

Vanguard Hydrogen Project - Frequently Asked Questions.

Why are the Council and ANSA looking to do this?

The Council has committed to being carbon neutral by 2025, this means that we have to significantly reduce the carbon in our energy and fuel use, including from the Refuse Collection Vehicle fleet. The purpose of the pilot is to get used to using hydrogen as a cleaner, greener fuel compared to diesel. Moving to cleaner fuels such as hydrogen will also bring benefits locally through improved air quality.

Who's involved?

The Council is partnering with Storengy UK from Stublach. They will provide the technical expertise on hydrogen and maintain the equipment. The Local Enterprise Partnership has also provided funds.

Why hydrogen, I thought electric vehicles were the way forward?

Hydrogen is suited to heavier and long range vehicles, such as our refuse collection vehicles. However, we will be keeping an eye on any developments in electric vehicle technology to see if they can be used at the Environmental Hub.

Where will the hydrogen come from?

The proposal is to make our own hydrogen at the Environmental Hub through an electrolyser using electricity from solar panels from one of our buildings and water. Although at times we will need to top this up with electricity from the mains. This is an environmentally friendly way to make the hydrogen, and means it will not be transported onto site.

Is it safe?

All fuels need to be treated with respect and handled subject to a specified code of practice. Hydrogen is not considered more hazardous than other vehicle fuels, and we will comply fully with all regulations and be subject to scrutiny from regulatory agencies.

The main differences compared to other fuels are that it is lighter and will dissipate quickly when ventilated, and it is odourless and colourless. Therefore the equipment will be specifically designed for a high level of ventilation, and to include sensors to detect any leaks. As with other fuels, all equipment will be designed to avoid ignition sources.

We will train our staff to be able to use hydrogen safely, and our engineers to be able to maintain the vehicle conversions. Storengy UK will ensure the hydrogen equipment is maintained, and are on hand to respond if urgent. As with other fuel storage, the fire brigade will be notified and regularly inspect the Environmental Hub.

Who else is using hydrogen?

Hydrogen is increasingly used for transport across the world, especially in northern Europe. In the UK the use is increasing, currently there are 12 hydrogen refuelling stations. These are mainly in the south of England. Our project will be the first 'green' hydrogen refuelling station in the north-west of England. You can see all the public hydrogen facilities at <https://h2-map.eu/>. There are an increasing number of Council's using hydrogen refuse collection vehicles, including Fife and Westminster. Aberdeen are currently using hydrogen powered buses.

Where will it be located?

It is proposed to place the equipment on the south side of the Environmental Hub, below the existing fuelling area. This has suitable clearances around it and is shielded from sight by a neighbouring building. The planning application has a map showing where the compound will be.

Why don't you put the equipment inside one of the buildings?

It's important that that the bin wagons have easy access to the hydrogen equipment to refuel, and it is safer for the equipment to be in the open air to help with ventilation.

How long is the project for?

The project is for three years, during which we will evaluate the success to inform our approach to hydrogen in future.

How many vehicles are involved?

We will convert two refuse collection vehicles to use both hydrogen and diesel. Once the hydrogen is used up, then they will revert back to diesel until it can be refuelled. Storengy UK are also converting one of their small vans which will visit weekly for maintenance and refuelling. This will not be a public refuelling station.

Will there be any additional vehicles on site?

The refuse collection vehicles being converted already use the site, so the only additional vehicles will be for weekly refuelling by one Storengy UK van and occasional maintenance visits. These will be scheduled for when the site is less busy.

Will there be extra noise?

No, we will design the system to fit within the current noise restrictions at the Environmental Hub.

Will it create pollution?

No, only oxygen will be vented from the electrolyser, and the exhaust from the vehicles will be water vapour whilst they are using hydrogen.

Who's paying for it?

This is a pilot project so there are additional costs for the hydrogen equipment. This is being covered by a grant through the Local Enterprise Partnership and contributions from Storengy UK. The Council will pay for an additional refueller, and invest in solar panels and grey water recycling which will be used by the project for three years and then will benefit the Environmental Hub afterwards.

Day to day, the project will make a saving on diesel costs and gain a payment through the Renewable Transport Fuel Obligation (RTFO) which will cover any additional costs for energy use, training, and maintenance during the project.

Will there be disruption whilst it's being built?

We have designed the scheme to minimise construction time. The equipment will be in two containers which will be assembled off-site.

Who can I ask for further information?

If you would like any further information then please email environmentalcommissioning@cheshireeast.gov.uk. There are also good sources on information on hydrogen at www.ukhfca.co.uk or www.hydrogenlondon.org