

Nachhaltige Mobilität

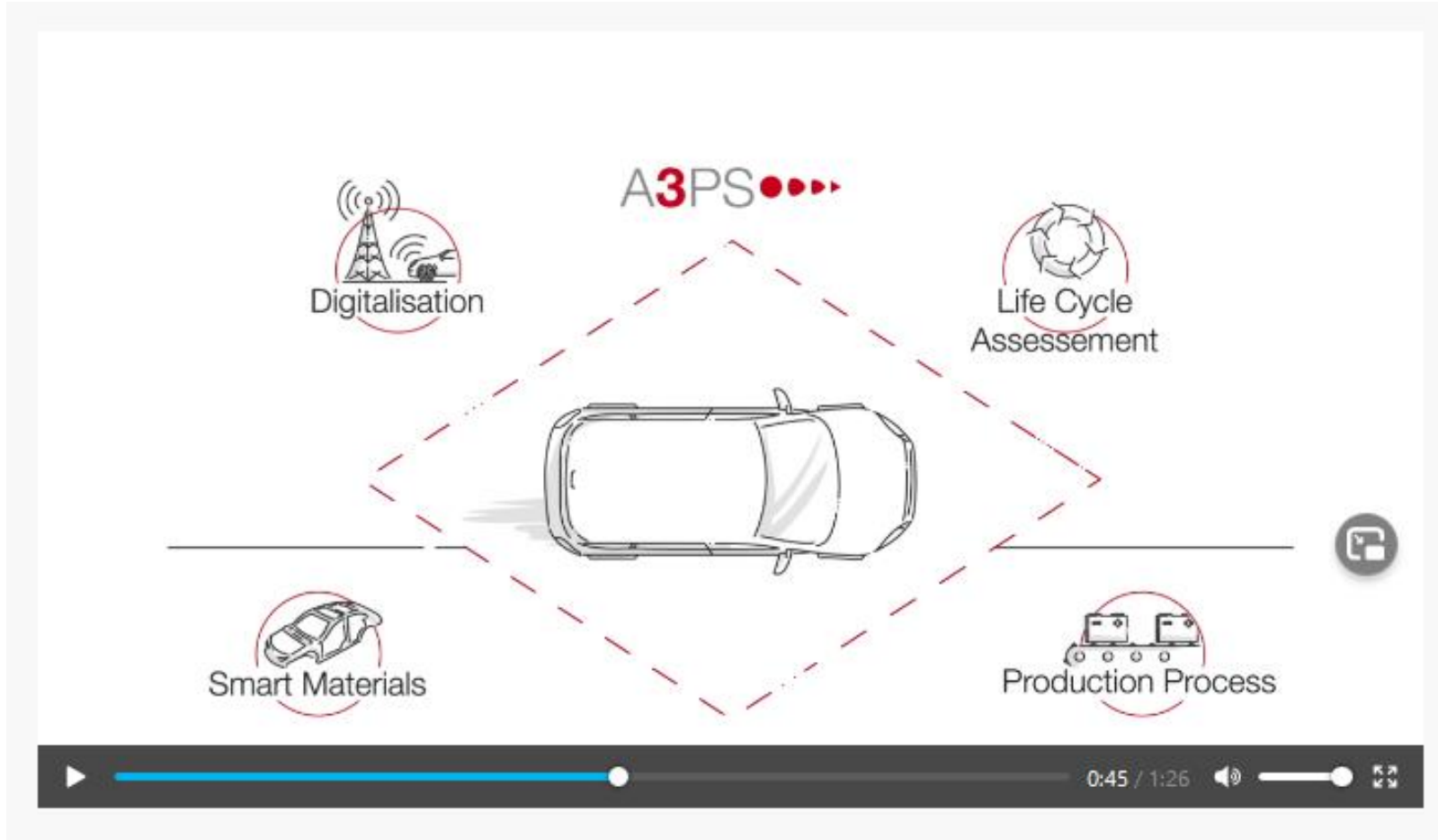
THEMA: "Vision & Realität"

Dr. Michael Nöst, IESTA, A3PS

3. MOBILITÄTSDIALOG 2024 WIEN - BVe

Vienna, March 12, 2024

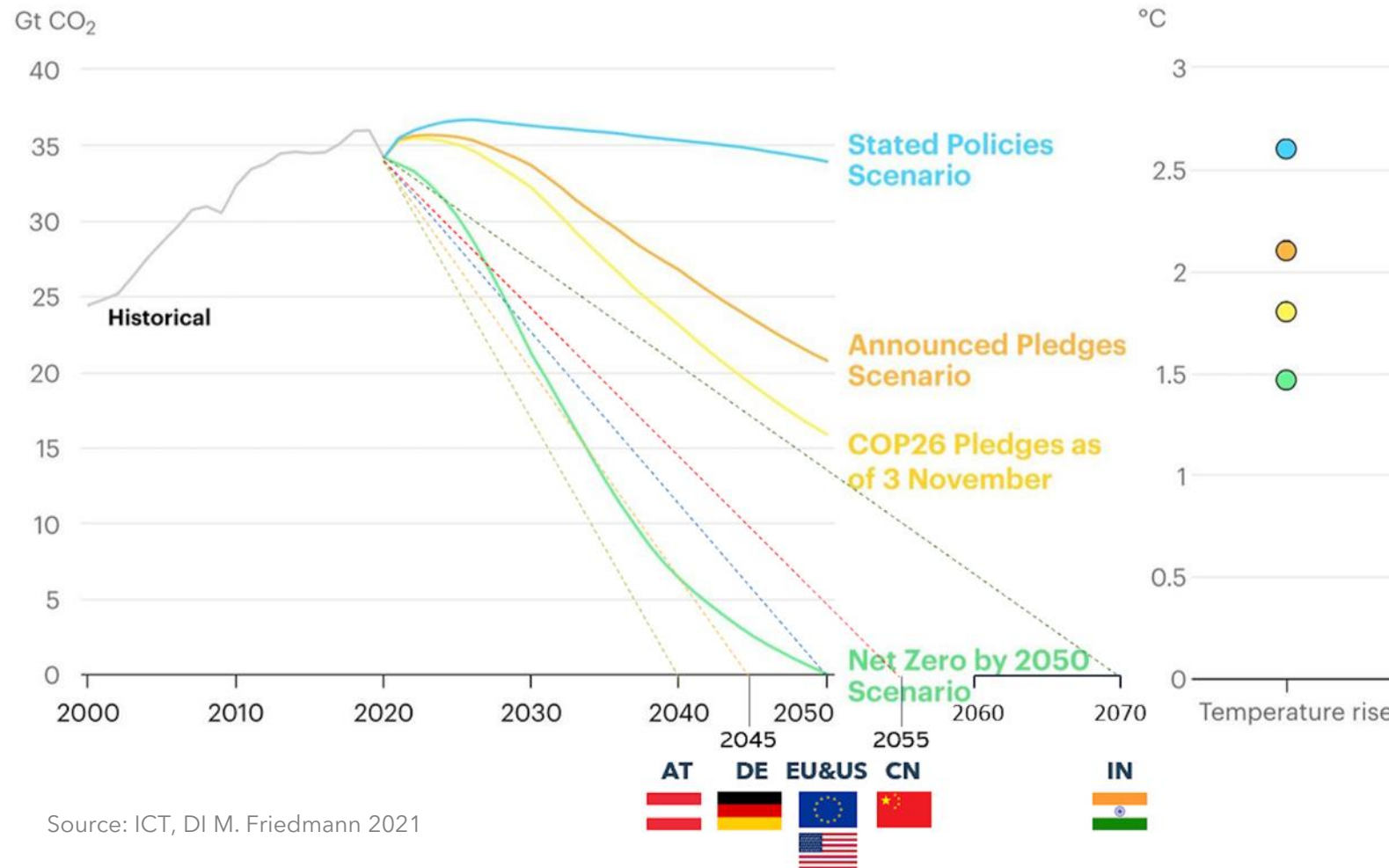
Austrian Association for Advanced Propulsion Systems



https://www.a3ps.at/sites/default/files/200623_A3PS-Video_720.mp4

CO2 Emissions Scenarios (COP26)

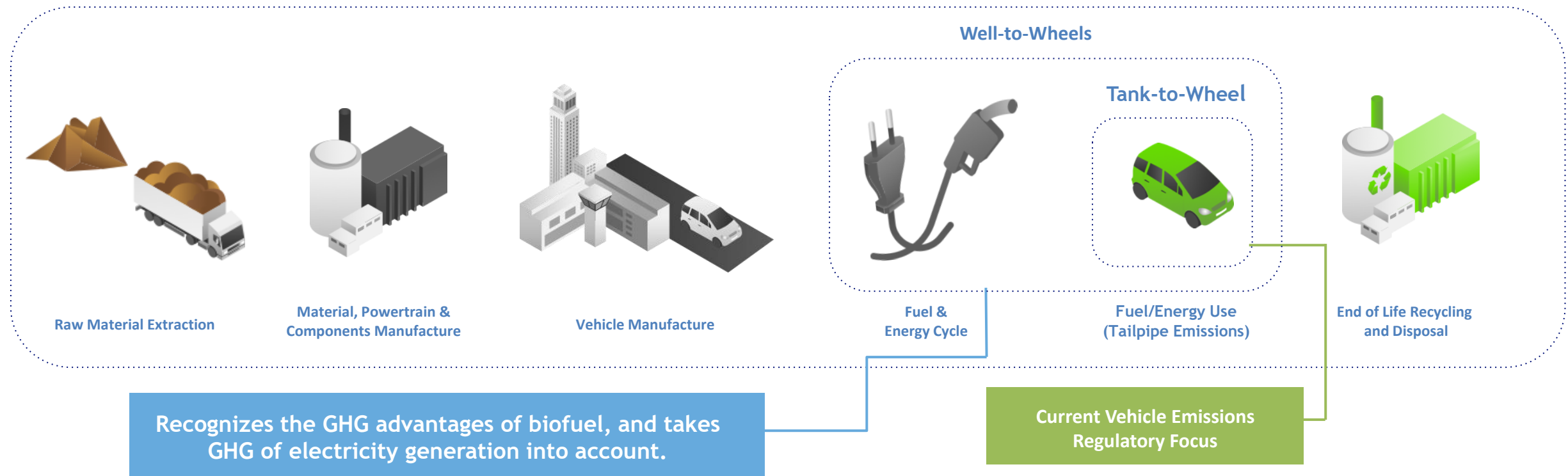
CO₂ emissions in World Energy Outlook scenarios from 2000-2050 and the corresponding rise in global temperatures in 2100



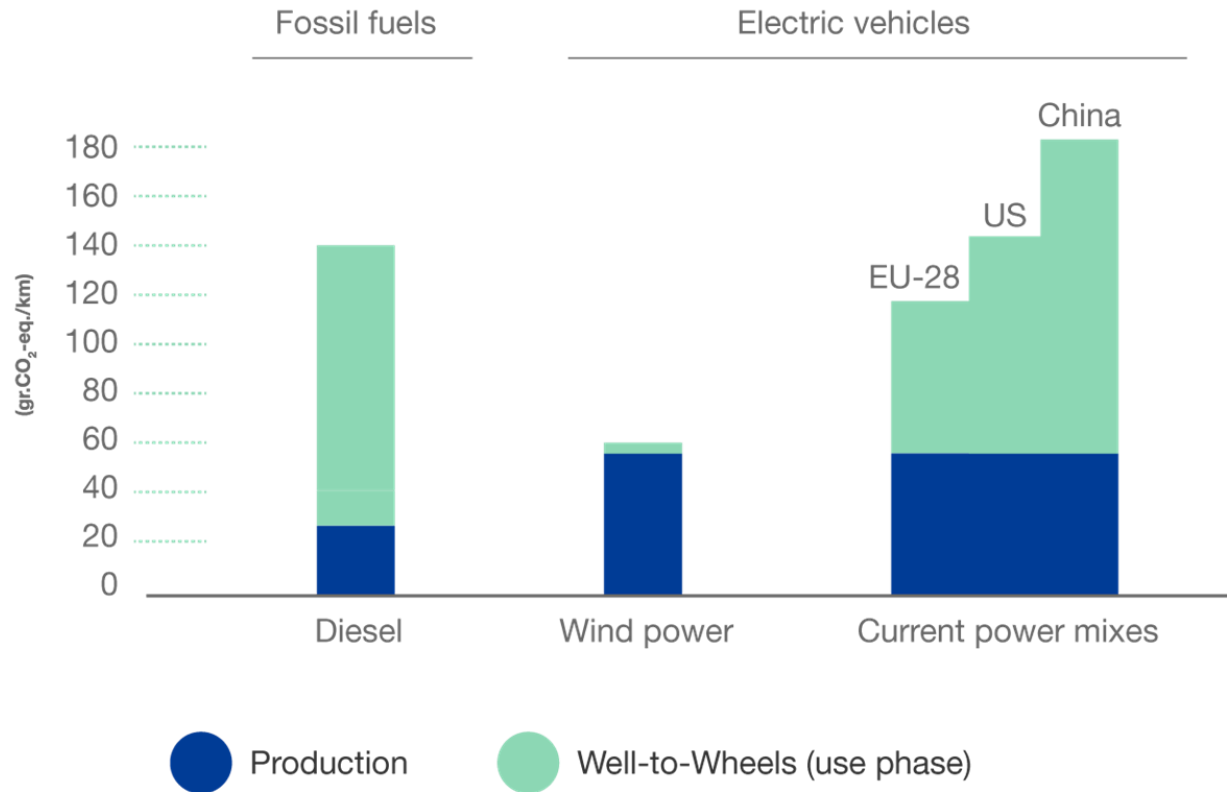
International Energy Agency

Source: ICT, DI M. Friedmann 2021

Current vehicle CO2 regulation different perspectives



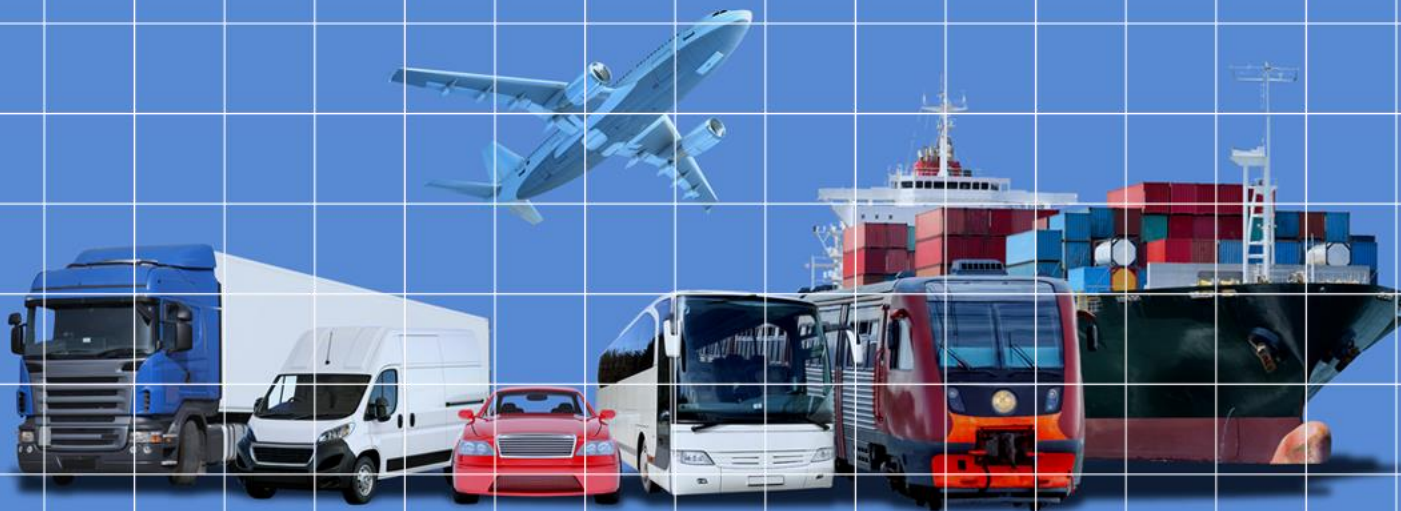
Life cycle analysis of different powertrain options in a passenger car



Source: Volkswagen and European Commission JEC 2020 data
 Waste and residue based (UCO) renewable diesel
 Based on a 200,000km use phase.

2019

**Global oil demand
for transport
2,668 Mtoe/a**



Source: Neste based on IEA World
Energy Outlook 2019

Rethinking Propulsion.

2020

**10 million electric vehicles
6 Mtoe/a oil displacement**

**Global renewable fuel
consumption
98 Mtoe/a oil displacement**

2040

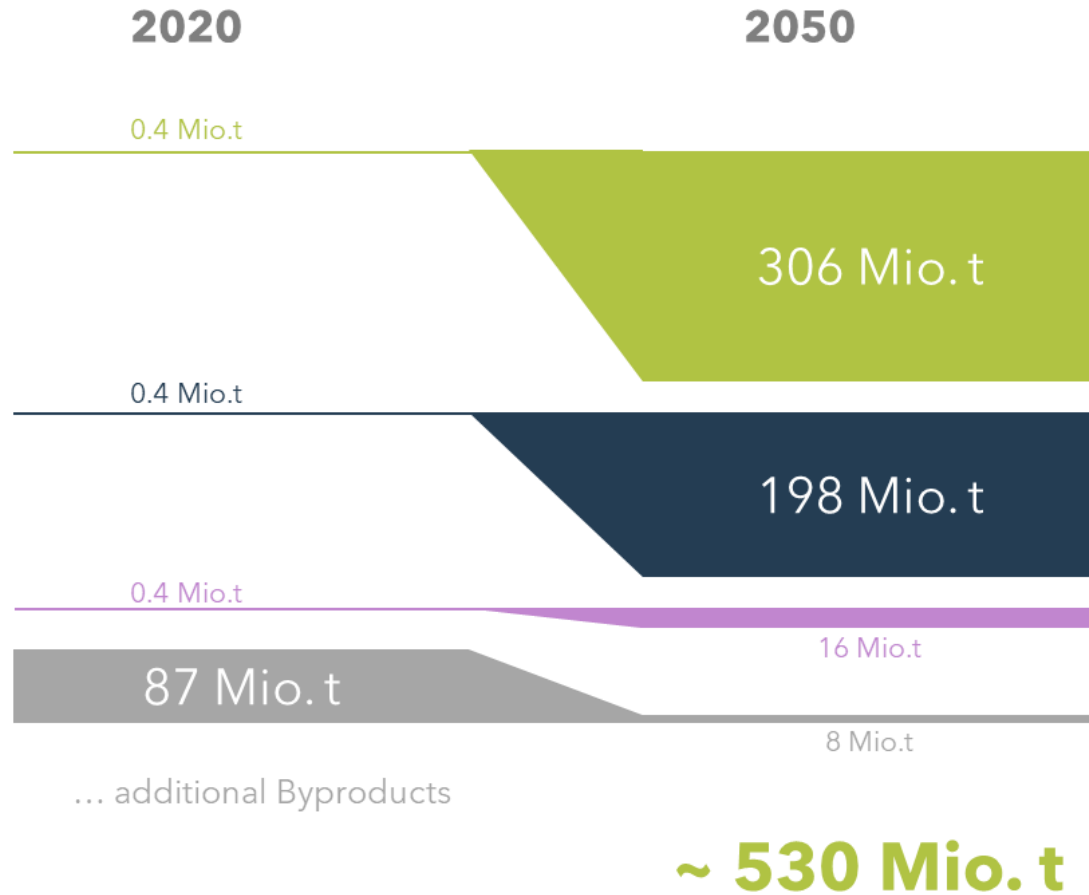
**600 million electric vehicles
360 Mtoe/a oil displacement**

**Feedstock* availability
for renewable fuel (incl. green
H₂) production
1071 Mtoe/a oil displacement**

**EVs and renewable fuels* can
substitute more than 50% of crude oil
in transportation**

**Smart regulation is needed to
make it happen!**

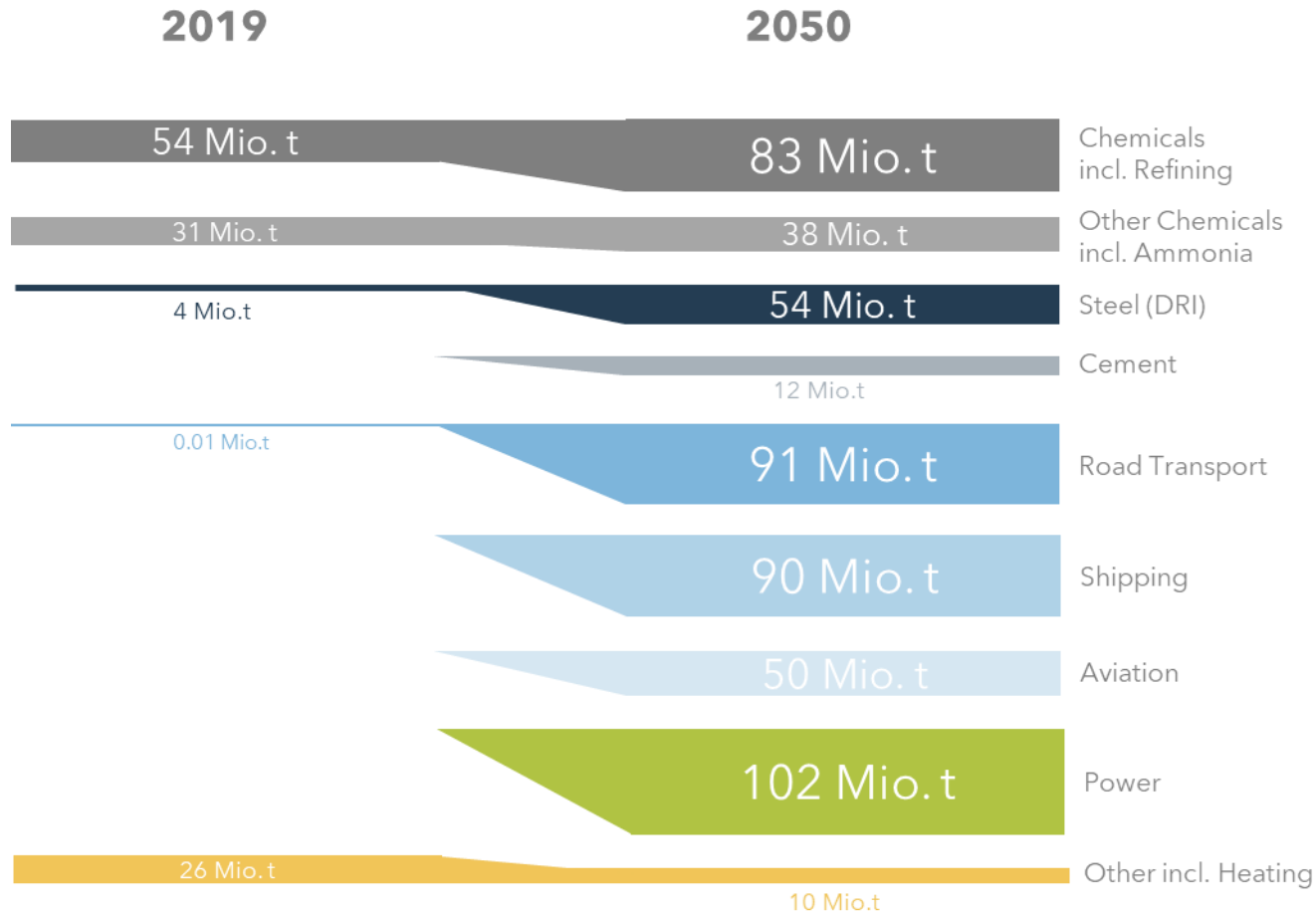
Annual Hydrogen Production in Mio. t/a



Source: ICT, DI M. Friedmann 2021

Data Based on the 2021 IEA report *Net Zero by 2050*
*) Based on figures from Volker Quaschnig
Graphics: ICT Impact GmbH

Development of future H2 demand



231 Mio. t H2 for
Mobility

~115 Mio. t

~ 530 Mio. t

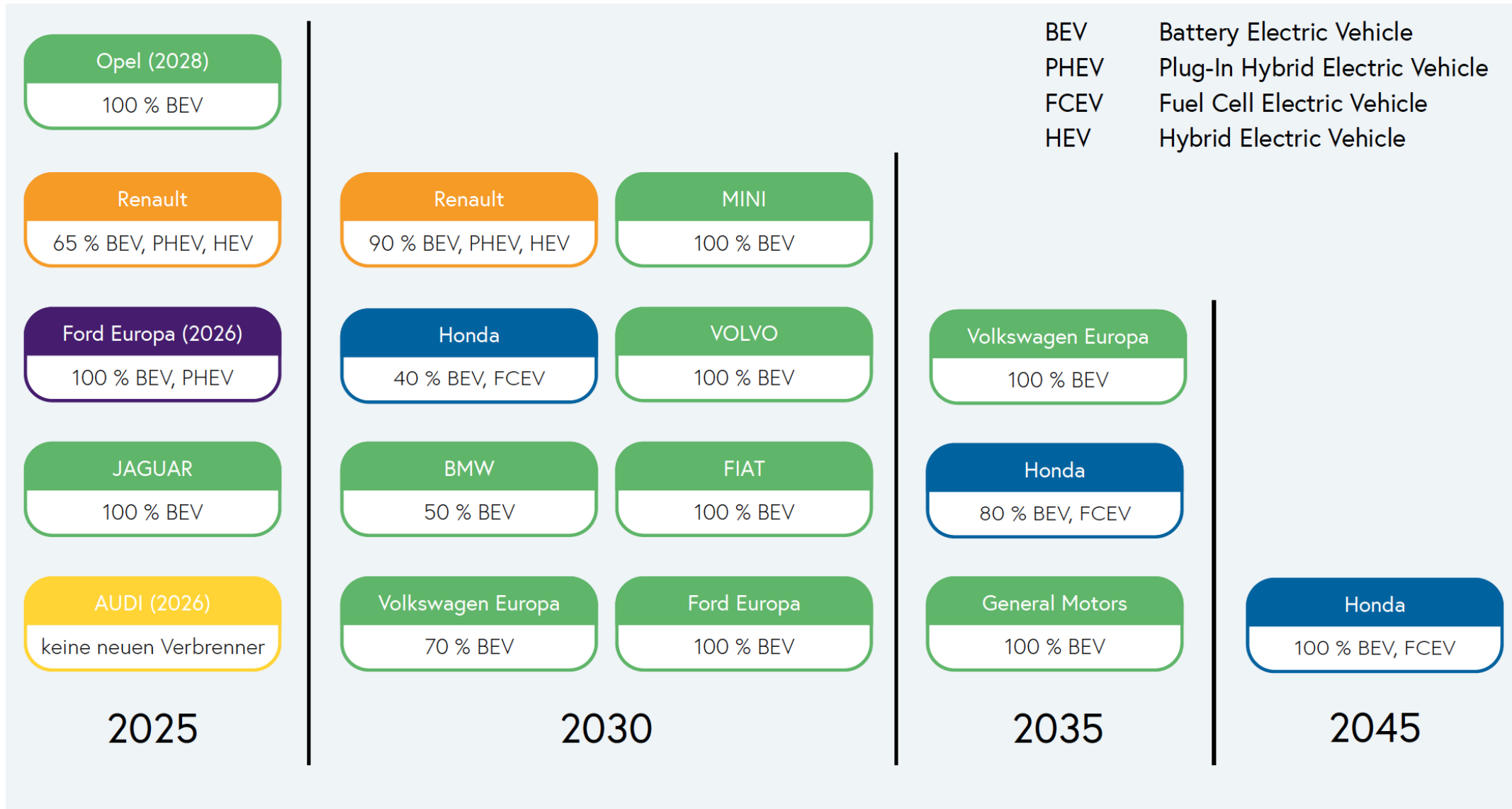
Source: ICT, DI M. Friedmann 2021

Data Based on the 2021 IEA report *Net Zero by 2050*

*) Based on figures from Volker Quaschnig

Graphics: ICT Impact GmbH

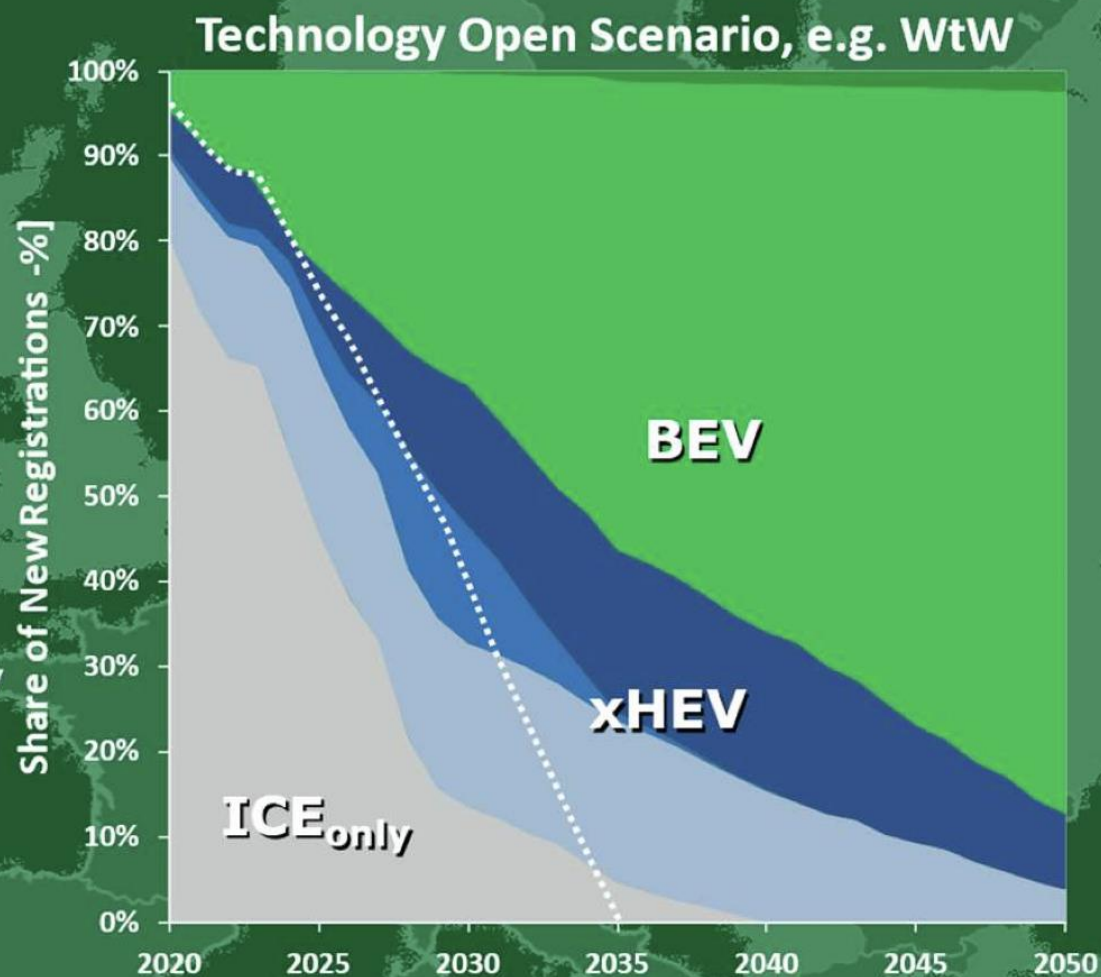
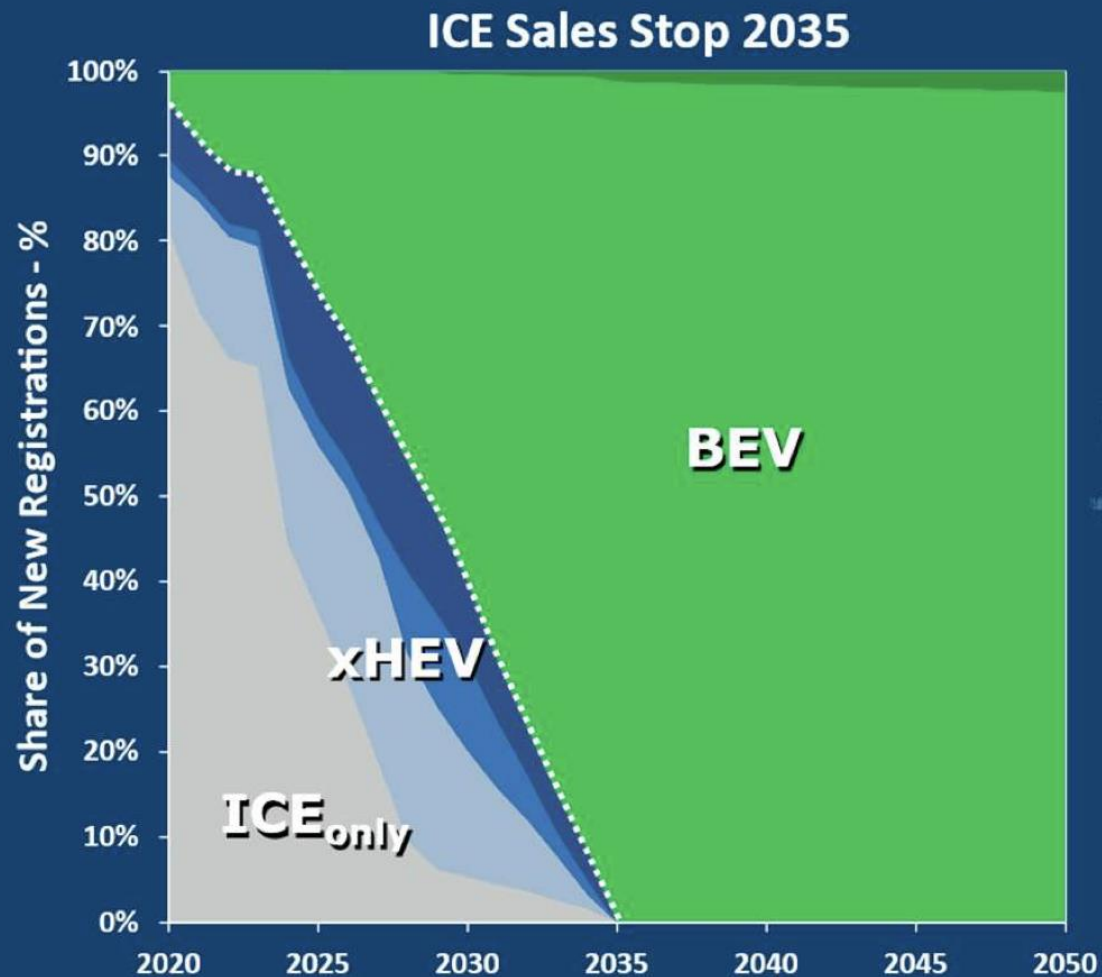
Commitment of OEMs



BEV Battery Electric Vehicle
 PHEV Plug-In Hybrid Electric Vehicle
 FCEV Fuel Cell Electric Vehicle
 HEV Hybrid Electric Vehicle

New Registrations Europe with Potential Scenarios

Passenger Cars & Light Commercial Vehicles



Reality in San Francisco





Contact

Dr. Michael Nöst, IESTA, A3PS

Cell: +43 6646437320

email: michael.noest@iesta.at