Emission impossible! – Mission possible? – The Policy Challenge.

Transforming Transportation to secure tomorrow‘s mobility.

Christian Hochfeld
Executive Director, Agora Verkehrswende

DFBEW/OFATE Conference
Berlin, June 12, 2018

Agora Verkehrswende – Transforming Transportation

Who we are.

Picture: Greenpeace

- → Initiative by **Stiftung Mercator** and **European Climate Foundation**
- → Independent **Think Tank** and high-level **Council of Agora**
- → **Mission:** Scenarios, Discourse and Strategies for the **Decarbonisation of Transport** until 2050
- → **Focus:** starting with national land-based transport in **Germany** in an European context

Dieselstraße in Berlin: A Symbol for the Transport Transformation in Germany?

In the past 25 years the Transport Sector in Germany could not contribute to CO_2 Emission Reductions.

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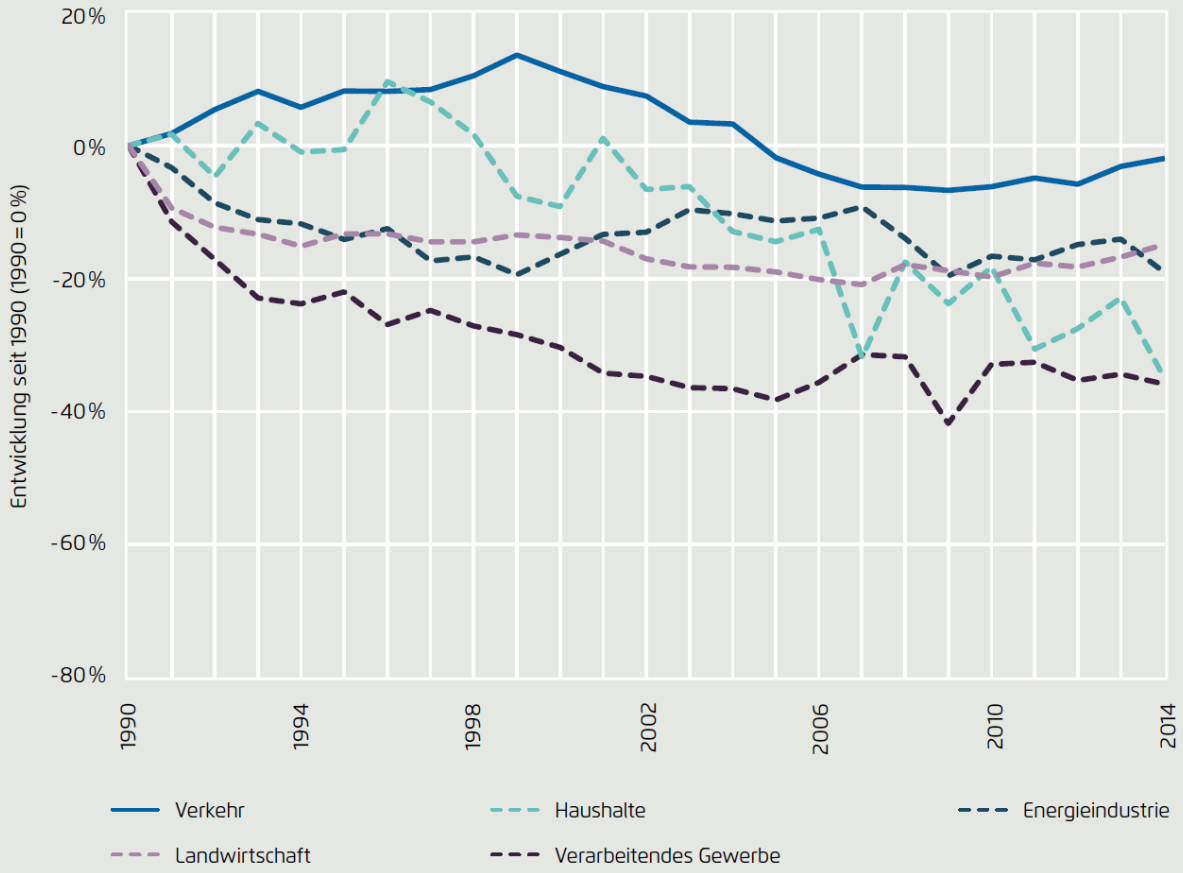
Relative Development of Greenhouse Gas Emissions for different Sectors since 1990



Federal Climate Protection Plan 2050:
The *Verkehrswende* is an official goal of the Government.

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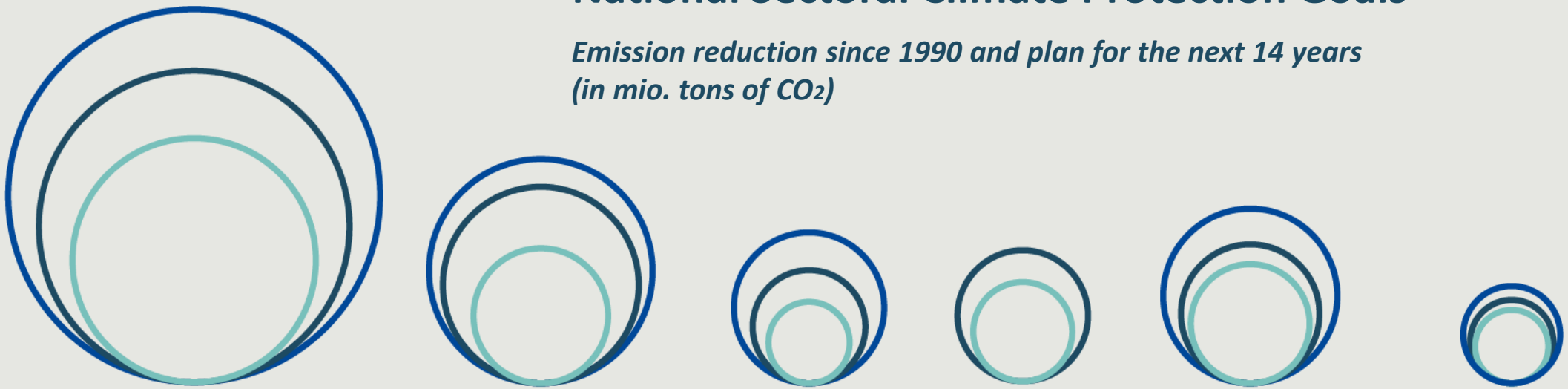
For the first time ever the German transport sector has an own ambitious emission reduction target.

National Sectoral Climate Protection Goals

Emission reduction since 1990 and plan for the next 14 years (in mio. tons of CO_2)



	Total	Energy	Building	Transport	Industry	Agriculture
1990	1248	446	209	163	283	88
2014	902	358	119	160	181	72
2030	543–562	175–183	70–72	95–98	140–143	58–61

Source: Agora Verkehrswende

The ‚*Verkehrswende 2050*' will be enabled by the Mobility Transition and the Energy Transition in Transport.

VERKEHRSWENDE

The **Verkehrswende** enables the German transport sector to be carbon neutral by 2050.

MOBILITÄTSWENDE

The **Mobility Transition** reduces the energy consumption of the German transport sector based on Avoid, Shift and Improve.

\+

ENERGIEWENDE IM VERKEHR

The **Energy Transition in Transport** covers the remaining energy demand of the German transport sector with renewable energy.

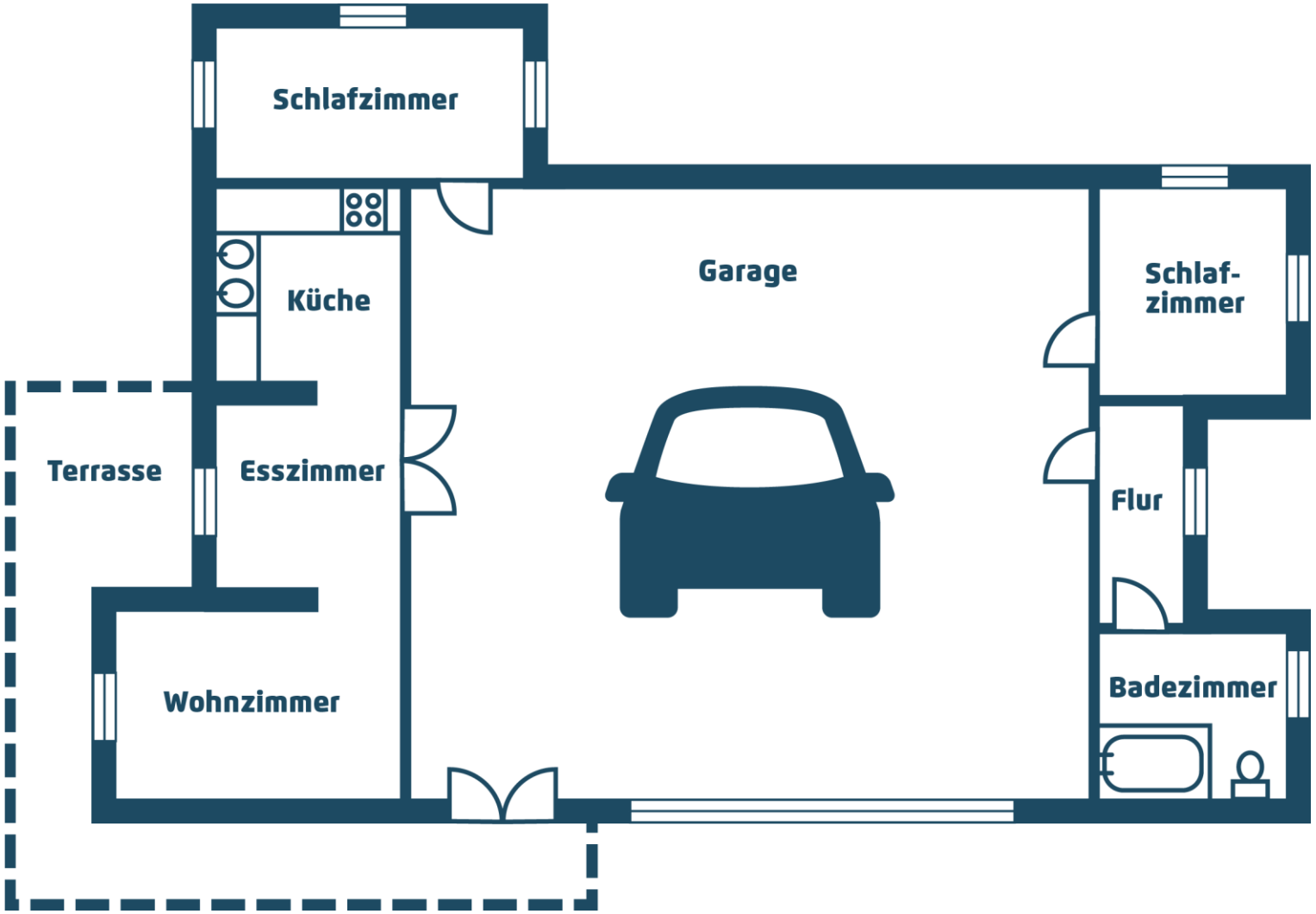
Source: Agora Verkehrswende.

The Mobility Transition has already started in cities around the world…

Picture: iStock

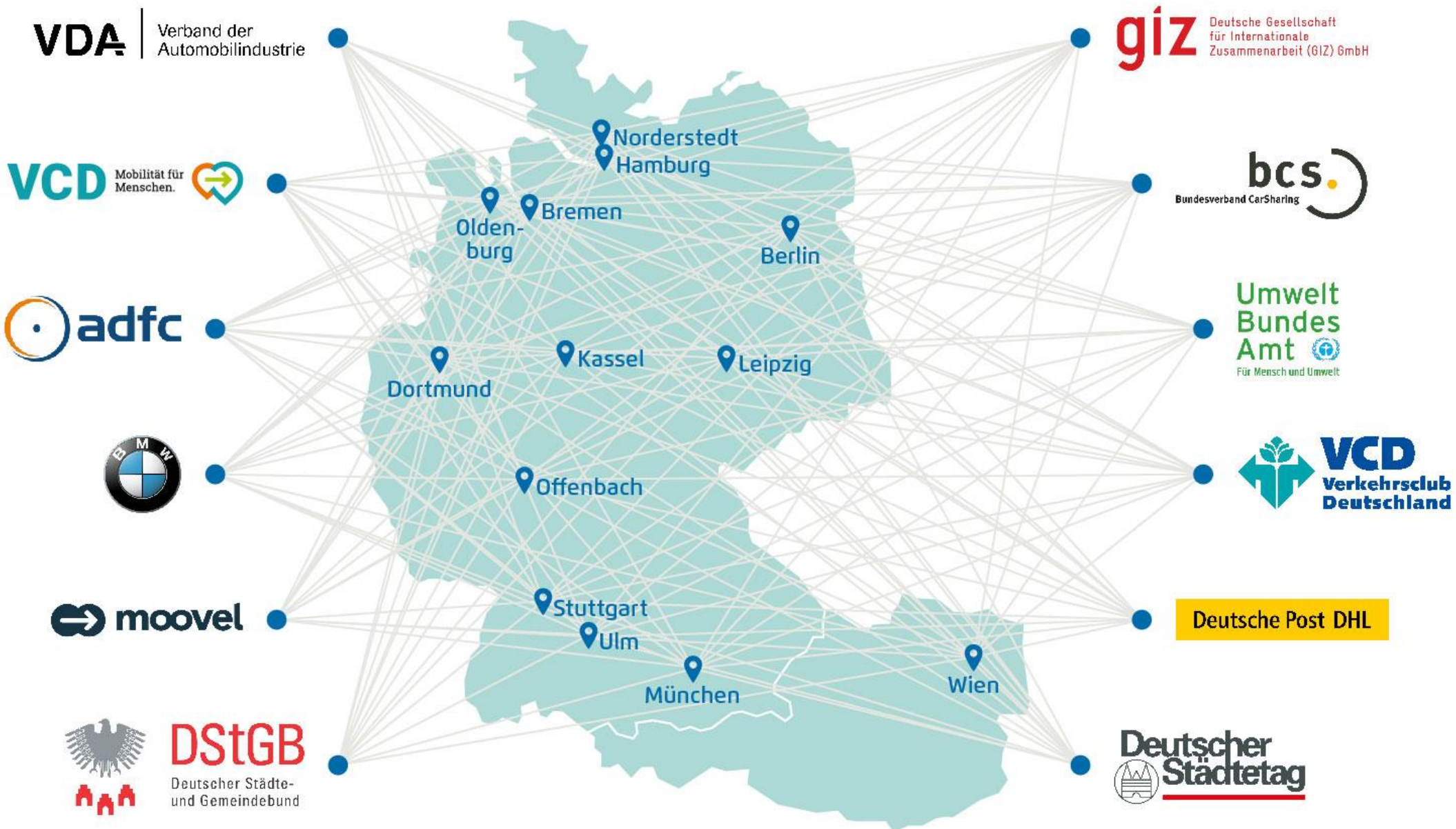
- The interlinked public transport is the backbone of urban transport.
- Private transport becomes more public, public transport becomes more private.
- Fewer cars leave more space for other land use.
- Walking and cycling comes with high benefits for the city at lowest costs.
- Sustainable urban transport policy receives more political support.

If we would have planned our appartments, like we did with cities…



“Traffic Tetris“: huge challenges lead to rapid innovation.

Agora Network Urban Transport Transformation



The Mobility Alliance

Public Transport
- Suburban train
- Underground
- Tram
- Bus
- Taxi

Non-motorised Transport
- Bicycle
- Pedestrians

Collaborative Mobility
- Carsharing
- Ridesharing
- Bikesharing

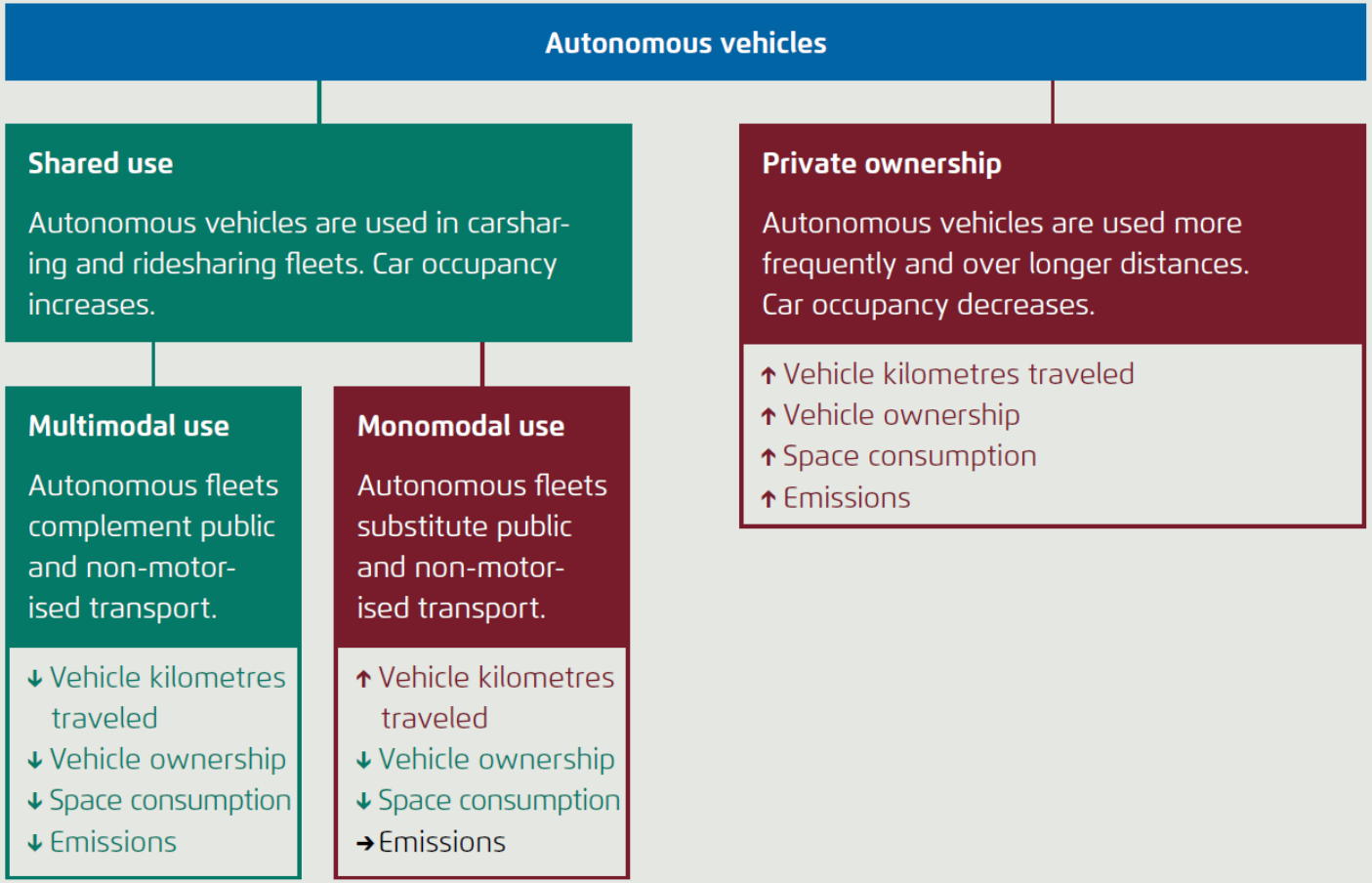
Source: Agora Verkehrswende

Autonomous Vehicles are ideal for shared use

Foto: Idprod-Fotolia

Even a Small Number of Driverless Cars Can Increase Traffic.

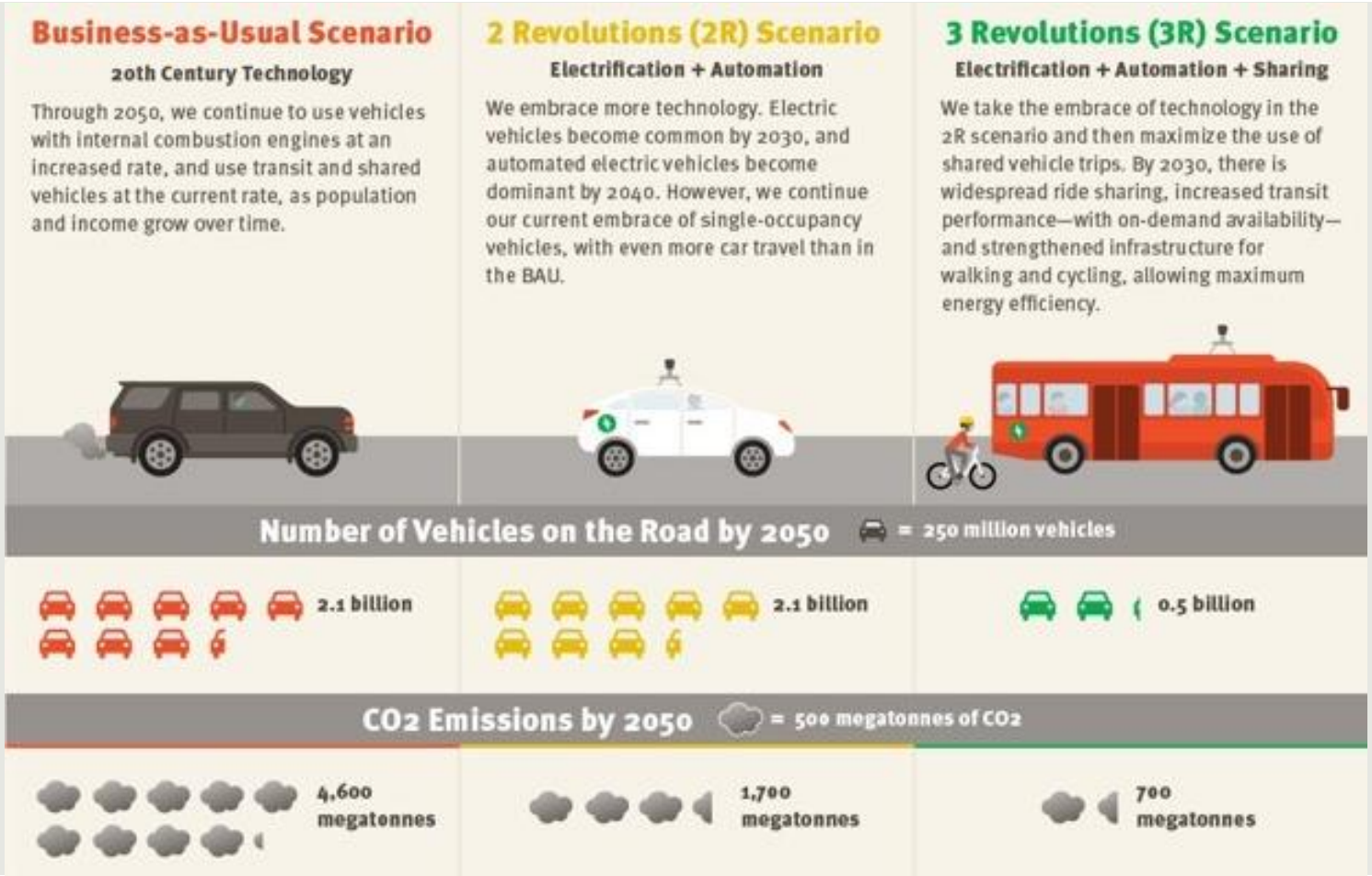
Usage forms and possible effects of vehicle automatisation



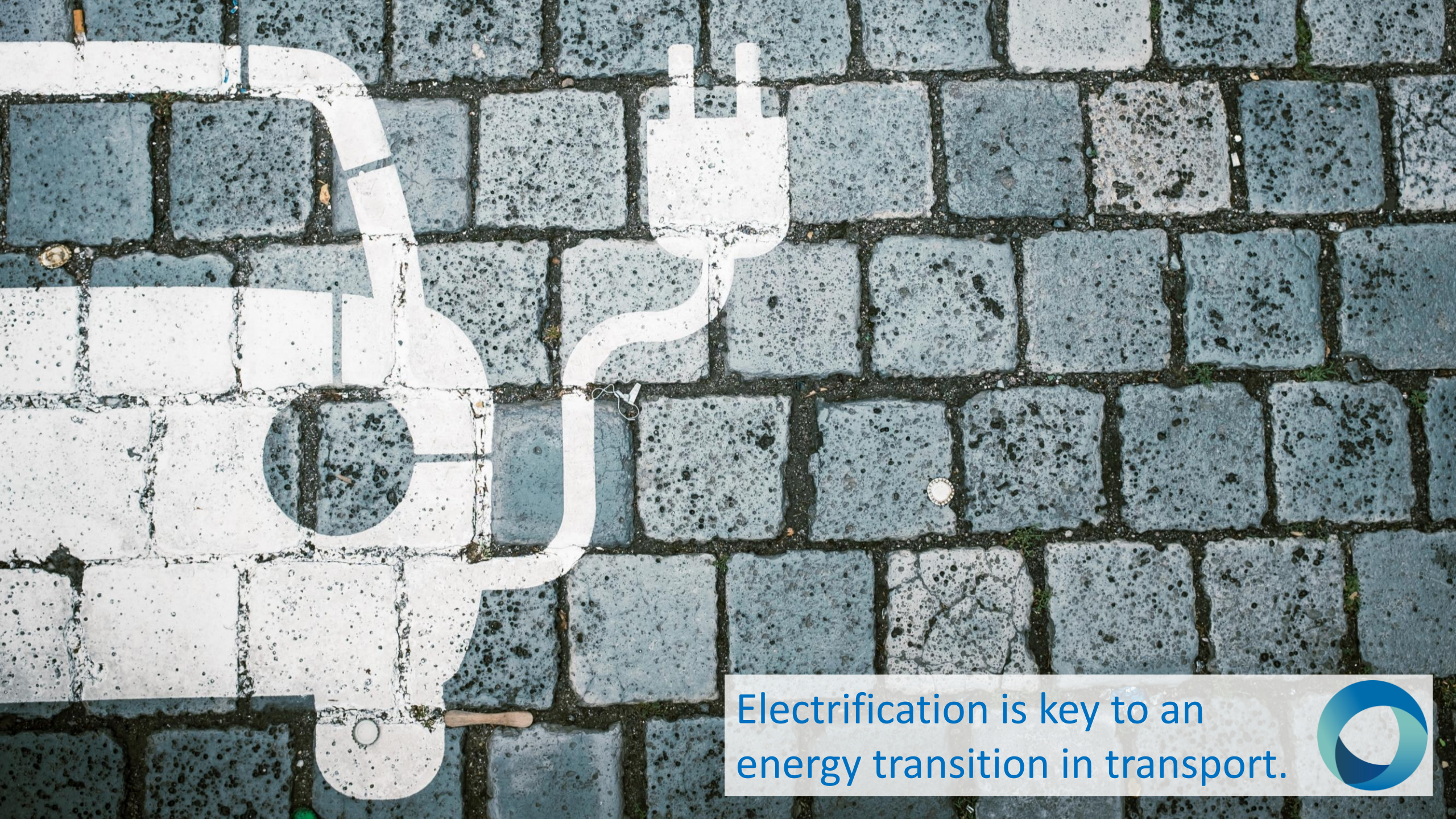
Source: Agora Verkehrswende

Autonomous vehicles will have to be shared vehicles.

Scenarios for monomodal and multimodal usage of autonomous vehicles

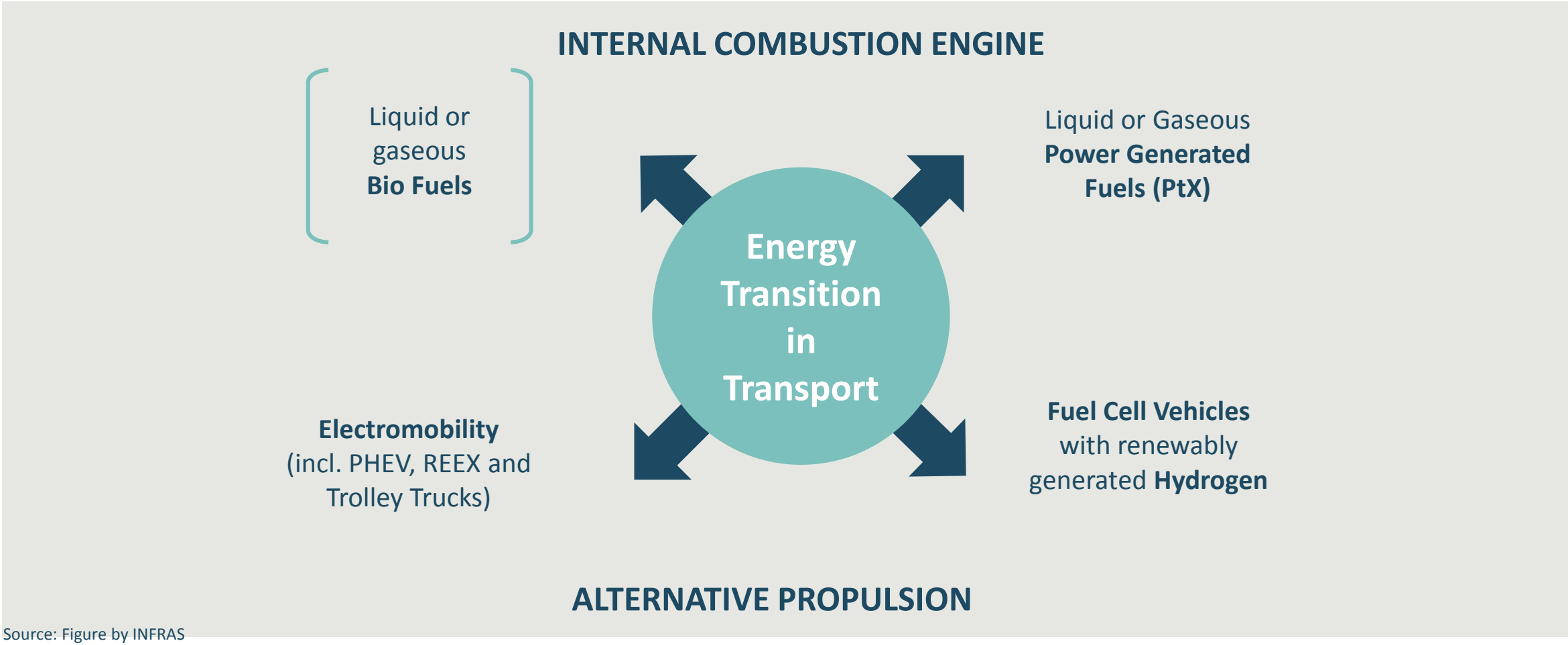


Source: ITDP, UC Davis


Electrification is key to an
energy transition in transport.

Options for the *‚post fossil‘* future of transport

Renewable energy from sun and wind replaces fossil fuels.



Source: Figure by INFRAS

The direct use of Electricity in LDV is the option with the lowest cost of decarbonisation for the national economy.

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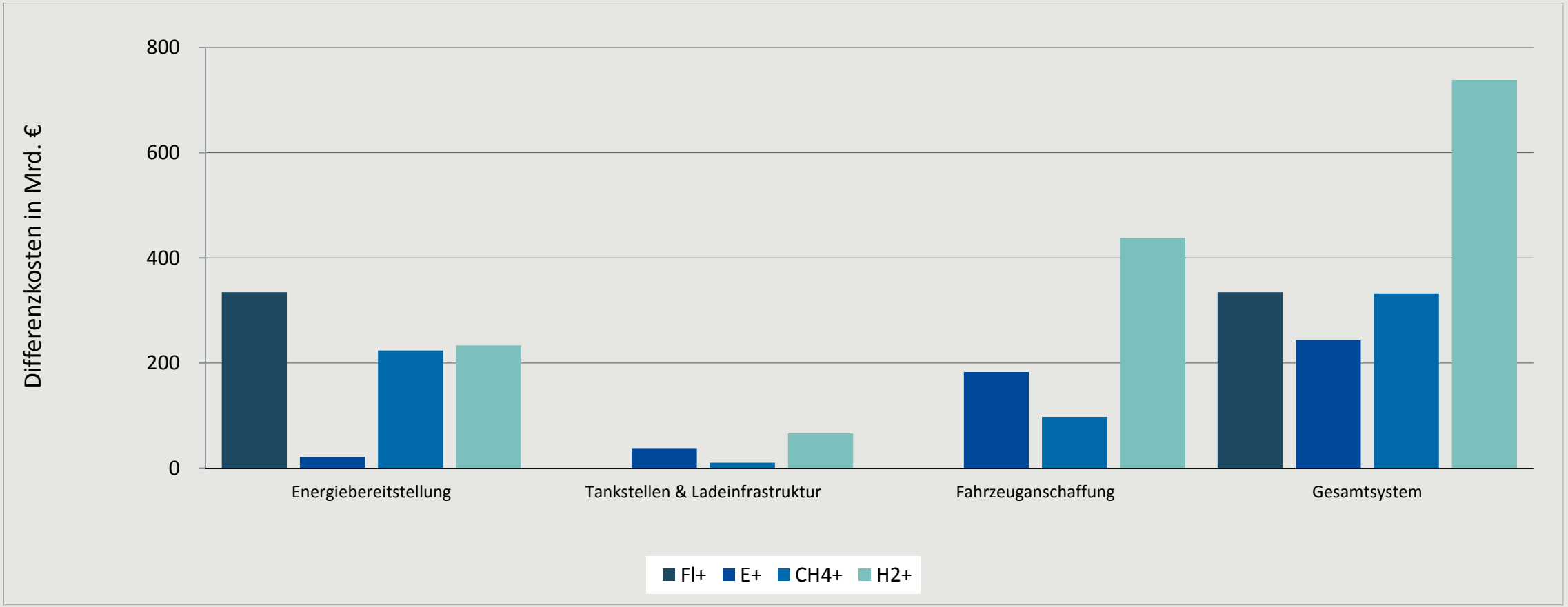
Accumulated Difference Costs for Technology Options 2050 compared to BAU.



Source: Öko-Institut, INFRAS, DVGW, im Auftrag UBA

20 Cities only account for 40% of the EV Sales worldwide.

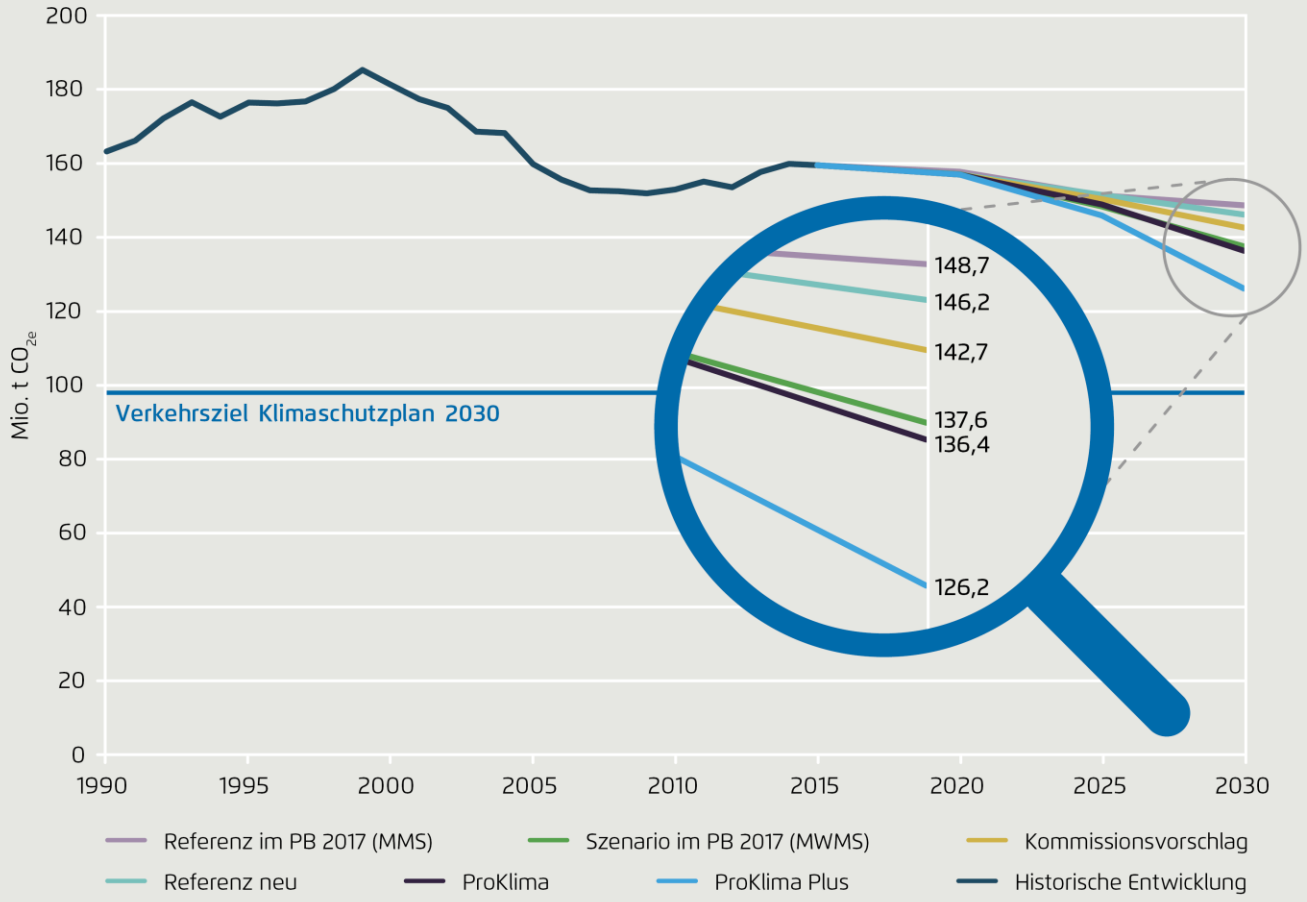
These Cities represent 3% of the opulation and 8% of annual vehicles sales.

Source: ICCT 2017.

Emission impossible! – Mission possible?
Depends on the right Policy Mix!

Foto: iStockphoto, Dragan Smiljkovic

The relevance of the Post-2020 CO_2-Regulation for LDV for the Climate Protection Goals for Transport in Germany 2030



- The KOM proposal reduces CO_2 from LDV only by 3,5 Mio. t.
- With the KOM proposal the distance to target 2030 remains 45 Mio. t CO_2
- With more ambitious targets the reduction may reach 10 to 20 mio. t.

Source: Agora Verkehrswende (2018), p. 6

GHG Emission Reduction
Scenario „User Costs & TDM“ (Avoid & Sift)

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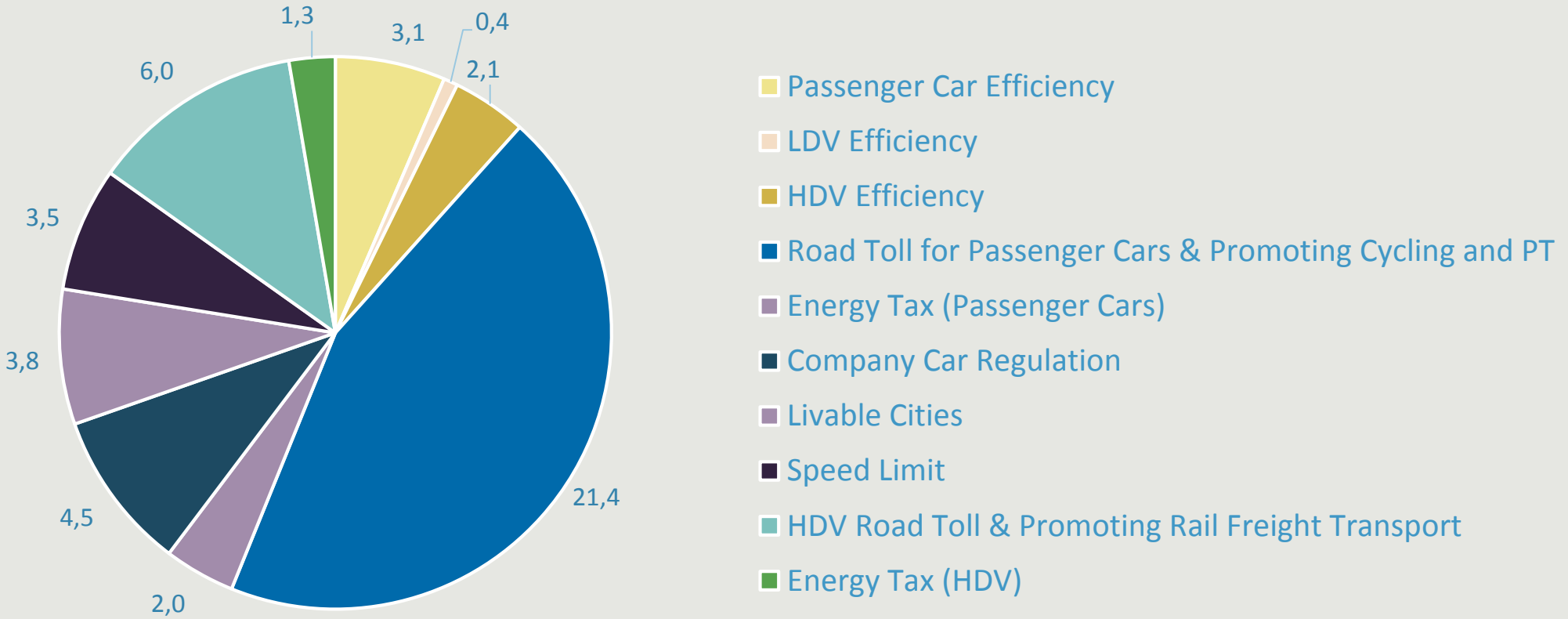
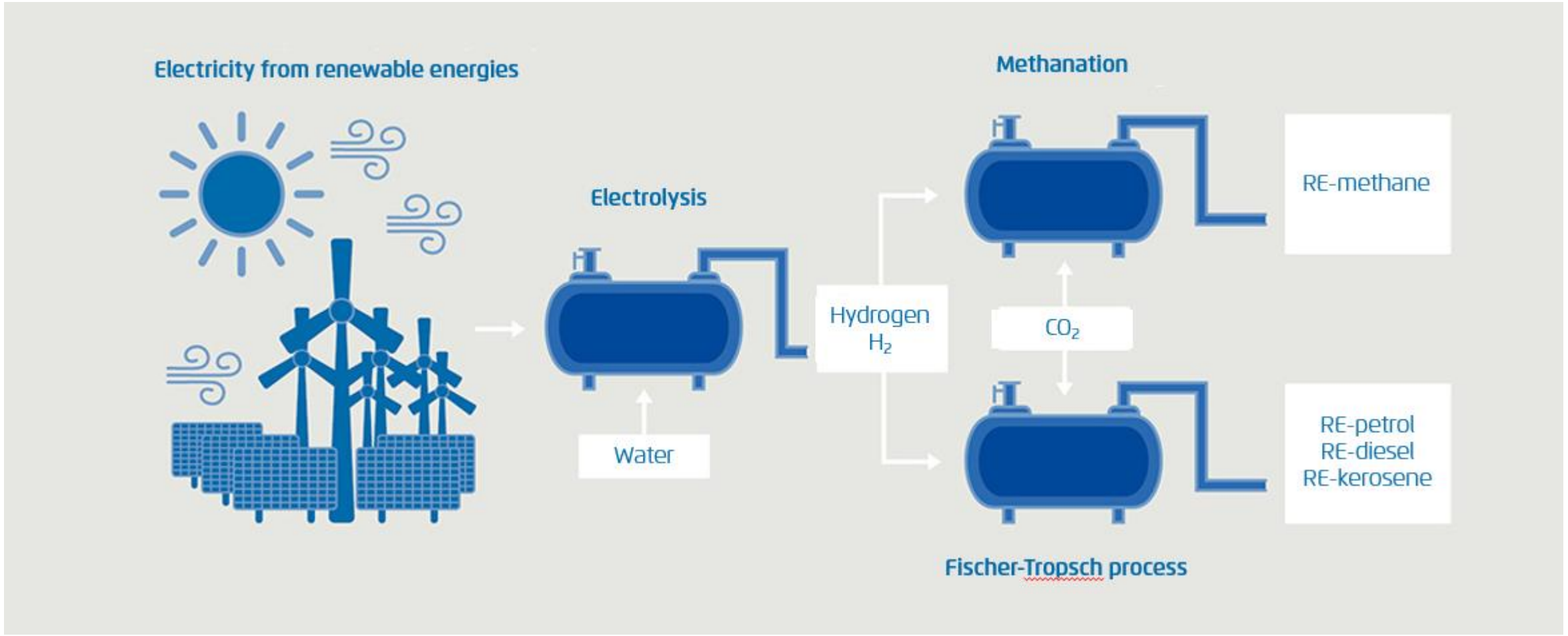
Emission Reduction in Mio. t CO_2



Source: Agora Verkehrswende based on the research of Öko-Institut, not published yet.

Process steps for the production of hydrogen, PtG-methane and PtL-fuels from renewable energies



Source: Agora Verkehrswende

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Thank you very much for your attention!

Comments or Questions? – Please do not hesitate to contact me:

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