuels	Additional measures
Share Biofuels	26%	59%	58%
Traffic volume LDV (Gvkm)	88	88	68 (-23%)
Traffic volume HDV (Gvkm)	5.9	5.6 (-6%)	4.3 (-27%)
Share of new electric PC	42 %	90 %	62 %
Share of new electric HDV	5 %	50 %	23 %

# GHG emissions 2030 (CO<sub>2</sub>-eq.)



# NO<sub>x</sub> emissions 2030



# Conclusions

- Relevant synergies between GHG and air pollutant emission measures
  - High share of electrification and biofuels → probably misses NOx target
  - Additional measures to reduce traffic volume (e.g. via mileage taxes and higher fuel taxes) needed to sufficiently lower NOx emissions?
- Actions need to take both GHGs and APs into consideration
- 2030 is near – existing measures not enough!

Thank you for your attention!

Questions?