Making an impact on the clean energy transition

TRANSPORT

HYDROGEN BUSES MAKE INROADS IN CITIES

Clean crowd-pleasers

Hydrogen fuel cell buses provide multiple benefits and are popular with both the public and transport operators. With zero emissions except water, they contribute to cleaner air in urban areas – positively impacting residents' well-being. Rides are quieter and smoother than conventional buses for passengers and drivers alike. Their ability to travel up to 400 kilometres without refuelling also makes them a strategic choice for sustainability-seeking city councils. The FCH JU co-financed flagship Clean Hydrogen in European Cities (CHIC) project, launched in 2010, deployed 56 fuel cell buses across Europe and Canada to demonstrate how cities can decarbonise public transport. Other FCH JU projects trialling bigger fleets followed – including High V.LO-City, HyTRANSIT and 3EMOTION. The latest projects – JIVE and JIVE2 – will see the number of hydrogen buses in Europe surge to almost 400.

Hydrogen-fuelled buses are a clean and quiet urban transport solution, helping to protect the environment and public health. The FCH JU is playing a pivotal role in promoting commercialisation of such future-focused buses, boosting their presence on Europe's city streets and improving citizens' lives.

Driving commercialisation

With a market worth EUR 2.3 billion, Europe's fleet of hydrogen buses has the potential to expand to 1 000 by 2025. To achieve this, the FCH JU has been presenting a business case for fuel cell buses, supporting projects to prove their commercial viability, and providing proof to encourage investment in affiliated technology and refuelling infrastructure. It has also brought together supply-and-demand stakeholders to enhance their commitment, and has raised public awareness. The new generation of hydrogen buses being developed includes tram-like and double-decker models from up to 10 different bus manufacturers worldwide.

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WHAT'S AT STAKE?

Hydrogen buses can help cities to improve air quality, cut noise pollution and transition to a low-carbon economy.

EN ROUTE TO SUCCESS

To promote commercialisation of hydrogen buses, the FCH JU brought together manufacturers, operators and public authorities. **The goal?** To enable key stakeholders to share expertise, team up on projects and pledge their commitment, while assuring manufacturers and operators about future investments and the availability of reasonably priced buses. FCH JU-funded projects have focused on demonstration trials in commercial fleets. **Key results?** Proof that hydrogen buses are not only sustainable but also reliable and fully functional public transport alternatives.

IMPACT

29
European cities with buses being deployed through FCH JU-funded projects

360 +
fuel cell buses being deployed

10 000 000 km
driven

85 %
fewer CO_2 emissions than diesel (with green H_2)

MORE THAN 5 000 TONNES
CO_2 emissions abated

EUR 2.3 BILLION
market potential for hydrogen buses in Europe

KEY ACHIEVEMENTS

300 – 400 km
autonomy (range)

88 %
fuel cell bus availability

3 FOLD
increase in fuel efficiency

OVER 50 %
reduction in refuelling time

58 %
cut in fuel cell bus prices (from EUR 1.2 million to EUR 0.5 million)

FIND OUT MORE

www.fch.europa.eu/page/fch-ju-projects
www.fuelcellbuses.eu

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FUEL CELLS AND HYDROGEN JOINT UNDERTAKING

A partnership dedicated to clean energy and transport in Europe