

Bankhead Hydrogen Fuel System

The Journey So Far

Why

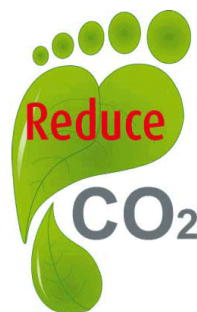
- The Council currently has a fleet of 1496 vehicles, including 185 HGVs.



- Building Services share of the fleet is 648 vehicles.

Main Drivers for Change

- Fife is committed to reducing its carbon foot print. 11,000 t CO₂e



- The annual fuel bill is £4.8m

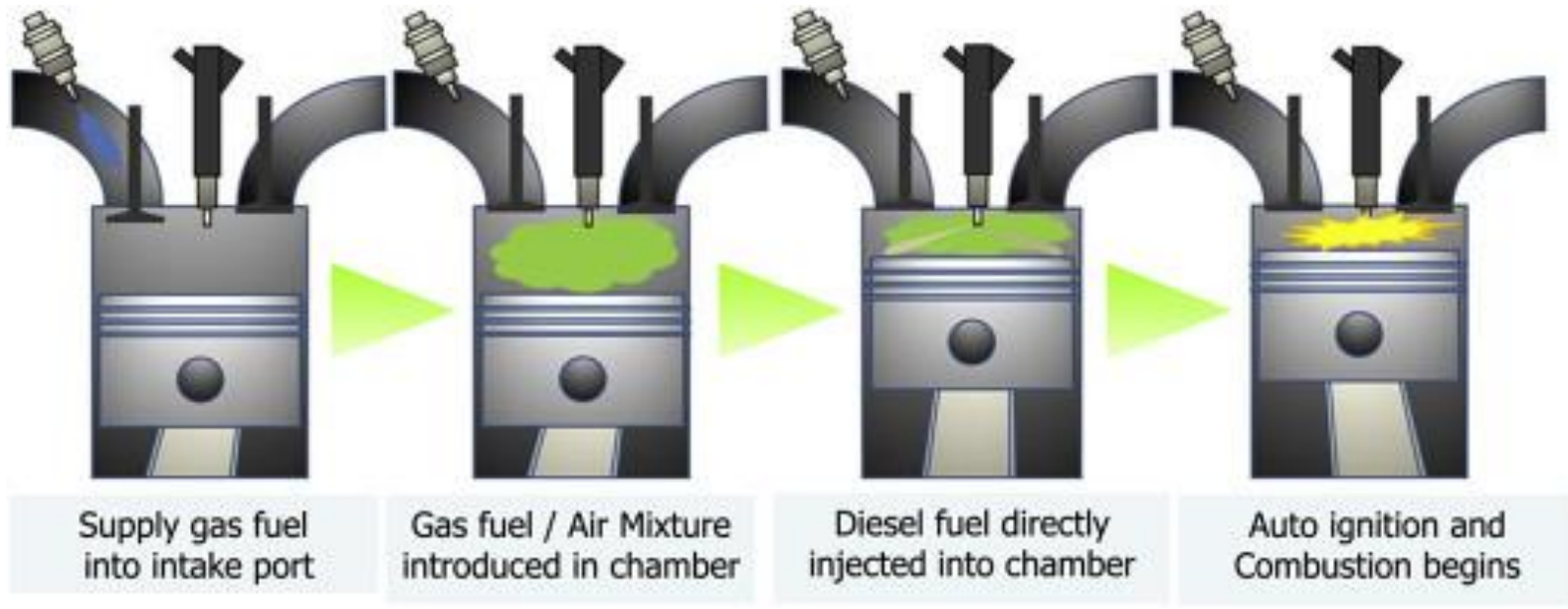


Making it happen

- This project was made possible through a collaborative approach.
- Funding from Transport Scotland to develop a dual fuel system



Dual Fuel

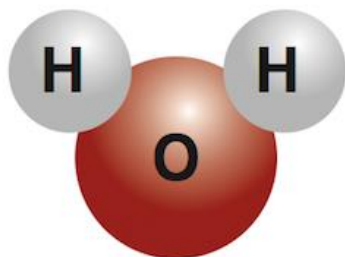


Why Hydrogen?

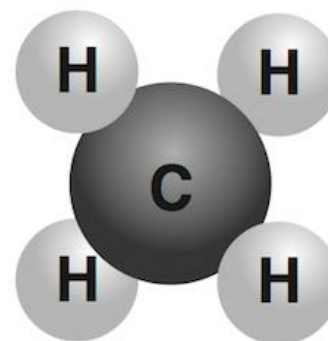
- Fife's supply of Green Hydrogen
- The Hydrogen Office project was set up, to support the accelerated development of the renewable, hydrogen, fuel cell and energy storage industries

Hydrogen Gas

- Hydrogen fuel must be by extracted from water or methane.



Water
 H_2O



Methane
 CH_4

Hydrogen Office

- The Hydrogen Office, generates hydrogen gas on site through electricity generated by the on-site 750 kW turbine (Poppy),
- 160kW Photovoltaic array.



Gas Use

- Hydrogen gas generated on site at the Hydrogen Office is transported to our Bankhead depot using MCP Cartridge's by BOC.

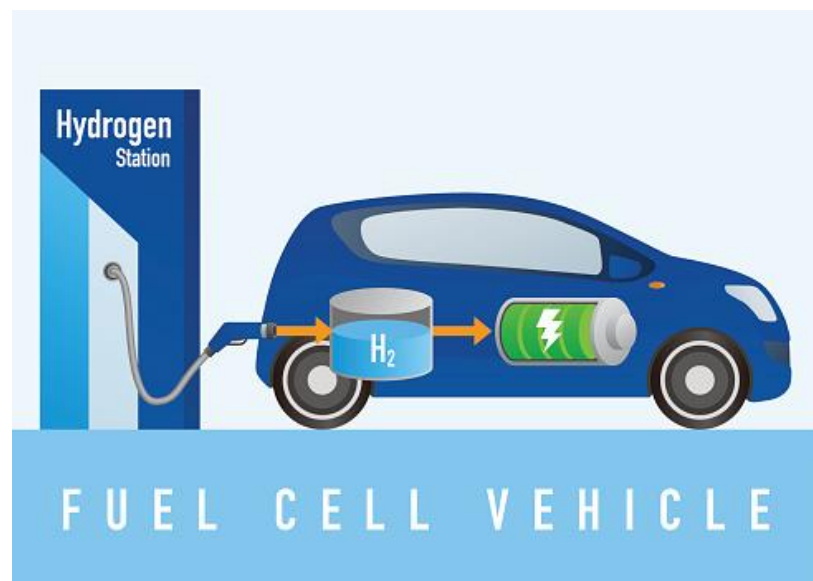


Fuel Dispenser



Hydrogen Gas

- Hydrogen gas can be used in
- Combustion engines
- Fuel cells



Global First



Vehicles

- Overall the project is expected to reduce Green House Gas emissions per year
- 2 Hybrid waste collection lorries
- 5 Transit Vans - 38 tonnes
- 10 Kangoo vans - 44 tonnes.



Future Plans

- On-site Electrolyser at Bankhead
- Expand the use of hydrogen technologies
- Expand hydrogen use across the Kingdom



Summary

- Fife has been an early adopter
- Can be moved
- Can be replicated anywhere
- Safe

Questions?