

What is the Aberdeen Hydrogen Bus Project?

Key industry and public sector players have joined forces to fund and deliver Europe's largest demonstration of hydrogen fuel cell buses in Aberdeen, realising an aspiration to become a world-leading city for low carbon technology. The project, which has backing from Europe, the UK Government and the Scottish Government, will deliver a hydrogen infrastructure in Aberdeen. For more information on the bus project please visit:

www.aberdeeninvestlivevisit.co.uk/hydrogen

Why is hydrogen being used as a fuel?

Hydrogen is being used as it the world's simplest and most abundant element and when used as a fuel it produces no harmful emissions.

Is it suitable for other forms of transport?

Yes. Hydrogen can be used in other forms of transport, including vans and cars.

How is hydrogen produced?

The hydrogen will be produced by electrolysis. Electrolysis is the process of splitting water into oxygen and hydrogen. The hydrogen gas is compressed and stored until it is needed and is dispensed into the bus or other vehicle using a standard nozzle.

What benefits will the Project bring?

This Project is expected to bring up to £20.5 million of investment into Aberdeen. We have Europe's largest fleet of hydrogen buses and a state-of-the-art hydrogen production and refuelling facility. The Project will help reduce carbon emissions in the city centre and help improve air quality.

What infrastructure is needed to support the projects and where will it be located?

A hydrogen production and refuelling station is required to refuel the buses and will be available to refuel other vehicles as they become available.

The refuelling station has been built on the Aberdeen City Council site at Kittybrewster.

Which routes will the buses be used on?

The four First buses will operate on the x40 Kingswells to Bridge of Don Park & Ride route.

The six Stagecoach buses will operate on the x17 route, Westhill to Aberdeen city centre.



How safe is hydrogen?

The hydrogen refuelling station and the buses have all been approved by the relevant safety authorities according to stringent international standards.

How does a hydrogen fuel cell work?

Ballard has constructed the fuel cells for Aberdeen's hydrogen buses and their website provides a useful insight to this technology.

For more information about how the fuel cell works please visit: <http://www.ballard.com/about-ballard/fuel-cell-education-resources/how-a-fuel-cell-works.aspx>

How does the cost of hydrogen compare to petrol or diesel?

This is one of the key learning objectives of this demonstration project; no-one has operated this number of hydrogen buses in the UK before. There is no current market price for hydrogen as it isn't yet sufficiently used in high enough quantities as a vehicle fuel. The aspiration of this Project is to demonstrate how the cost of hydrogen per kilometre travelled can be comparable, if not cheaper than diesel.

How much hydrogen is stored on each bus and how far will it travel?

Each bus will hold 40kg of hydrogen at a pressure of 350bar. It can travel a distance of up to 260miles (350km) on a typical urban cycle.

What size are the buses?

The buses are approximately 13.2 metres long, 2.5 metres wide and 3.4 metres high. There are 42 seats in each vehicle with a space reserved for wheelchair use.

Are the buses quieter than diesel buses?

Yes they are, although it is difficult to compare the exact difference in noise levels, the hydrogen buses are virtually silent.

What are the emissions at the tailpipe?

Hydrogen fuel cell buses are zero emission vehicles; at the tailpipe there is only demineralised water – mainly as vapour.

