

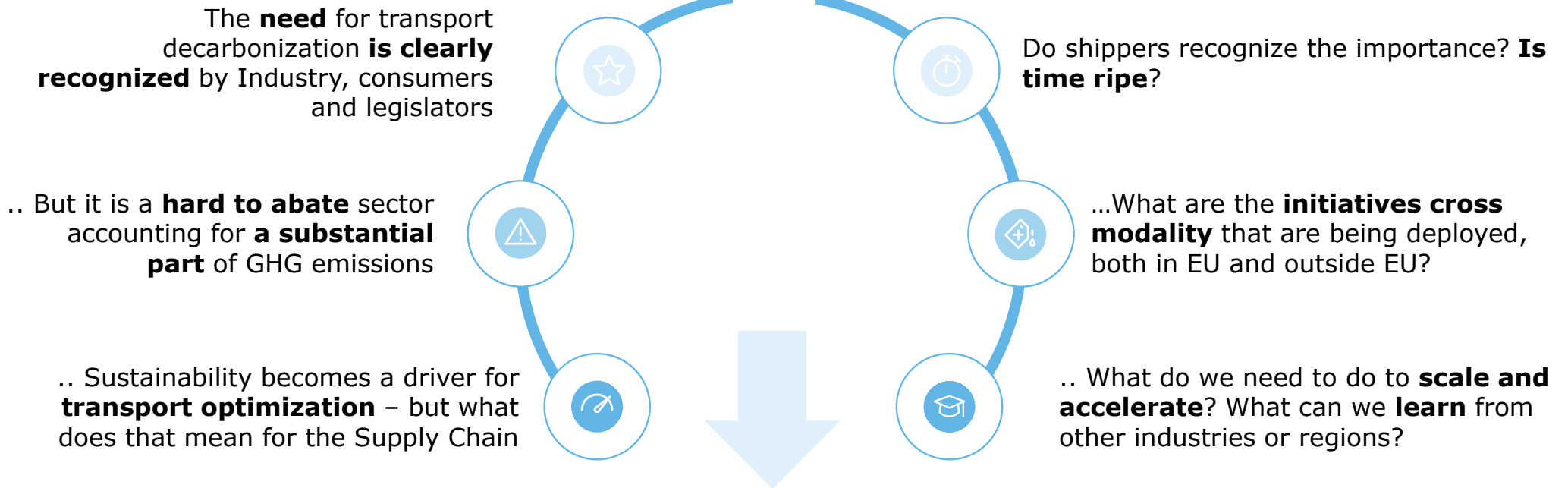
Accelerating Transport Decarbonisation
EPCA Annual Event, Vienna, 27 September 2023

Kick-off

The transportation sector has decarbonization barriers around regulatory incentives, infrastructure and limited demand..

Setting the scene..

..and the expert discussion



... How to solve these barriers and accelerate transition

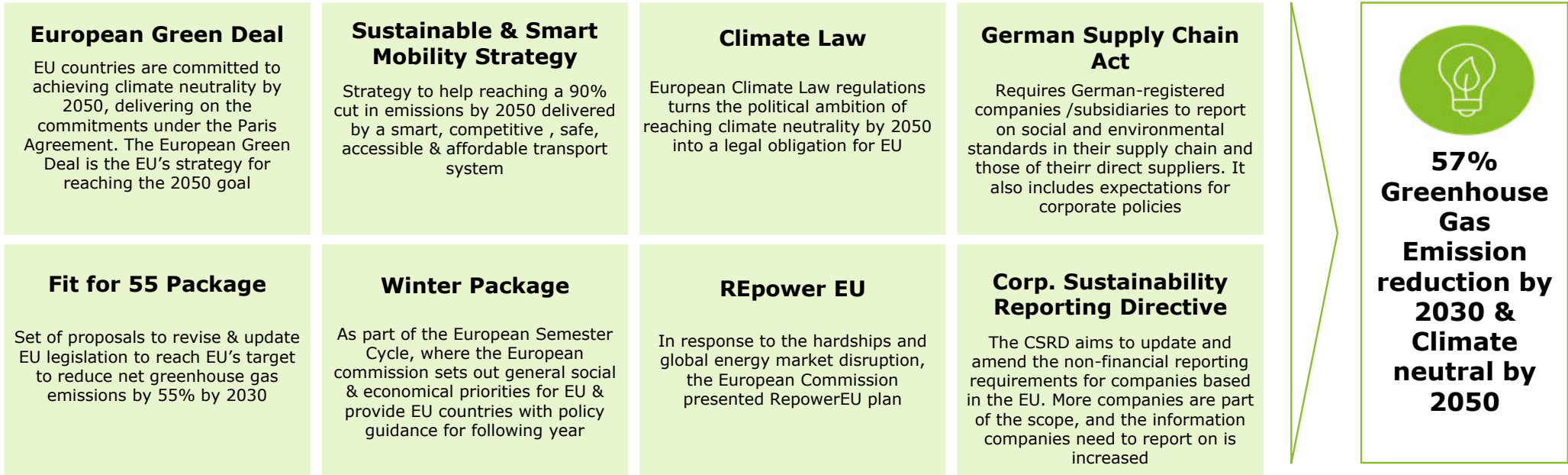
Regulatory barriers are rapidly addressed by the EU and its countries

The need for transport decarbonization is clearly recognized by Industry, consumers and legislators

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... But it is a hard to abate sector accounting for a substantial part of GHG emissions

... Sustainability becomes a driver for transport optimization - but what does that mean for the Supply Chain



Transport is a large hard-to-abate sector

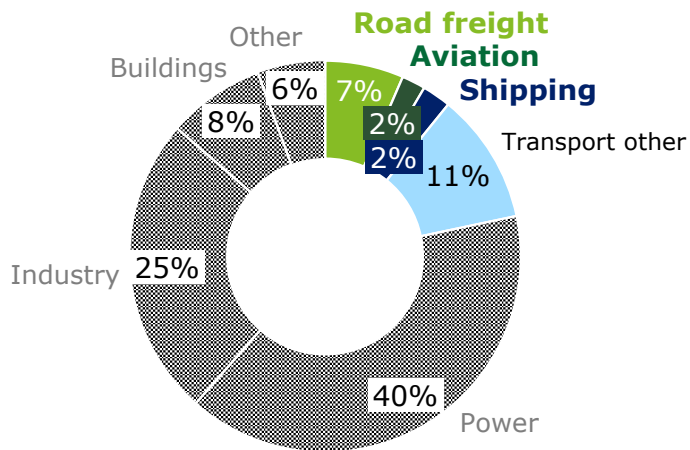
In total transport accounts for 22% of global GHG emissions. Road freight, aviation and shipping accounts for 50% of transport emissions

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Total CO₂ emission 37GT



Trading against 80-100 EUR/ ton there is a trillion EUR opportunity

Road Freight

- Road freight volumes will have a CAGR between 3 and 4% and total **volumes will double between now and the mid-2040s**
- Within road freight, the decarbonization challenge is most acute for the 63 million heavy and medium-duty trucks in operation today

Aviation

- Aviation has often been considered a sector that will decarbonize later than others due to the complexity involved
- However, the nature of the industry (being highly concentrated), makes it **easier to coordinate decarbonization efforts**
- A conservative view is that in the next 30 years, passenger traffic will more than double from 2019 levels, to around 22 trillion RPK² by 2050

Shipping

- Shipping moves approximately 80% of the worlds trade volume
- A large shipping **vessel only emits 1% of CO₂ per ton-km of a plane and 14% of CO₂ per ton-km of a cargo train**
- The shipping industry is currently exploring a wide range of alternative fuels, however, the lack of a global regulatory framework and limited customer demand for lower emission shipping are significant barriers to change

Sources: Deloitte - Decarbonization of Road Freight – getting into Gear (2021), Deloitte - Decarbonizing Shipping – All Hands on deck, Decarbonizing Aviation – Cleared for Take-off, IEA Future of Trucks, OECD; IEA Energy Technology Perspectives; IEA Tracking Transport 2020; IEA CO₂ emissions by sector; CO₂ emissions from industry, transport and heavy-duty vehicles in the Sustainable Development Scenario 2000-2030 ;
 Notes: 1) Including LCVs, MDTs, HDTs and 1.5% from buses; 2) Revenue Passenger Kilometers

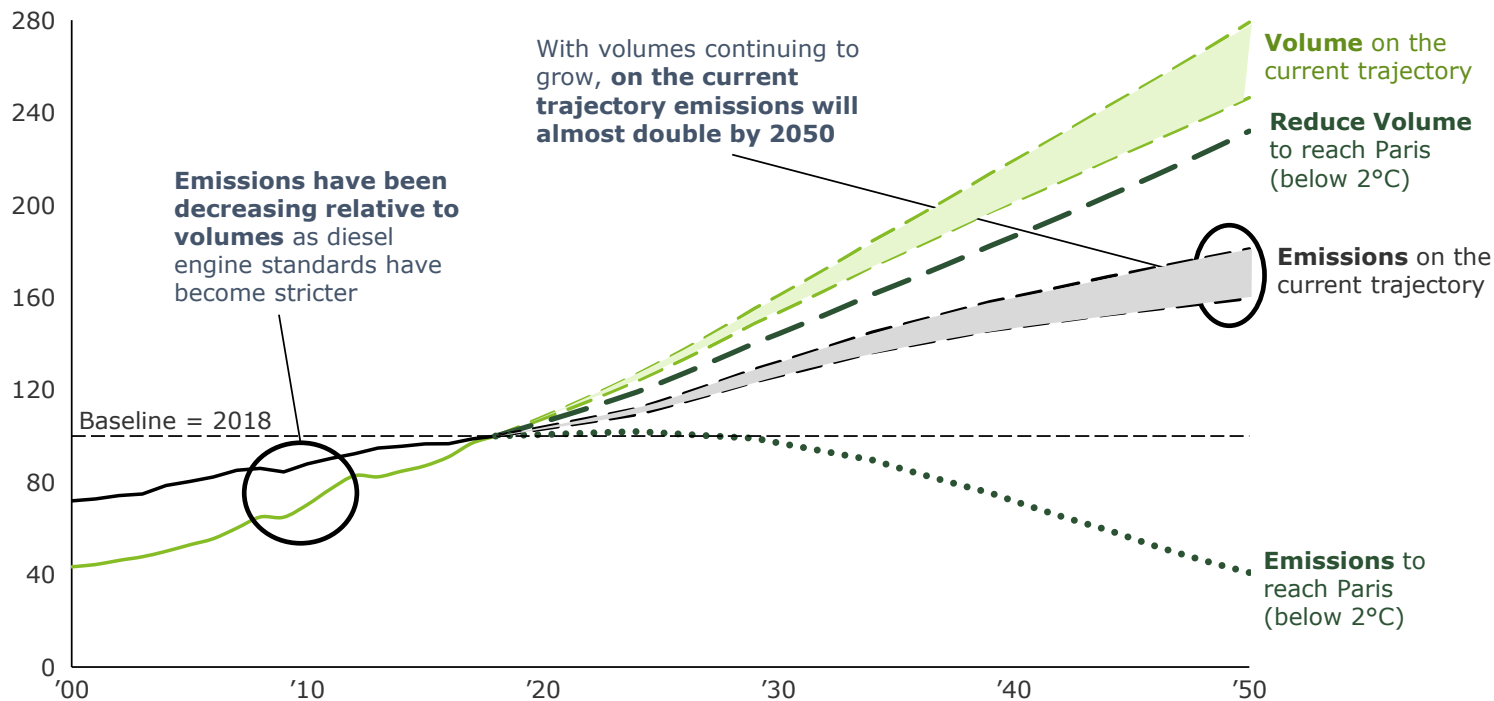
On the current trajectory emissions will far exceed the Paris Agreement

Deep dive into road freight, where emissions must decrease in intensity by 82%

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Freight in the global economy

- The volume represents the transportation of 1 Ton of goods over 1 Km of distance via road.
- This is said to increase by 70% towards 2030
- As the volume of the transported goods increases, the emissions increase
- This accounts for **7% of global CO₂ emissions**
- To meet 1.5°C agreement on a global, **82% net reduction in emissions** is needed **by 2050**, and 33% by 2030

Sources: Decarbonizing Road Freight – Getting into Gear (2021); European Commission (2021)
 Notes: 1) Volume is depicted as TKMs, emissions as CO₂

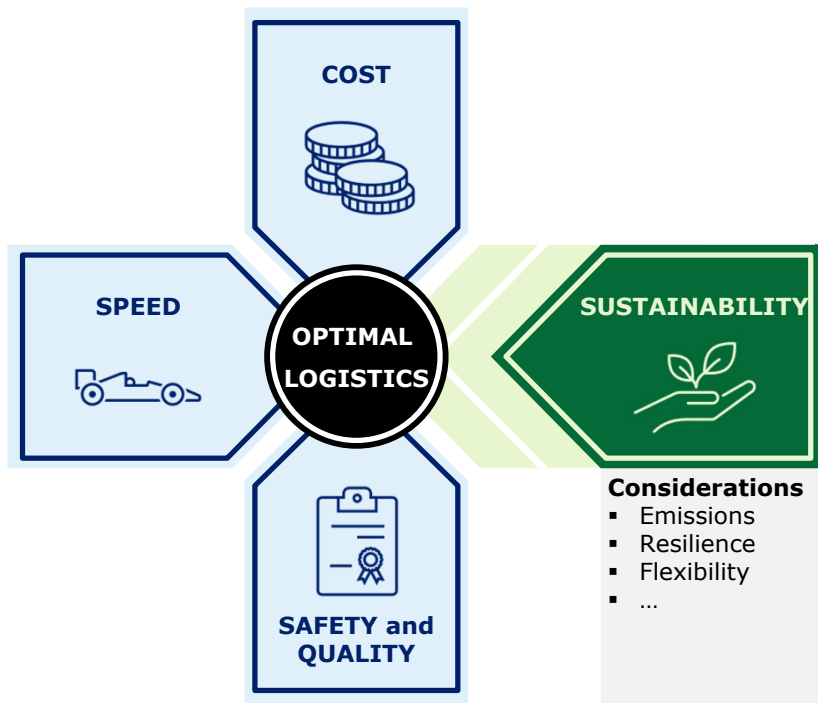
Sustainability is changing optimization of logistics

The perspective on optimal logistics is changing by adding sustainability to the equation, a range of levers exist from strategy to operations to improve on this front

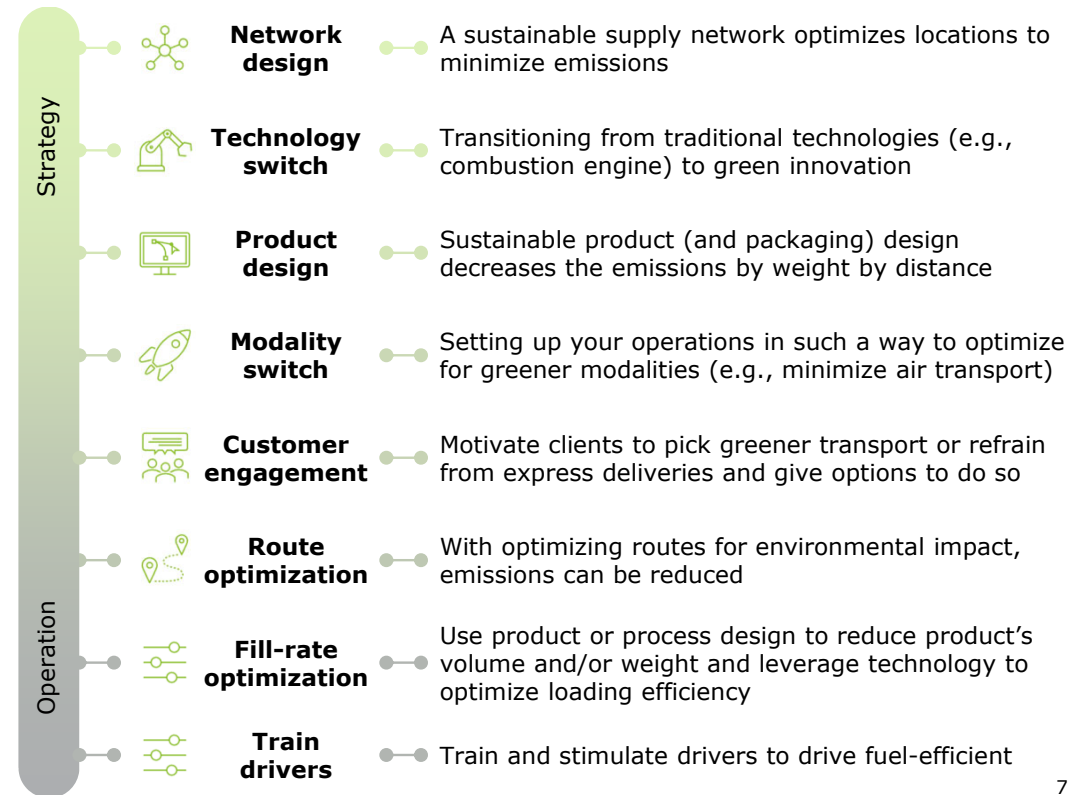
Next to optimizing logistics for cost, speed, safety and quality, sustainability is adding requirements to the equation...

... to optimize for sustainable logistics, there are key levers to turn from strategy to operations

Logistics optimization is a complex balancing act



Key levers and their impact on environmental sustainability



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Panel discussion

How to solve the barriers and accelerate the transition to more sustainable transport

The experts..



Hanno Bruemmer

EVP, Head of Supply Chain & Logistics Europe, Middle East, Africa and Latin America at Covestro



Sanja Carolin Magdeburg

Director Supply Chain at Helm AG and member of the SCPC



Christoph Wolff

CEO of the Smart Freight Centre



Peter van Egerschot

Senior Logistics Director Europe at Dow and member of the SCPC



Torben Nørgaard

CTO of the Maersk Mc-Kinney Møller Center for Zero Carbon Shipping

..and the key themes



Do shippers recognize the importance? **Is time ripe?**



...What are the **initiatives cross modality** that are being deployed, both in EU and outside EU?



.. What do we need to do to **scale and accelerate?** What can we **learn** from other industries or regions?



The EPCA intermodal Transportation webpage



Deloitte.

Thank you for your
participation