BEST
Bioenergy and
Sustainable Technologies

Biofuels for transport decarbonisation

Country specific assessment for Finland, Sweden, Germany, USA and Brazil

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FFG
COMET Competence Centers for Excellent Technologies
Bundesministerium Digitalisierung und Wirtschaftsstandort
Bundesministerium Verkehr, Innovation und Technologie
wirtschaftsagentur wien Ein Fonds der Stadt Wien
Das Land Steiermark
SFG NEUES DENKEN. NEUES FÖRDERN.

Project: Transport Decarbonisation

- IEA Bioenergy TCP & IEA Advanced Motor Fuels TCP, co-funded by the European Commission
- Project leader: Dina Bacovsky - BEST GmbH
- Duration: 1 January 2019 – 31 March 2020
- Budget: ~130.000€
- Show the contribution of advanced renewable transport fuels to road transport decarbonisation in 2030 and beyond

What do we have to do in order to reduce GHG emissions in the transport sector?

Work packages

WP1: Key strategies

Finland | Sweden | Germany | USA | Brazil | China | Japan

WP2: Technologies and costs

- **Feedstock availability**
- **Technology status**
- **Costs**
- **Engine and fuel compatibility**
- **Summary and projections to 2030**

WP3: Country assessments

- **Political targets and policies**
- **Vehicle fleet projections**
- **Scenarios for biofuels**
- **Assessments for electrofuels**
- **Implementation barriers**

WP4: Global context

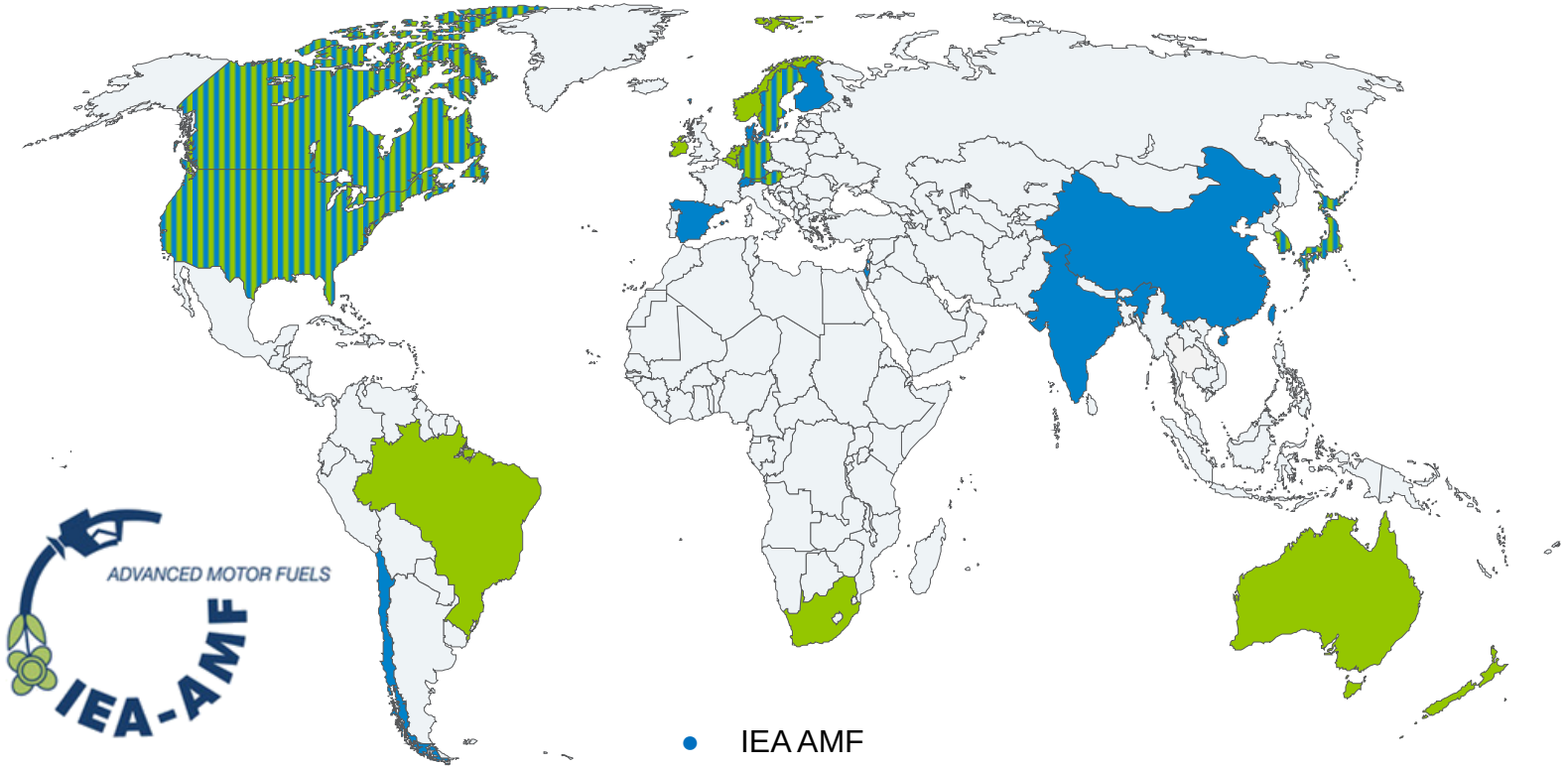
WP5: Implementation barriers

WP6: Recommendations

WP7: Workshop

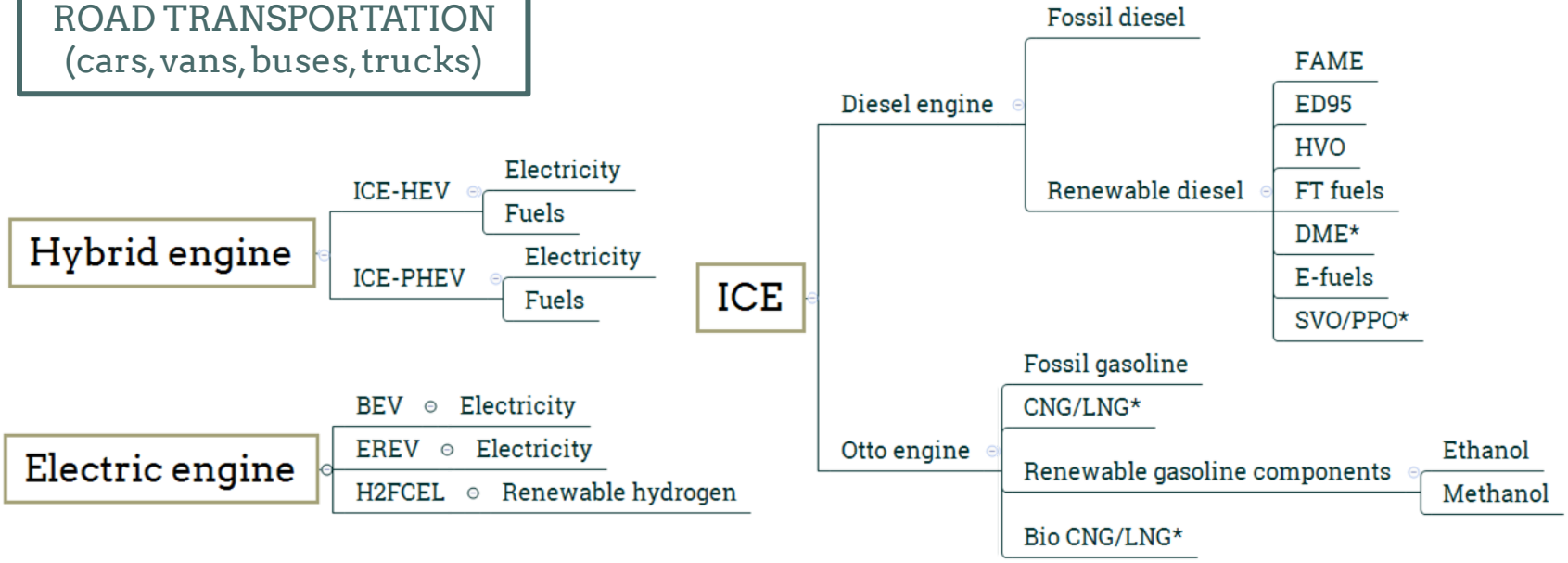
Country experts

IEA TCP Networks



Fleet analysis - Vehicle and fuel options

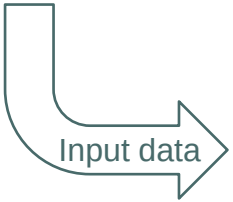
ROAD TRANSPORTATION
(cars, vans, buses, trucks)



*engine modification needed

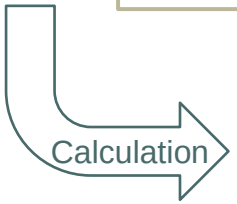
low-blend, high-blend, drop-in

Fleet analysis



- Vehicle park composition
- Annual mileages
- Use of fuel type
- Efficiency
- Carbon intensity

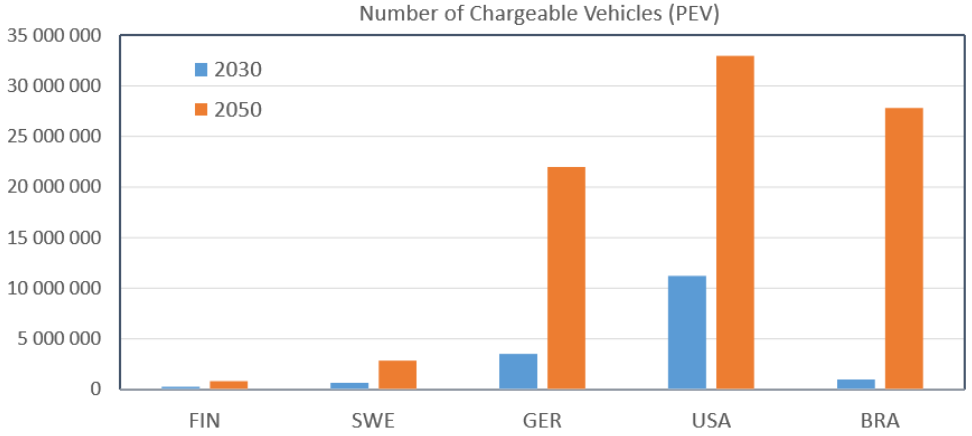
} per vehicle category and type

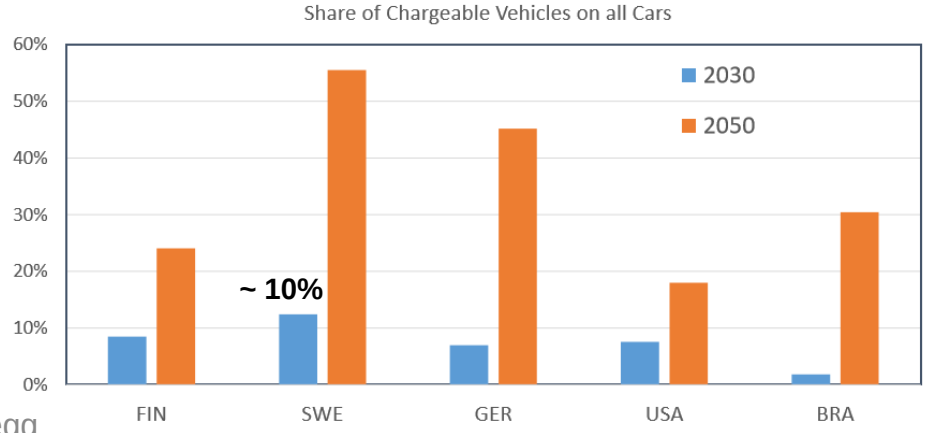


- Transport fuel use per fuel type
- Associated GHG emissions

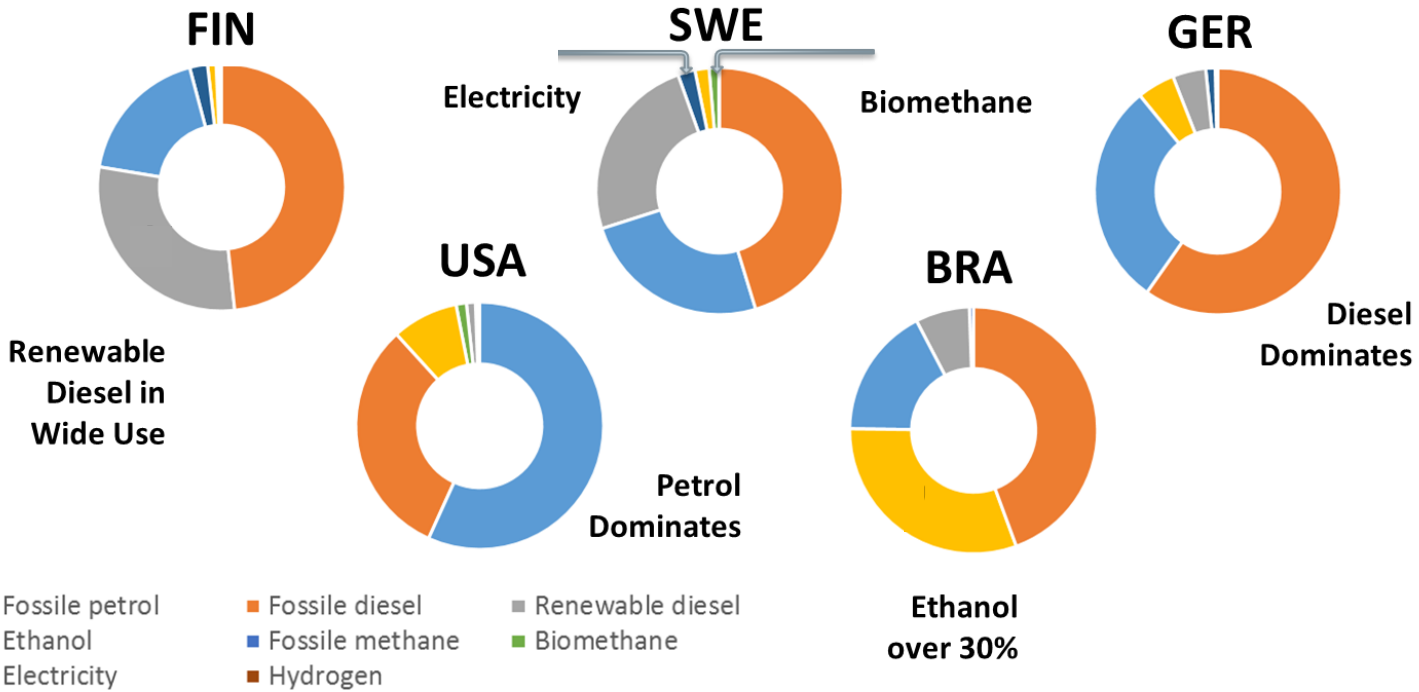
- Projection until 2050

Results: Fleet electric vehicles

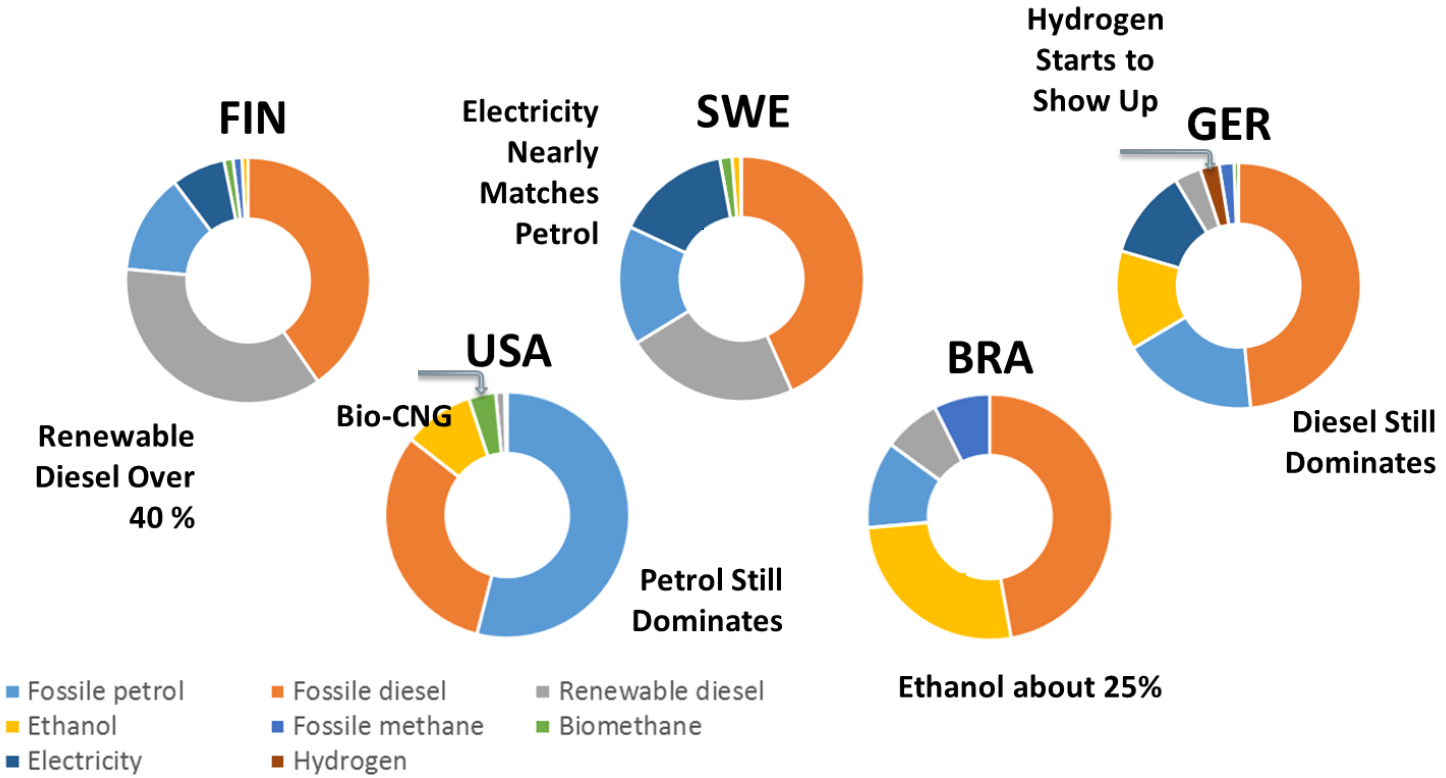


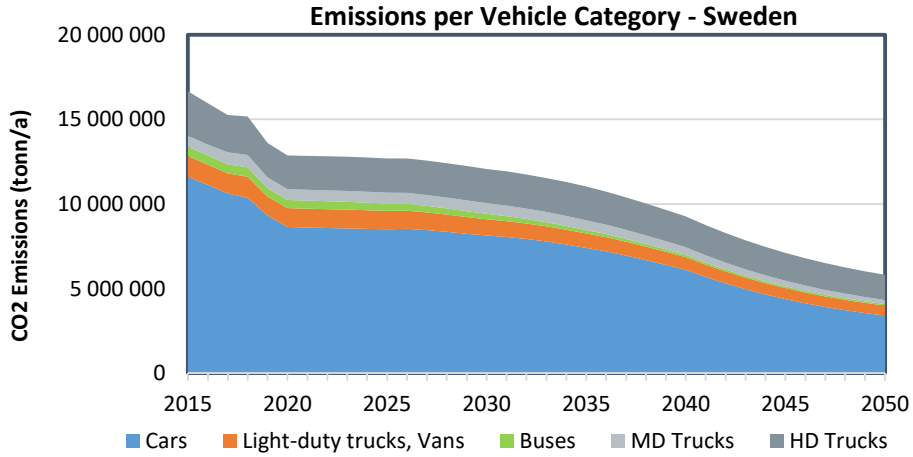


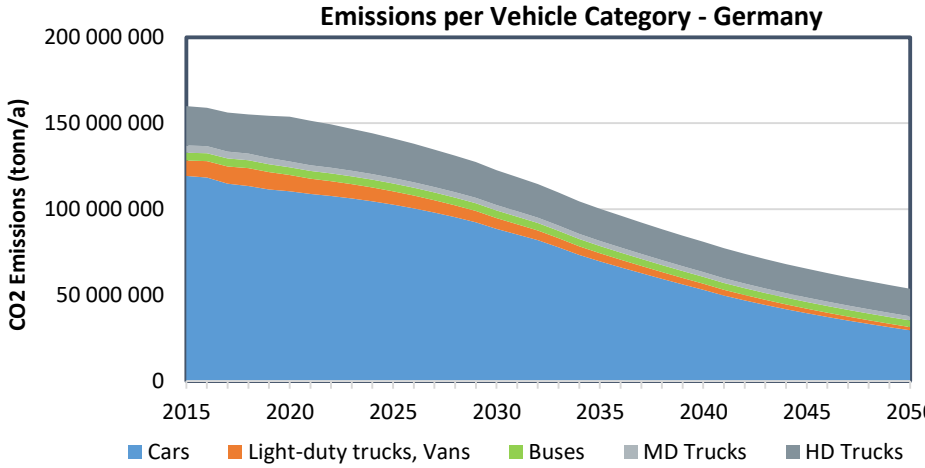
Results: Energy use by carrier 2030

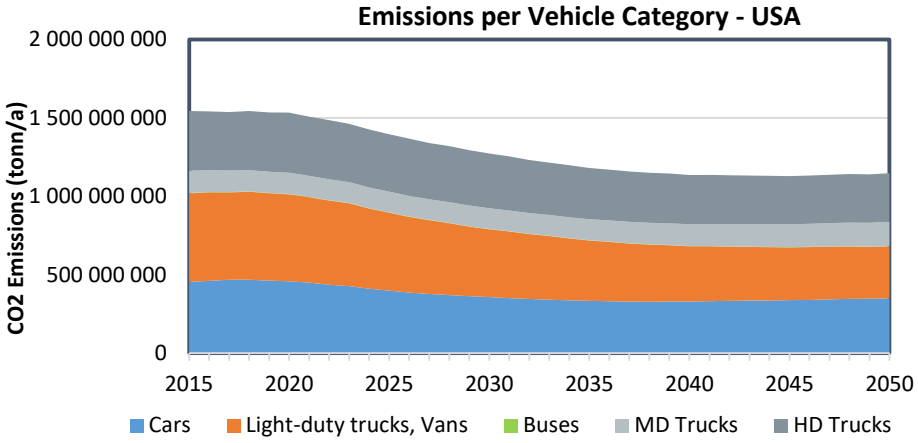


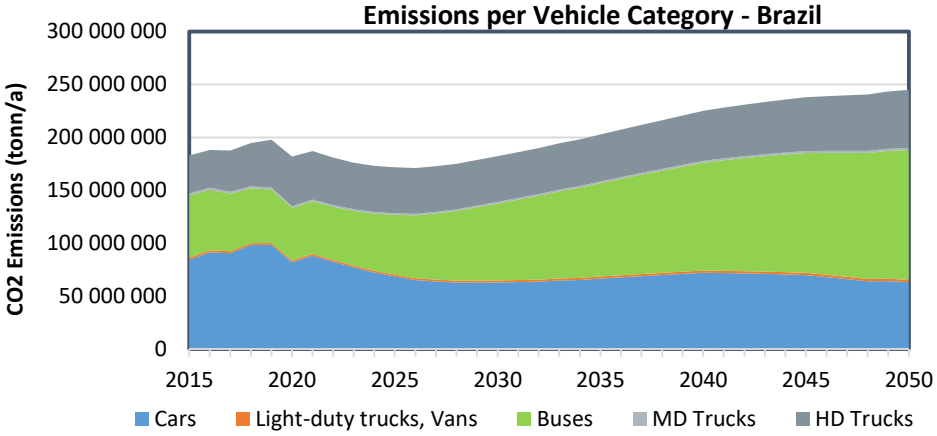
Results: Energy use by carrier 2050



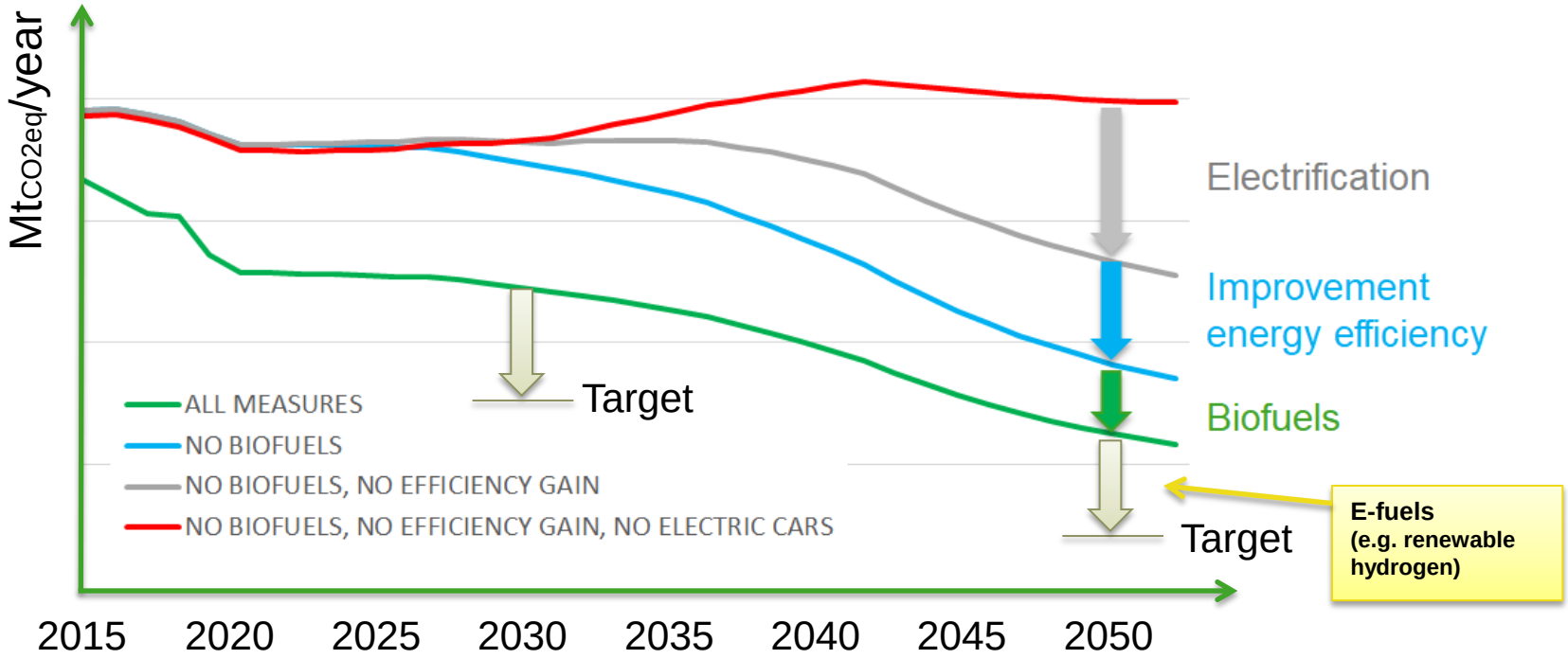

Emissions per Vehicle Category - Sweden
CO2 Emissions (tonn/a)
20 000 000
15 000 000
10 000 000
5 000 000
0
2015
2020
2025
2030
2035
2040
2045
2050
Cars
Light-duty trucks, Vans
Buses
MD Trucks
HD Trucks


Emissions per Vehicle Category - Germany
CO2 Emissions (tonn/a)
200 000 000
150 000 000
100 000 000
50 000 000
0
2015
2020
2025
2030
2035
2040
2045
2050
Cars
Light-duty trucks, Vans
Buses
MD Trucks
HD Trucks


Emissions per Vehicle Category - USA
CO2 Emissions (tonn/a)
2 000 000 000
1 500 000 000
1 000 000 000
500 000 000
0
2015
2020
2025
2030
2035
2040
2045
2050
Cars
Light-duty trucks, Vans
Buses
MD Trucks
HD Trucks


Emissions per Vehicle Category - Brazil
CO2 Emissions (tonn/a)
300 000 000
250 000 000
200 000 000
150 000 000
100 000 000
50 000 000
0
2015
2020
2025
2030
2035
2040
2045
2050
Cars
Light-duty trucks, Vans
Buses
MD Trucks
HD Trucks

GHG emissions - national transport sector (demonstration example)



Key findings

- National GHG emission reduction targets are ambitious and hard to reach. Many countries are currently not on track to reach them.
- The share of electric vehicles increases slowly, whereas biofuels can contribute already now.

In order to reduce GHG emissions in the transport sector, we have to use all available options!

Electrification + Efficiency improvement + Biofuels + E-fuels

Thank you for your attention!

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