H_2ACCELERATE TRUCKS

LARGE SCALE DEPLOYMENT PROJECT TO ACCELERATE THE UPTAKE OF HYDROGEN TRUCKS IN EUROPE

Project ID	101101446
PRR 2024	Pillar 3 – H_2 end uses: transport
Call topic	HORIZON-JTI-CLEANH2-2022-03-03: Large scale demonstration of European H_2 heavy duty vehicle along the TEN-T corridors
Project total costs	EUR 110 946 587.25
FCH JU max. contribution	EUR 29 991 488.50
Project start - end	1.2.2023–31.1.2029
Coordinator	SINTEF AS, Norway
Beneficiaries	Daimler Truck AG, Element Energy Ltd, ERM France, Everfuel AS, Federazione Italiana Autotrasportatori Professionali, IVECO SpA, Linde GmbH, OMV Downstream GmbH, Shell Nederland Verkoopmaatschappij BV, Teknologian Tutkimuskeskus VTT Oy, TotalEnergies Gas Mobility BV, Union internationale des transports routiers, Uniunea Naţional a Transportatorilor Rutieri din România, Volvo Lastvagnar AB, Volvo Technology AB, Wirtschaftskammer Österreich

https://h2accelerate.eu/trucks/

PROJECT AND GENERAL OBJECTIVES

The overall goal of the project is to support the transition of fuel cell trucks from technically proven but high-cost demonstrators to a viable commercial choice for operators across Europe.

To achieve the above goal, the general objectives are to:

- deploy 150 fuel cell trucks weighing between 41 t and 44 t in nine European countries by the end of 2029;
- operate the trucks on a hydrogen refuelling station network designed for zero-emission truck deployment, operated by Everfuel, Shell and TotalEnergies;
- analyse technical, environmental, economic and attitudinal data to determine the viability of H_2 fuel cell trucks as a solution to decarbonise road freight;
- raise awareness of the benefits of using green H_2 for trucking in Europe through a wide range of targeted communication activities.

PROGRESS AND MAIN ACHIEVEMENTS

The project is still in its initial phase. Multiple activities have commenced, including:

- the adaptation of manufacturing facilities to accommodate fuel cell truck production;
- preparations for homologation and type approval;
- original equipment manufacturers' initial preparations for fleet launch.

Main achievements and results so far include:

- dialogue with heavy-duty truck end users and hydrogen refuelling station network operators;
- the development of and agreement on protocols for data monitoring and analysis;
- the assessment of health and safety issues and submission of an appropriate safety plan;
- the submission of original equipment manufacturers' annual progress reports.

Clean Hydrogen Partnership
Co-funded by the European Union

PROJECT TARGETS

Target source	Parameter	Unit	Target	Target achieved?
Project's own objectives	Gross weight of HD trucks deployed	t	41–44	
	Vehicle range under heavy load	km	> 600 km for compressed H_2 and > 1 000 km for liquid H_2	
	Distance driven per truck (during deployment phase)	km/year	≥ 60 000	
	Annual CO_2 emission savings	t/year	Confirmation (by LCA) of a saving across the fleet of 21 000 t/year	
	End-user groups to allow detailed discussion of hydrogen-powered trucks with users not involved in the project	number of events/ meetings	3	
	Dataset covering the performance of 150 trucks	number of reports	Shareable reports (including regular updates) of technical and economic performance of and end users' attitudes to hydrogen trucks in day-to-day operation	
	Cost of trucks	€	< 450 000	⚙
	Central and eastern European potential truck operators in end-user groups	number	> 20	
	Green hydrogen demand created	t/year	2 100	
	Data monitoring and analyses of trucks' performance	% of deployed trucks	20 (corresponding to 30 trucks of the full fleet of 150 trucks)	
	Demand for electrolyser capacity created	MW	26 (assuming a 50 % load factor to achieve green supply)	
	FC module CAPEX	€/kW	605	
	FC stack durability	hours	20 000	
	Dedicated truck road tour visits in EU Member States	number of Member States	5	
	Distance driven across the entire fleet	km/year	15 million	
	Presentations at events and conferences	number per year	5	✓
SRIA (2021–2027)	Vehicle availability	%	> 95	⚙
AWP 2022	Operational period monitored per truck	months	24	⚙
	Visible social media and web presence	number	2	✓
	H_2/FC powered HD trucks deployed	number	150	⚙