



Bundesministerium
für Umwelt, Naturschutz
und nukleare Sicherheit

Perspectives on Electric Road Systems in Germany

**BMU - Federal Ministry for the Environment,
Nature Conservation and Nuclear Safety**

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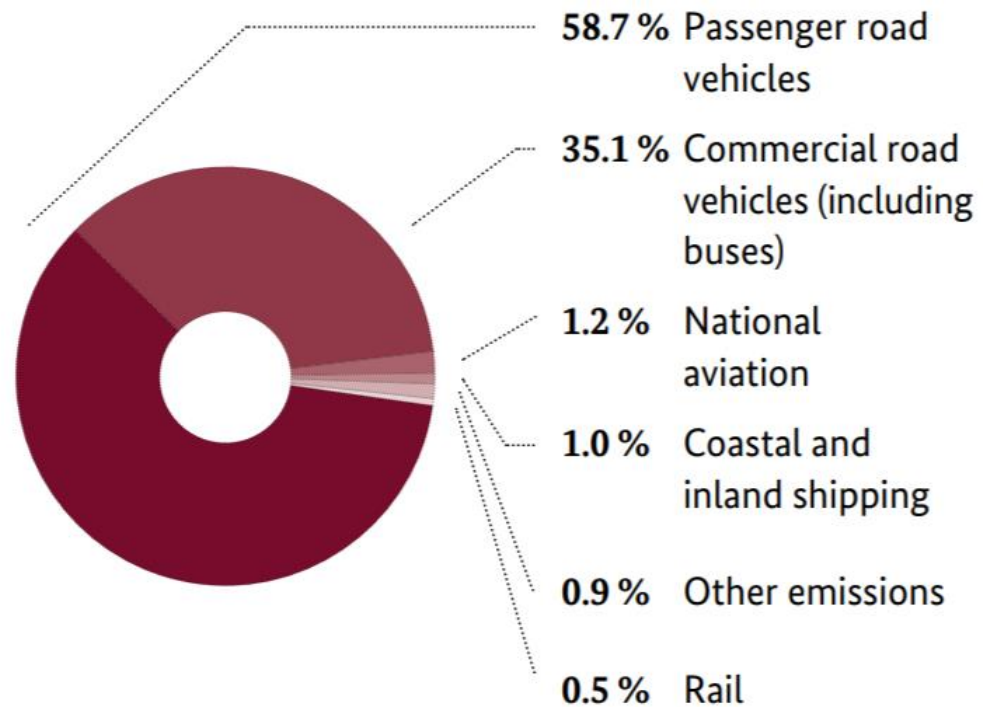
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Where do transport emissions arise from?

Figure 25: Emission sources in the transport sector (excluding CO₂ from biofuels) (2018)



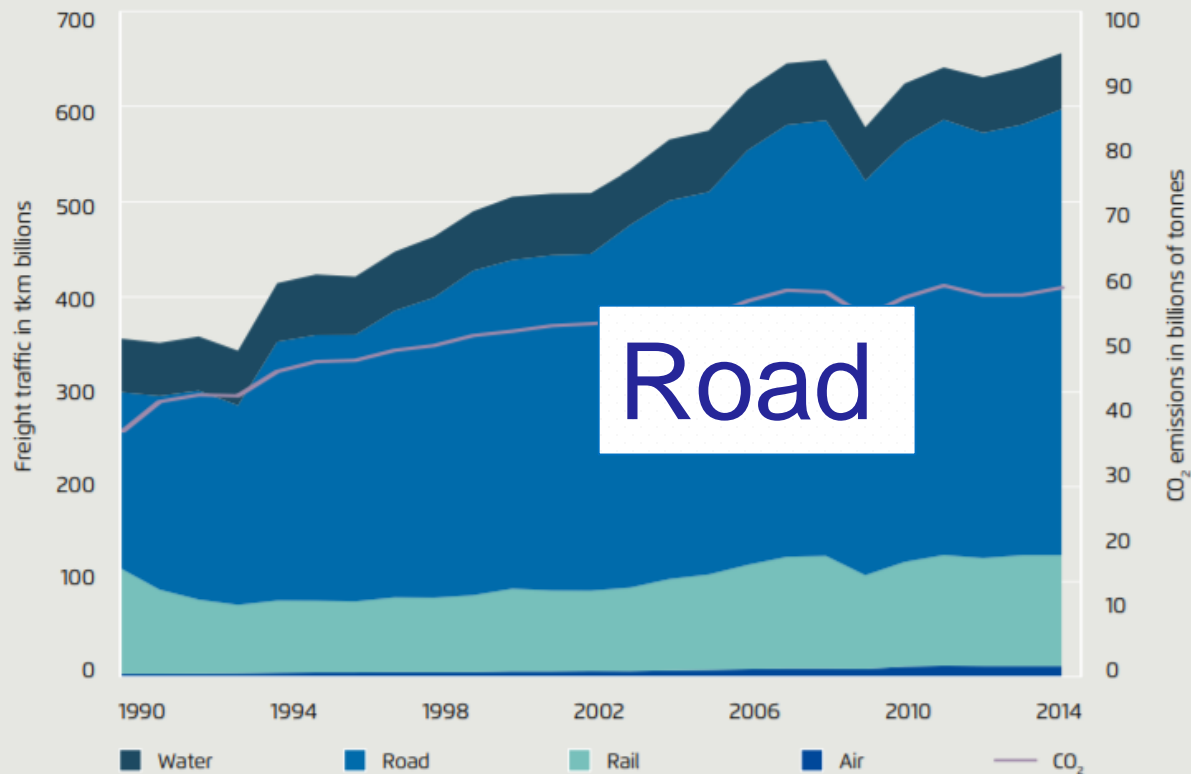
Source: UBA (2020a)



Modal split cargo

German freight traffic and CO₂ emissions, 1990 to 2014

Figure 8.1

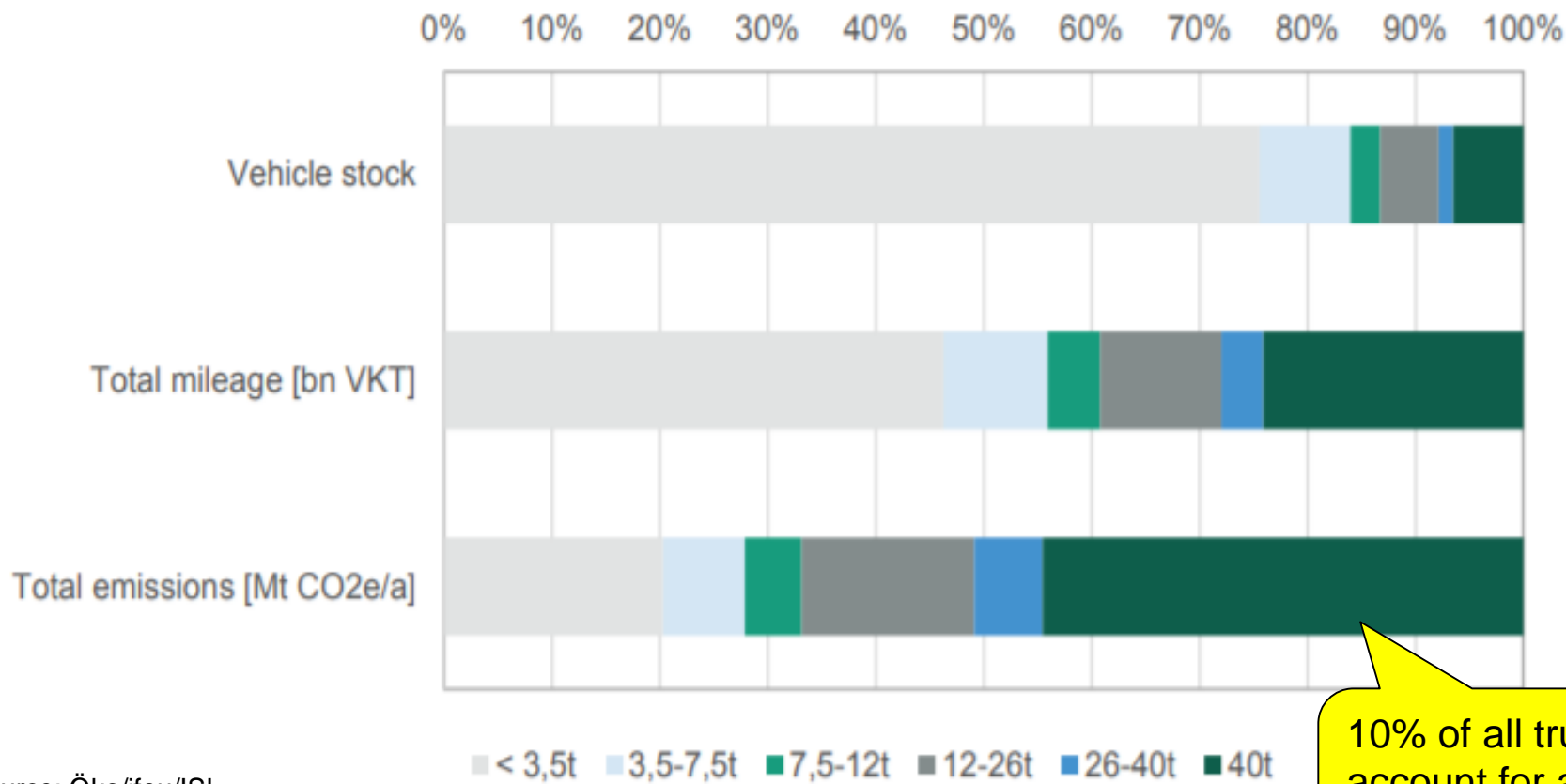


Authors' figure based on UBA data, Tremod, p. 63

Source: Umweltbundesamt (UBA), graph from <https://www.agora-verkehrswende.de/12-thesen/>



Road cargo segments by vehicle type



10% of all trucks
account for almost
50% of CO₂



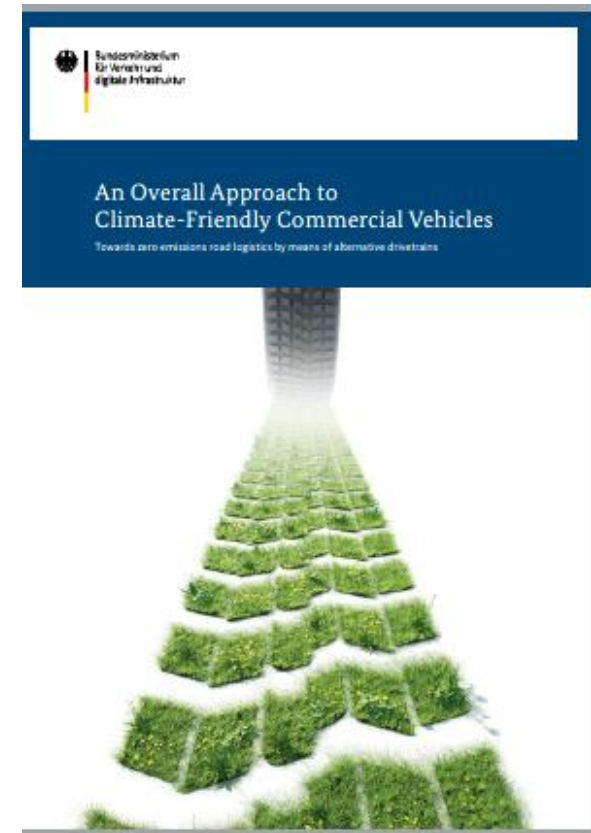
FedGov plans

General Framework: A stringent pathway will reconcile the properties of alternative technologies with the requirements of users and providers.

Climate agreement 2030: 1/3 of heavy duty road transport to be electric or powered by PtL by 2030

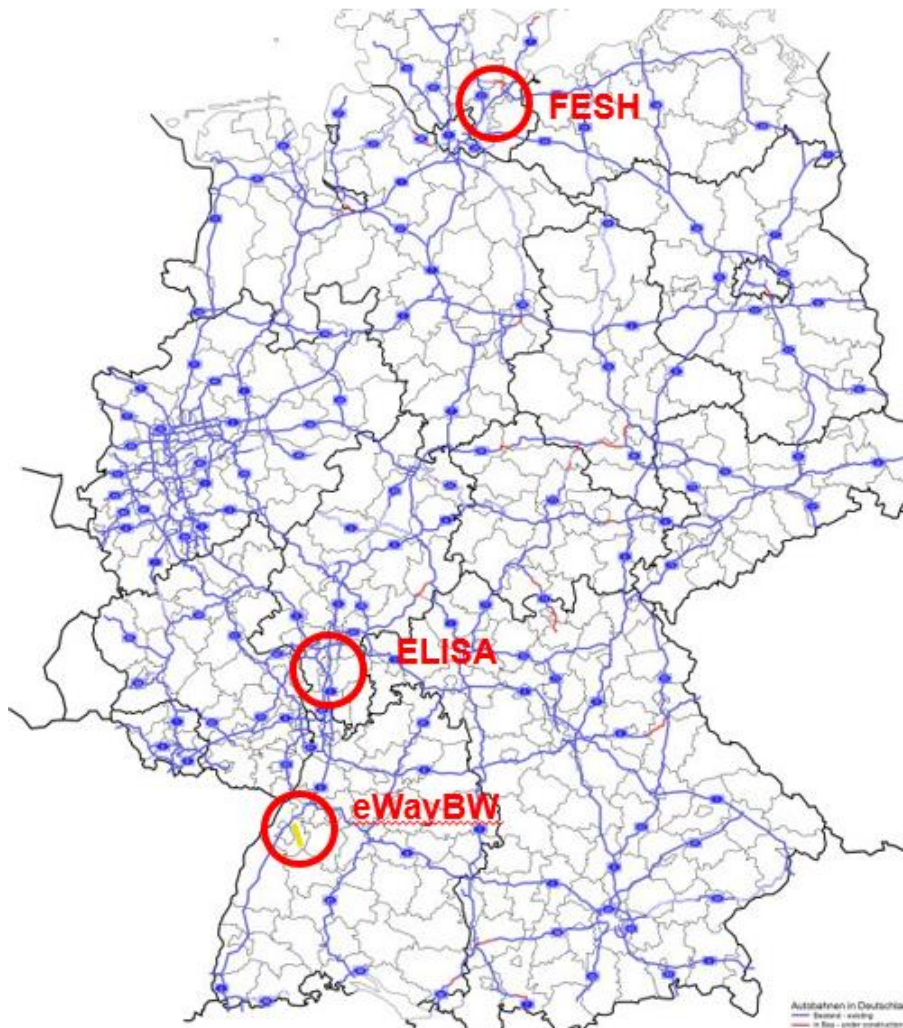
Key Measures:

- Vehicle funding, without favouring any specific technology. **E-Trucks: 80% of additional costs are covered by Gov.**
- Infrastructure deployment, **incl. ERS pilots**
- **Differentiation of HGV tolls by CO₂ emissions** from vehicles.





E-Highway projects



- each ca. 10 km length
- **ELISA** (Hessen):
A 5 Frankfurt - Darmstadt
→ very high traffic load
operation started in May 2019. Actually five trucks are in operation
- **FESH** (Schleswig-Holstein):
A 1 Hamburg – Lübeck
→ harbor connection
operation started in January 2020
- **eWayBW** (Baden-Württemberg):
B 462 Gernsbach – Kuppenheim
→ not a motorway, cross-town
status: construction is in progress. Start of operation is planned for April/May 2021



E-Highway projects



- Logistic companies use the technology under real-life conditions. Some companies plan 24/7 operation.
- Scania delivers 15 trucks until 2020/21, leasing contracts with logistic companies.
- planned duration: 3 – 4 years
- ELISA Project, Hesse: An extension of the test route by 7 km is being prepared
- **research** (examples):
 - integration into traffic management,
 - integration into logistic processes,
 - integration into street maintenance,
 - effects on the electricity grid,
 - impacts on environment (e.g., birds),
 - social acceptance



Upscaling analyses



Concept for a 4.000 km network (StratON, Roadmap OH-Lkw)

- On a 4.000 km network, 65% of ton-km (40 t vehicles) have an economic potential for ERS in 2030
- But: Other vehicle types and smaller routes (e.g. regional cycles) contribute to the potential, and might even become drivers / first movers in an initial market phase

Source: BOLD project <https://www.erneuerbar-mobil.de/projekte/bold>



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Thank you

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