

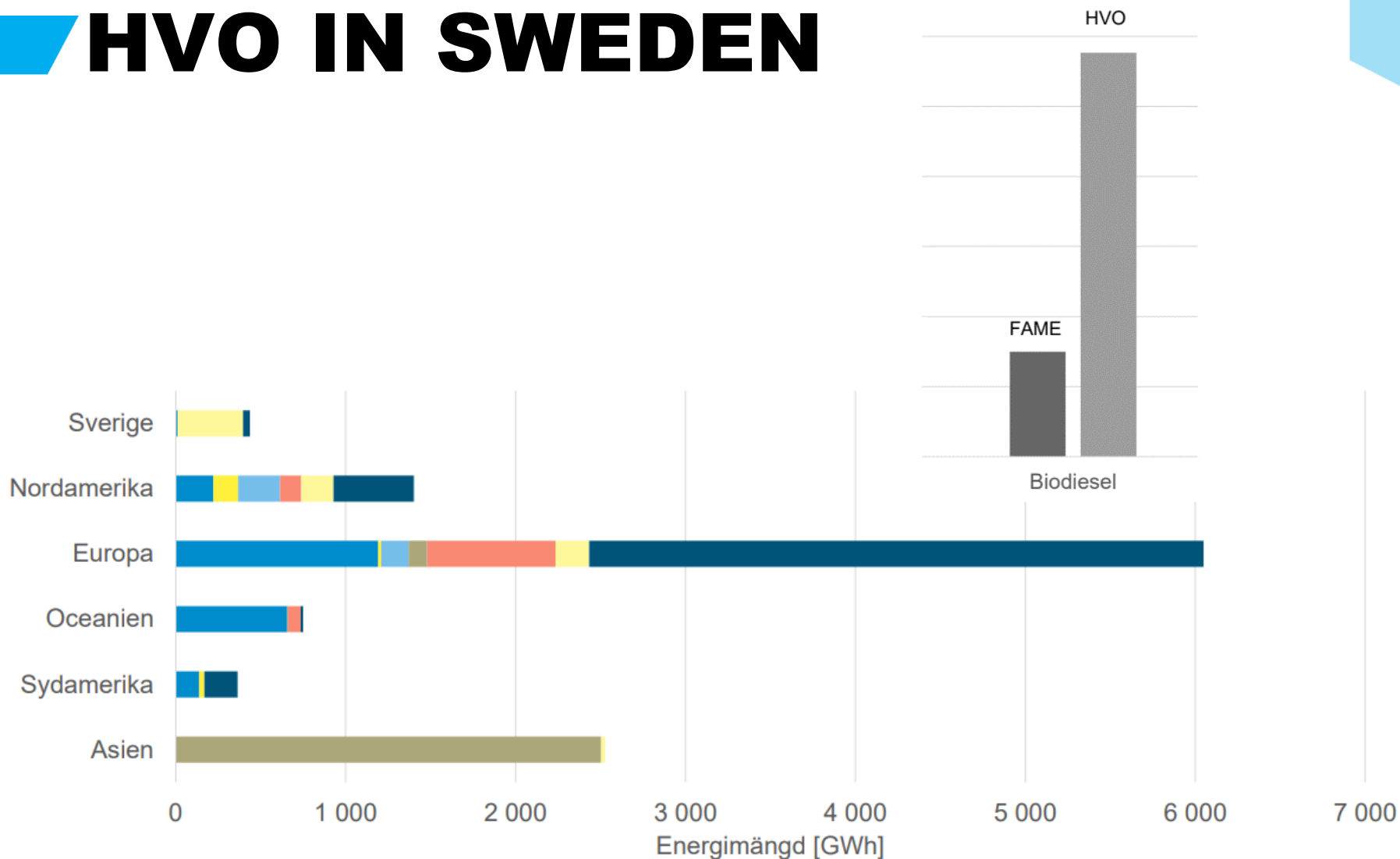


**DECARBONISING HEAVY-DUTY
ROAD TRANSPORT:
POLICY**

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BRUSSELS**

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HVO IN SWEDEN



■ Tallow

■ Others

■ Maize

■ PFAD (palm fatty acid distillates)

■ Rapeseed

■ Tall oil

■ Used cooking oil

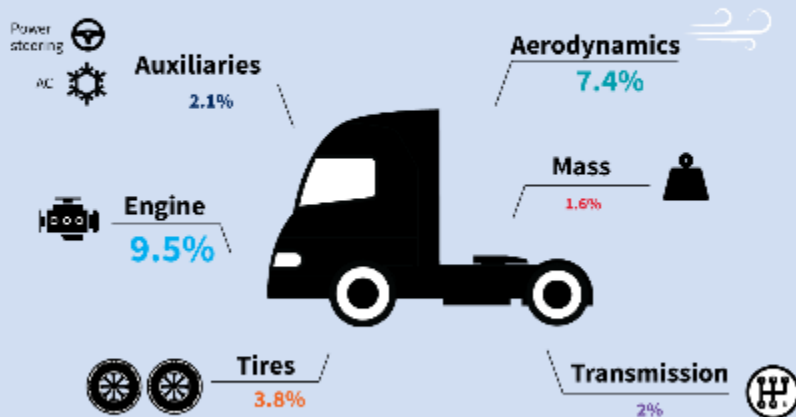
REDUCE CO2 AND KICKSTART ZERO EMISSION TRUCKING

2025 target and indicative 2030 targets

Zero emission vehicle mandate

Cost-effective fuel efficiency potential 2025

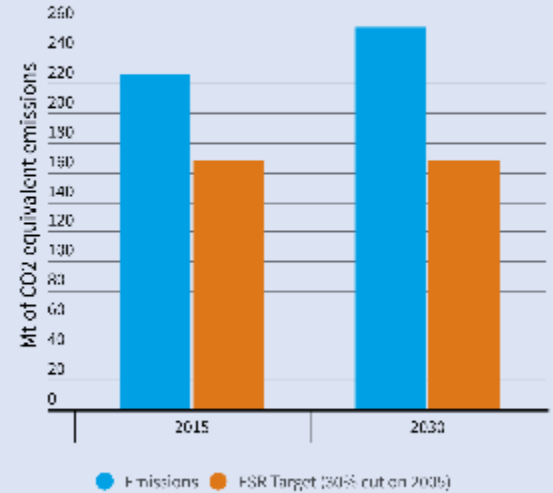
24% by 2025



WHY STANDARDS

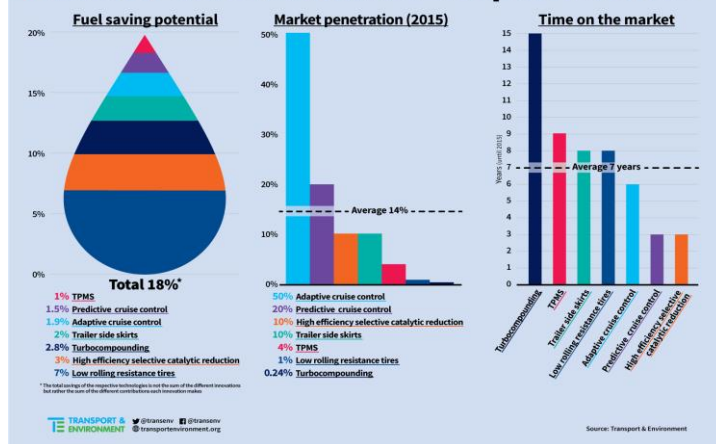
1. Necessary to meet EU targets
2. Plenty of cost-effective potential
3. Overcome market barriers and create more competition
4. Reduce total costs of ownership

HDV emissions will grow 14% between 2015 and 2030 in the EU

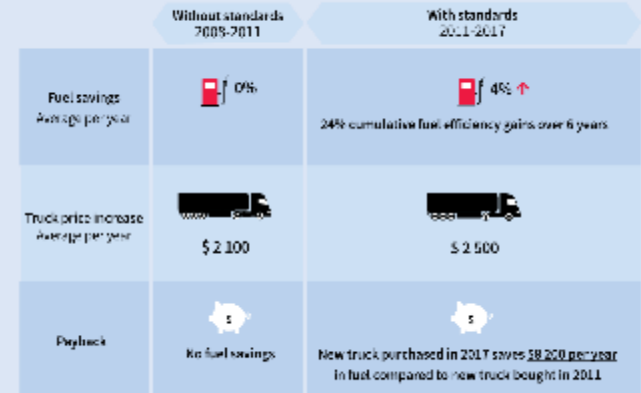


Emissions growth based on a business-as-usual scenario which takes into account BHP efficiency gains for HDVs between 2010 and 2015. Source: E.U. TRC TCM in-house model

Tractor-trailers: market adoption trends



US truck fuel standards have paid off



WHY A ZEV MANDATE

A. Transport needs to be zero by 2050
(COP21)

B. Technology exists

C. It's cost-effective for all truck categories already today!

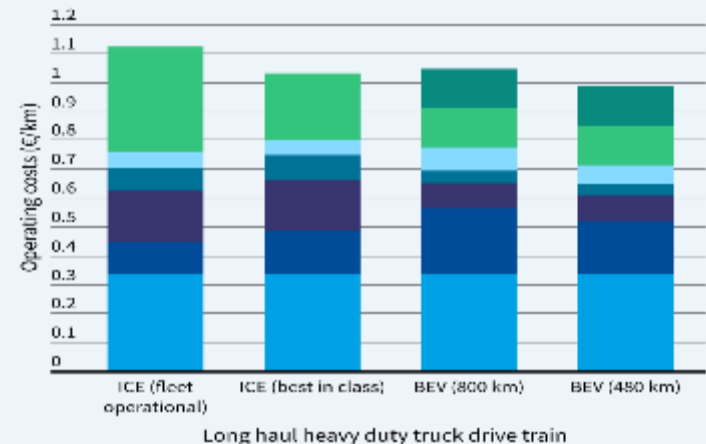
D. Sector needs it but traditional OEMs not yet delivering

Expected ZEV sales
(MHDVs) by McKinsey

4-9% by 2025

19-31% by 2030

Stacking up the costs of a battery electric heavy duty truck



● Personnel ● Vehicle cost ● Road use charges
● Maintenance & repair ● Insurance ● Fuel/electricity
● Supercharging

Main assumptions: Payback period of 5 years, 150 000 km/year mileage, €1/litre diesel price, €0.12/kWh electricity price (€0.12/kWh extra for supercharging). BEV pays half the infrastructure charges compared to best in class ICE, insurance proportional to upfront cost, maintenance and repair costs are halved for BEV.



Zero Emission
Stadslogistiek