

DAIMLER TRUCK

Hydrogen for decarbonising road transport: Example Daimler Trucks

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Trucks are the **backbone of our economy and society** – they transport almost nine trillion ton-miles per year globally

9,000,000,000
t-mi

Figures refer to OECD, China & India

**LEADING
SUSTAINABLE
TRANSPORTATION**



Daimler Truck **propulsion strategy**: To derive target technologies, different perspectives are required

SYSTEM VIEW

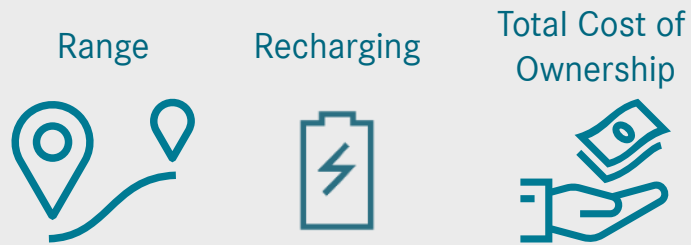
TECHNICAL VIEW

All transportation tasks could be solved with either battery or H2 – with significant tradeoffs



CUSTOMER VIEW

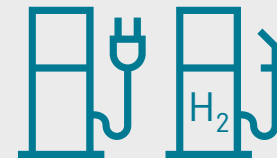
Depending on customer use cases and ecosystem, BEV or H2 is the better fit



INFRASTRUCTURE VIEW

A decarbonized world needs both: local electric grids and global H2 trade

Energy availability



Only the **combination of battery-electric and hydrogen-based technologies** ensures the future of transportation and optimal customer solutions.



Daimler Truck **ambition**: All new vehicles in Europe, North America and Japan are **CO₂-neutral by 2039**



* Pictured truck is concept prototype eActros LongHaul; official series model designation will be eActros 600.

Years after 2023 indicate planned start of production

Daimler Truck **strategy**: We are bringing **two technologies** to series production that lead to a CO₂-neutral future – **batteries and fuel cells**



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Mercedes-Benz GenH2 Truck prototype: Hydrogen-powered long-haul transport



Range of up to 1,000 km and more

LH₂

Two liquid hydrogen tanks, each
40 kg



Powerful and efficient fuel-cell system
with 300 kW power and high-voltage
battery able to provide up to 400 kW on
top



Intensive testing since April 2021.
**Record run October 2023: covered
distance of 1,047 km on the road**



Ambition for series production in second
half of the decade

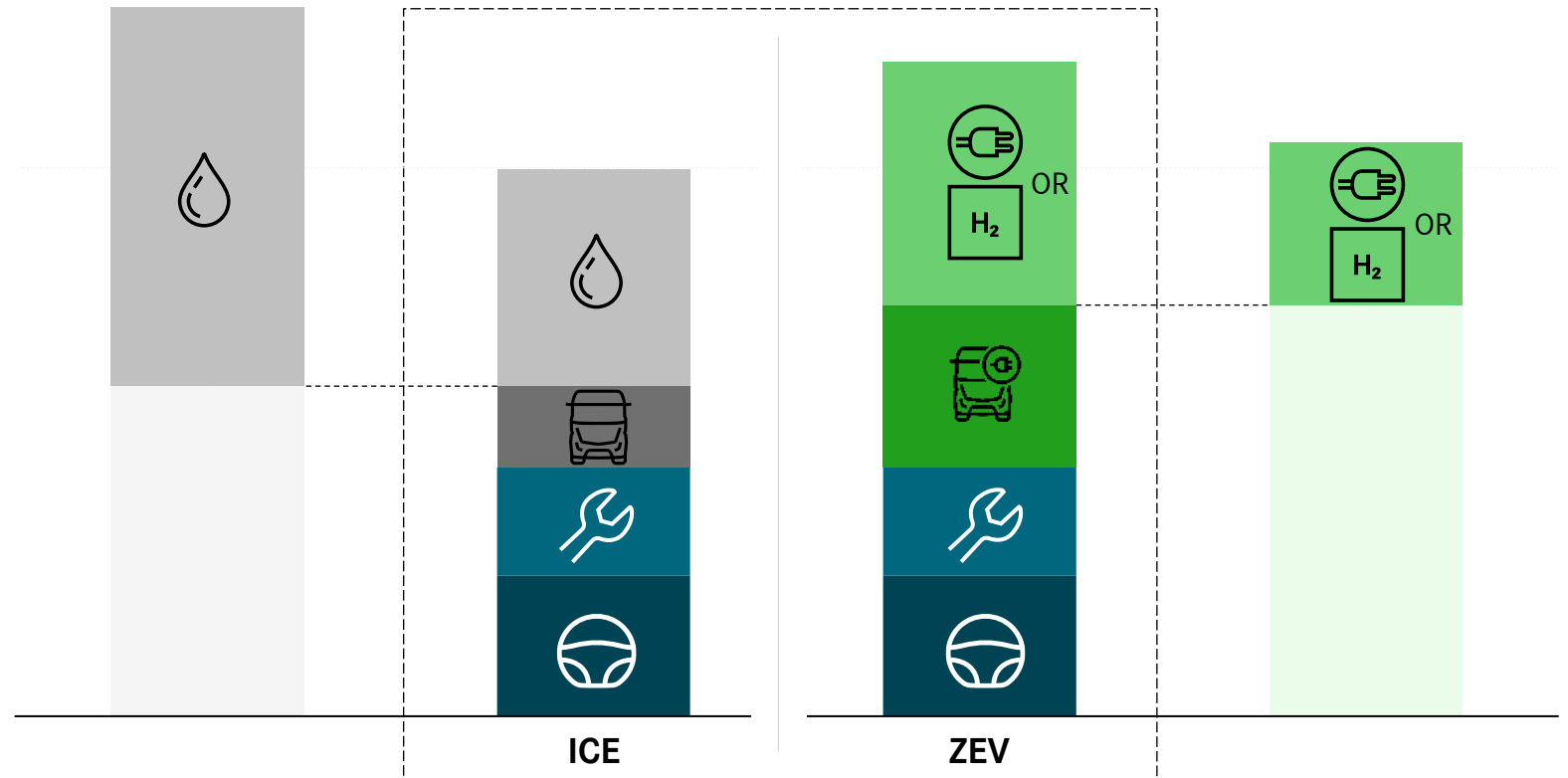


To optimize Total Cost of Ownership, customers need policy support; cost of energy and CO₂ will be decisive for the decarbonization speed



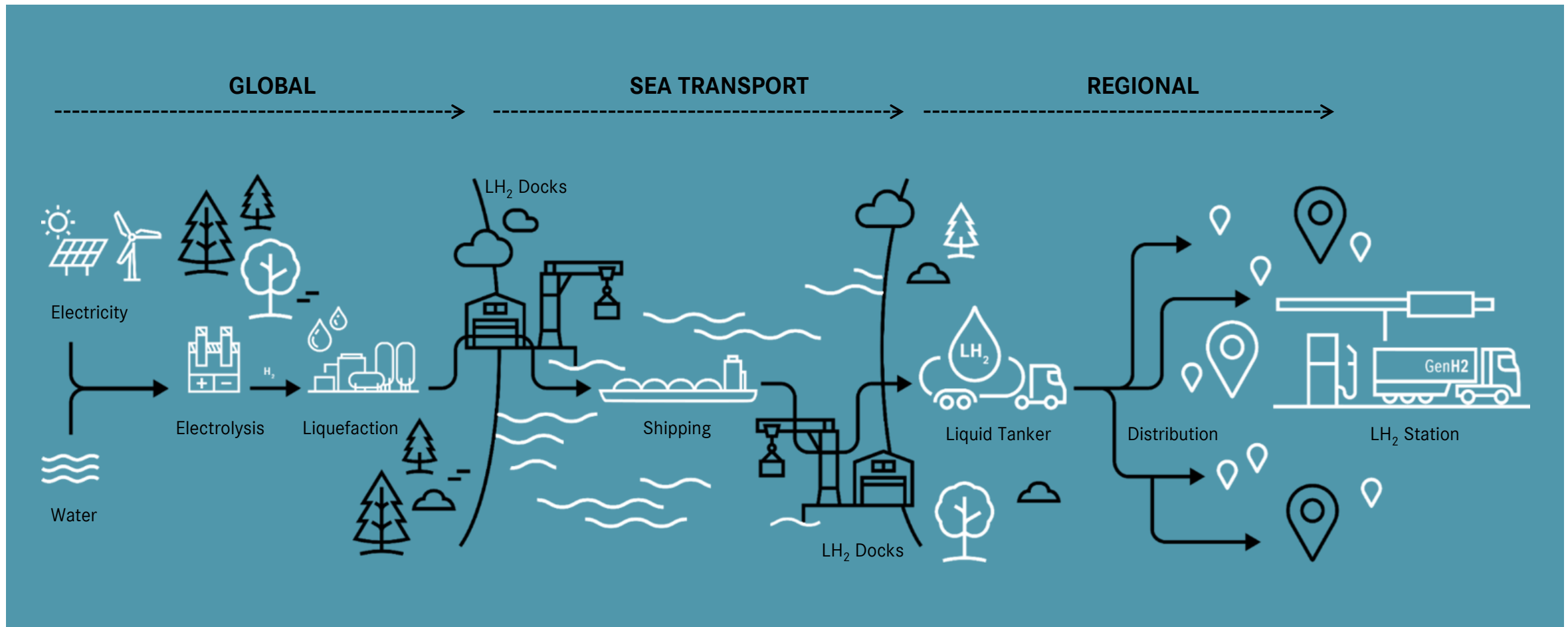
STRONGLY DEPENDING
ON “CO₂ PRICE”

STRONGLY DEPENDING
ON “GREEN ENERGY PRICE”



Exemplary illustration for Total Cost of Ownership - ICE vs. ZEV

Daimler Truck **on the way to a hydrogen future:** From energy generation to propulsion



The challenge of scaling up infrastructure – **two infrastructures are cheaper than one**¹⁾



REVERSED SCALING EFFECTS

ZEV
PENETRATION

LOW



HIGH



**LEVERAGING
EXISTING ENERGY CAPACITIES**
PLANNED HUB CHARGING

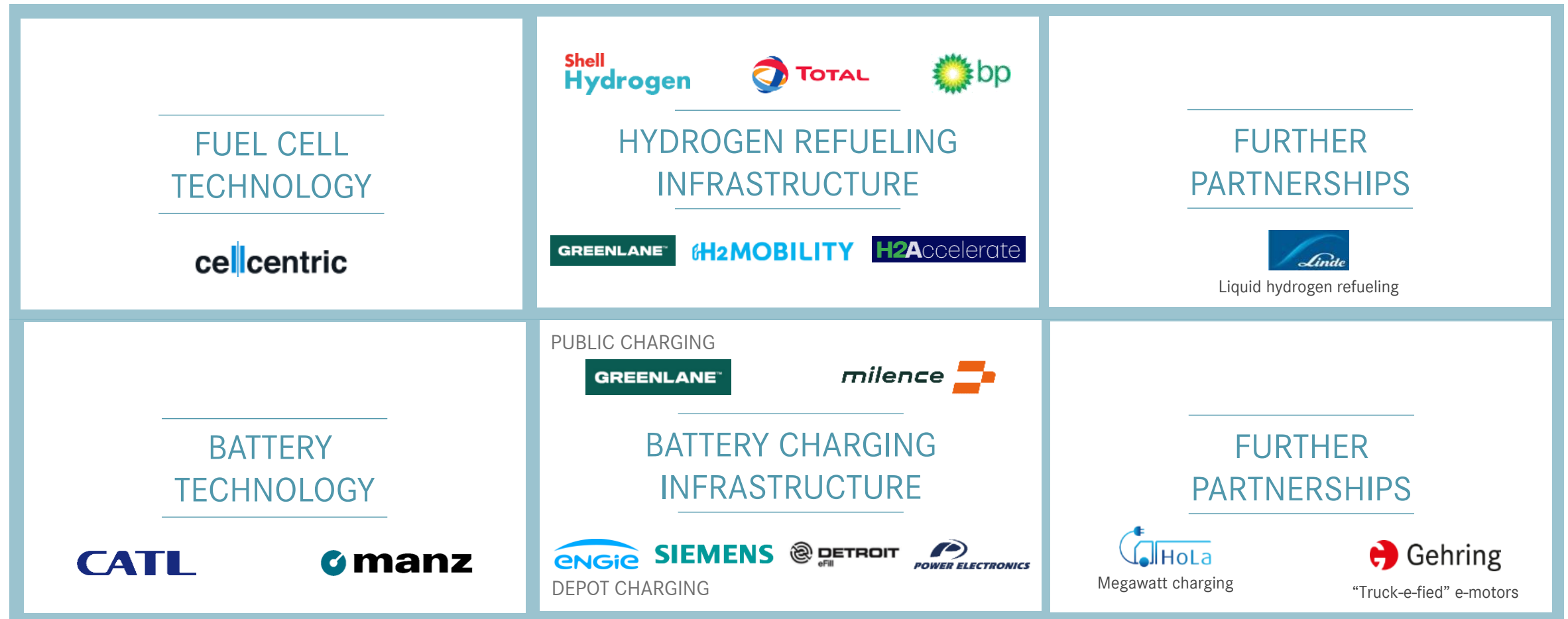
BEV: Easier to scale initially



**REFUELING EFFICIENCY AND
H2 PRODUCTION**
FLEXIBLE ON-DEMAND

FCEV: Works at scale with infrastructure

To further accelerate transformation, Daimler Truck is using **partnerships as a strategic lever**





Going it alone at the national level does not help here – Europe must act as one

- **An open European transport requires a joint European infrastructure effort**
- **Economic viable energy & H2 availability and prices are crucial for a successful transformation**

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