

HECTOR Project

‘Hydrogen waste collection vehicles in North West Europe’

The ACC Journey to Net Zero

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Project Conclusions

- What did HECTOR achieve
- What special skills or resources were brought to successfully complete the project?

- UK's first fuel cell waste truck
- HECTOR contributes to the wider national and local policy requirements: UK, Scottish Gov and ACC Climate Change Plans
- Aberdeen has pioneered hydrogen experience in Scotland
 - Existing hydrogen & dual-fuel vehicles
 - 2 Hydrogen refuelling stations
 - Exposure to training on hydrogen vehicles
 - Designated hydrogen area within workshop



Operational Experiences

Specialist H2 Integrator: **Holthausen**

RCV Components & Integration: **Geesinknorba**

Fuel Cell: **Hydrogenics**

Chassis: **Mercedes Econic**

Back loader

Capacity: 20kg (4 tanks)

Range: 120km

Refuelling: 350bar, 8mins



Operational Experiences

Positives

- Trial of fuel cell RCV
- Purchase of diagnostic laptop
- Quiet truck, positive driver feedback

Issues

- Delayed maintenance support - OEM/Converter issues
- Various H2 development issues
- Data collection ownership

Barriers

- Technology immaturity
- Fuel availability / Station availability
- Local technician non-access



Lessons Learned

- Financial Impact - 3 times more expensive than ICE vehicle
- Technician skill sets: additional training as electric and fuel cell electric knowledge.
- Driver awareness and Service buy-in is always required!
- Clear strategy and outcomes explained at start
- Share challenges and issues with all as project develops.
- Include fleet experts in early procurement requirements

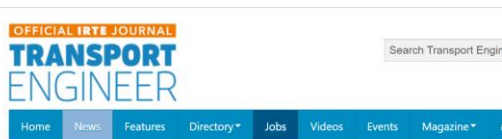


Collaboration with Partners and Emerged Relationships



Communications

- Hector launch in Feb 2022: 4 press releases
- Presented Hector at various Aberdeen tours
- Presented Hector at Local Authority Recycling Advisory Council
- Hector showcased at APSE Scotland Fleet event



Aberdeen City Council launches UK's first hydrogen fuel cell RCV

18 February 2022

The UK's first hydrogen-fuelled waste collection vehicle was revealed in Aberdeen, in a move which continues to accelerate the city's thriving hydrogen economy.

The new waste truck will use hydrogen from existing refuelling infrastructure in Aberdeen.

The truck will start collecting waste and recycling around the city from early March and will be the first hydrogen-powered waste truck to become operational in the UK. It will initially collect waste from wheeled bins in Garthdee, Kincorth, Bridge of Don, Newhills, Woodside-Hilton, Mastrick, Milltimber, and Rubislaw before moving to mixed recycling and bulk bins on other routes.

These journeys will not only result in estimated emissions savings of over 25kg CO₂/litre across a year, based on a diesel truck on similar routes, but will also collect data which will allow further rollouts of hydrogen-fuelled waste trucks in the future.

Aberdeen City Council city growth and resources convener councillor Ryan Houghton said: "Our work has been ground-breaking and the people of Aberdeen can be proud that our city is proving to be a catalyst for demonstrating how public sector fleet can be decarbonised, setting an example for other regions in the UK and beyond."

"The launch of the new waste truck comes hot on the heels of the new joint venture company with BP to deliver the Aberdeen Hydrogen Hub, and all of these projects cement our position as a pioneering, climate positive city and an important step forward in our hydrogen journey."

The hydrogen fuel cell waste truck is one of seven which will be deployed across seven pilot sites in northwest Europe, including the Netherlands, France, Belgium and Germany. Each truck will be



The Future for our HECTOR Truck

- Intended continuation of HECTOR
- Enhanced Data monitoring required
- ACC has a Net Zero Strategy to reduce carbon emission and seek further introduction of alternative fuel vehicles in the City
- Source available funding from all availability avenues including European, UK, Scottish and other funding sources to continue the carbon friendly journey



