

Press Release

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Hydrogen Mobility Europe (2) Project Successfully Concludes Initiative Advancing Hydrogen Mobility in Europe; Final Emerging Conclusions Report Released.

Loughborough, UK, 24th April 2024 - The flagship Hydrogen Mobility Europe (H2ME) project involving more than 50 organisations at the forefront of the sector has today published its final [Emerging Conclusions](#) report. The report details key findings and learnings from the H2ME (2) project. The release of the Emerging Conclusions document marks the end of the European flagship project and highlights its contributions to hydrogen mobility. The project has supported 49 hydrogen refuelling stations (HRS) and >1,400 Fuel Cell Electric Vehicles (FCEVs), up to a third of all HRS & FCEVs deployed in Europe to date. The initiative, supported by funding from the Clean Hydrogen Partnership (formerly Fuel Cells and Hydrogen 2 Joint Undertaking), has brought together action in nine European countries. It tested the innovations required to bring hydrogen mobility sector closer to readiness for market. The project successfully performed a large-scale market test of hydrogen refuelling infrastructure, passenger and commercial FCEVs operated in real-world customer applications. It further demonstrated the possible system benefits generated by using electrolytic hydrogen solutions in grid operations. H2ME 2 (2016 – 2023) is the natural successor to the Hydrogen Mobility Europe (H2ME 1) project (2015 – 2020). Taken in conjunction, the H2ME 1 & 2 projects are the most ambitious coordinated hydrogen deployment projects attempted in Europe to date. The deployments intended to test and develop the European hydrogen market and performance of the technology, prove technologies at scale and apply learning to overcome some of the barriers to more widespread application.

The H2ME project, through its various actions, has demonstrated the potential for FCEVs as a green mobility solution, by proving the reliability of FCEVs, and identifying niches where they complement battery electric vehicles (BEVs). For instance, taxis where fast refuelling and long-range are important to an efficient business model and in other intensive applications such as commercial fleets. Though the focus on hydrogen in mobility applications has shifted to heavy-duty applications in recent years, the project has established that there will still be use cases for light-duty hydrogen mobility in Europe. The upcoming launches of fuel cell vans by major European original equipment manufacturers (OEMs) signal potential for the adoption of hydrogen fuel cell technology in light commercial vehicles.

Furthermore, H2ME has demonstrated the feasibility of a scalable hydrogen supply infrastructure, with an emphasis on electrolytic hydrogen production from renewable sources. While more work is needed to establish a satisfactory hydrogen refuelling network across Europe, the project has generated valuable learnings and advancements in technical expertise, which will impact future deployments by infrastructure providers. This in turn could augment green job creation, energy security, and CO₂ reductions. Prior to H2ME, the European FCEV market was still in its early stages, but now, with increased deployment and expanding fleets, including taxis and vans, H2ME has played a pivotal role in catalysing broader activity across various vehicle segments, marking a significant shift in hydrogen mobility adoption. Vehicles reporting data to H2ME have driven >40 million km, with one reporting a range of 650km on a single refuel. A total of 12 different models of FCEV have been deployed through H2ME. HRS reporting data to H2ME have dispensed 917,000 kg of hydrogen in 361,000 refuelling events.

Hydrogen mobility has performed well in localised HRS networks in metropolitan centres such as Paris, Berlin and the Hague. However, emerging national networks confront underutilisation challenges. To commercialise hydrogen mobility and to prepare for the Alternative Fuels Infrastructure Regulations (AFIR) implementation, it is essential to increase demand for these HRS, particularly from heavy vehicles which is expected to ramp up from 2025. National governments can support the sector by providing incentives to offset the higher costs associated with hydrogen mobility. Additionally, fuel credits for renewable hydrogen and the equitable treatment of hydrogen options in transport policies are imperative for fostering growth. National governments have a critical role to play in removing barriers by integrating hydrogen into transport strategies and updating regulations to promote hydrogen mobility effectively alongside BEVs.

Toyota's announcement of [500 fuel cell Mirai vehicles](#) for the Paris 2024 Olympic and Paralympic Games official fleet demonstrates the bold ambitions for hydrogen mobility in Europe. Powered by renewable hydrogen from Air Liquide, these vehicles exemplify Toyota's multi-path approach to decarbonisation, offering a range of zero and low-emission vehicles. Additionally, as part of the French authorities' "PRM Parisian taxi licences" scheme Stellantis and Hype plan to [deploy 1,000 wheelchair-accessible hydrogen taxis](#) by the end of 2024 in Paris, the first 50 of these have already been deployed under the H2ME2 project. These collaborations underscore the potential of fuel cell technology in a carbon-neutral society.

The culmination of the H2ME project highlights both strides made and persistent barriers hindering further adoption of FCEVs, and HRS and shines light on the future state of the hydrogen sector. Challenges including the scarcity of refuelling infrastructure, permitting bottlenecks, limited vehicle offerings from OEMs, high costs when compared to BEVs, low levels of utilisation of existing HRS, and regulatory uncertainties persist and need to be addressed.

Recommendations derived from stakeholder insights and project analyses emphasise the imperative for scale to drive down costs, sustained financial support for the roll-out of FCEVs and HRS, consistent policy frameworks, and clear market signals to instil OEM confidence in scaling production. Furthermore, calls are made for strategic HRS deployment plans to prepare for AFIR, enhanced equipment reliability, and designs tailored to high utilisation to meet fleet expectations effectively. These insights demonstrate the ongoing need for collaborative efforts and sustained financial support beyond the H2ME project to overcome barriers and propel the widespread adoption of hydrogen mobility solutions to decarbonise transport across Europe. To learn more about all the activities undertaken in this project, please visit: <https://h2me.eu/publications/>

Mirela Atanasiu, Executive Director ad interim of Clean Hydrogen Partnership, said: *“The Clean Hydrogen Partnership is proud to have supported the European flagship projects H2ME and H2ME2 over the past 10 years. Building on the collaboration of an impressive number of actors, ranging from vehicle OEMs, refuelling infrastructure providers, fuel retailers, and national/regional authorities the projects proved the technical maturity of hydrogen vehicles, offering some encouraging learnings on how to overcome existing barriers to its full commercialisation. Overall, I am extremely pleased to see that through our funding H2ME was able to create the first pan-European hydrogen network and the largest network of H2 refuelling stations in the world.”*

Lisa Ruf, Associate Partner ERM & Coordinator H2ME, said *“The H2ME project has supported the demonstration of hydrogen in transport applications, providing valuable operational experience and insights into the role of hydrogen in facilitating zero emission mobility. We are grateful to the Clean Hydrogen Partnership for supporting this initiative and we congratulate the organisations involved for many years of successful collaboration in delivering this ambitious project.”*

Martin Jüngel, Managing Director & CFO H2 MOBILITY Deutschland GmbH – German Coalition, said *“H2ME has enabled the deployment of 20 HRS hydrogen refuelling stations which significantly supported the expansion of the German station network. H2ME2 has played a crucial role in linking Europe through an expansive network of hydrogen stations, particularly strengthening accessibility in/to France, the Benelux countries, and Scandinavia. Furthermore, H2ME2 has introduced a new era of light commercial fuel-cell vehicles, facilitating cross-border applications and cultivating new customer segments. This initiative not only advances hydrogen mobility but also lays the groundwork for a more sustainable and interconnected pan-European transportation landscape.”*

Dirk Schaap and Stefan Neis, Coordinators for hydrogen at the Ministry of Infrastructure and Water Management, The Netherlands – Dutch Coalition Lead, said *“H2 in mobility in the Netherlands kickstarted in 2014. Within the H2ME2 a new generation of a public HRS was built in The Hague facilitating a fleet of 50+*

taxis and other hydrogen vehicles. In the meantime, the focus has shifted to logistics and heavy-duty vehicles. The H2ME-projects however helped to further develop the technology and the H2ME projects have contributed to and accelerated the learning curve on hydrogen in mobility.”

Andrew Allen, CFO, ITM power – UK Coalition Lead, said *“The UK coalition acknowledges the significant investment made by the Clean Hydrogen Partnership in supporting the H2ME1 and H2ME2 Projects. Through these, we have validated the technical and commercial readiness of both vehicles and fuelling infrastructure. Collaboration with EU partners has defined best practice in this area. H2ME2 has provided valuable recommendations for the future and identified any gaps that could hinder full commercialization, ensuring a robust path forward. Together, the H2ME1 and H2ME2 initiatives demonstrate our unwavering commitment to hydrogen as a viable, competitive alternative to fossil fuels, fostering a cleaner and more sustainable future for Europe’s roads.”*

Moises Costa, Director of Public Affairs, Symbio – French Coalition lead, said *“Almost 10 years ago, members of the French Coalition entered the H2ME2 project with high hopes. Departing from a blank canvas, we opted for a 'test and learn' approach, having to adapt to challenging market realities more than once. Today, we can take pride in what was accomplished, even if it is not exactly what we had envisioned at the offset. We deployed 9 hydrogen refuelling stations and delivered 687 H2-powered vehicles, both of which generated rich usage data. Those results have been foundational for a solid and promising hydrogen mobility ecosystem in France.”*

Jón Björn Skúlason, CEO, Icelandic New Energy – Scandinavian Coalition Lead, said *“The H2ME projects have been instrumental in raising awareness of H2 in Iceland. For some time, H2 technology has been seen as a viable decarbonization solution for the future. Seeing is believing, and vehicle, electrolyzer, and station deployment through the H2ME projects has had an impact. Stakeholders now recognize hydrogen as an essential part of Iceland's zero-emission strategy, both with direct use and through other e-fuels. Iceland is already a global leader in using renewable fuels, and H2 will further support this position.”*

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Notes to Editor

About H2ME

This €170 million demonstration project is co-funded with €67 million from the Clean Hydrogen Partnership (formerly Fuel Cells and Hydrogen 2 Joint Undertaking (FCH JU)), a public-private partnership supporting fuel cell and hydrogen energy technologies in Europe.

Partners include project lead ERM UK (formerly Element Energy), alongside AGA, Air Liquide, Alphabet, Audi, B. Kerkhof & ZN BV, BOC, BMW, Brintbranchen, CENEX, Communauté d'agglomération Sarreguemines Confluences, Compagnie Nationale du Rhone, Danish Hydrogen Fuel AS, EIFER, ERM France, GNVERT, Elogen, H2 Mobility Deutschland, Honda, Hydrogene de France, Hype, Hype Assets, Hyssy, HyssetCo, hySOLUTIONS, Hyundai Motor Europe, ITM Power, Icelandic New Energy, Intelligent Energy, Islenska Vetrnisfelagid, Kobenhavns Kommune, Linde, Michelin, McPhy Energy, Mercedes-Benz, Ministerie Vann Infrastructuur en Waterstaat, Nel Hydrogen, OMV Downstream, Open Energi, R-Hynoca, Renault, Renault Trucks, Réseau GDS, SEMTAN, Stedin, Symbio, The University of Manchester, Toyota and Waterstofnet.



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