Global MOU for Zero-Emission Medium- and Heavy-Duty vehicles

31 October 2022
Welcome & intros
Overview of Global MOU - CALSTART
Government perspectives
  - The Netherlands
  - California
Private sector perspectives
  - Xos Trucks
  - ABB
Q&A Session
Conclusion
Global MOU on zero-emission medium- and heavy-duty vehicles
Commercial vehicles represent a relatively small share of the global on-road fleet but contribute to a disproportionate share of on-road fuel consumption and emissions.

- 4% of global on-road fleet are HDVs
- 36% of on-road fuel consumption by HDVs
- 73% of on-road NOx by HDVs

ICCT (2020): Roadmap model
Global MOU – The first international agreement on zero-emissions trucks and buses

Share of new MHDVs that are zero emissions

100% by 2040

30% by 2030

Austria
Canada
Chile
Denmark
Finland
Luxembourg
Netherlands
New Zealand

Norway
Portugal
Scotland
Switzerland
Turkey
United Kingdom
Uruguay
Wales
Over 55 subnational governments and industry stakeholders endorsed the Global MOU ambition, recognizing their critical work to support national governments.
TECHNOLOGY
STATUS
ZE-MHDV technology is ready for most MHDV applications, and it will soon be ready for all truck applications.

Source: CALSTART (2022). Global Zero-emission Truck and Bus Market Update
The vast majority of ZE truck and bus applications will achieve cost parity by 2030 (and much sooner with stronger policies)

Source: ICCT (2022) - TOTAL COST OF OWNERSHIP FOR TRACTOR-TRAILERS IN EUROPE: BATTERY ELECTRIC VERSUS DIESEL
Why we need aligned ZE-MHDV targets

• Technology is ready but we need stronger signals from leading governments to industry.
• Countries need to raise climate ambition and ZE-MHDVs can contribute to emission reductions.
• Aligned targets will lay the foundation for strong policies and incentives.
• Aligned targets will advance technology innovation, generate clean technology jobs, improve energy security, deliver tangible climate benefits, and lower air pollution.
Global MOU goes beyond (non-binding) targets, and establishes a forum supporting countries to meet the targets, and monitoring progress through robust, consistent, and transparent data reporting.
Progress dashboard

TARGETS

REGULATIONS

VEHICLE INCENTIVES

INFRASTRUCTURE

INNOVATIVE POLICIES
PATHWAY
FORWARD
Change will come in waves: Long Haul starts now
Benefits from Global MOU and accelerated ZE-MHDV deployment across the globe

- Reduce greenhouse gas emissions
- Reduce deaths from air pollution
- Create ecosystem of local clean tech jobs
- Leverage climate funding
- Rapidly reduce cost of ZE-MHDVs
- Reduce fuel dependency
Thank you!

For more information:
www.globaldrivetozoero.org

@TeamDriveToZero
The Netherlands approach to decarbonising ZE-MHDV

ZEV Community x CALSTART
October 31

Anton Wuis
Netherlands ZE-MHDV status per October 2022
source: RVO.nl

› ZE trucks: 311 (0.19% of fleet)
› ZE vans: 11,992 (1.13% of fleet)
› ZE buses: 1,500 (16% of fleet)
Netherlands approach to achieve MOU goals

- Sector covenants
- Global MOU
- EU CO₂ norms for HDV

- Innovation & purchase subsidies
- Tax incentives
- Living lab HDV charge hubs

- Zero emission zones 2025
- ZE bus concessions
- Provincial charging consultants

- EU AFIR/TEN-T
- HDV road charges 2026
- Infra taskforce
- ERS

- National Charging Agenda
- Logistics Top Sector
- Hydrogen
- International
Netherlands challenges

Charging infrastructure versus grid capacity

Supply, availability and capex of vehicles

International alignment

National collaboration

Global MOU, subsidies

European legislation
Accelerating the Transition to Medium and Heavy Duty Zero Emission Trucks

Sydney Vergis, PhD
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Advanced Clean Trucks Regulation

- Manufacturers to sell ZEVs in all vehicle classes as a percentage of total sales*
- Credit for pre-2024 sales
- 320,000 ZE trucks to California by 2035
- Board resolution setting 2035, 2040, and 2045 fleet goals

*Partial credit for near-zero emissions vehicles (NZEVs) with minimum all electric range
20% of the U.S. Truck Market is Going Zero
International ZET Collaborations

Multi-State Medium- and Heavy-Duty Zero Emission Vehicle

Memorandum of Understanding
Thank you
Challenges of transport companies
Finding the balance

Sustainability  Charging  Business operations  TCO
ABB E-Mobility’s Heavy-Duty vehicle ecosystem

- Collaboration
  Public & Private

- Learn from usecases & countries

- Investments

- Technology & Utilization

- Production

- Integration

- Site management
QUESTIONS?

ZEV COMMUNITY
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