

HyMotion: HG2V

INNOVATION TO REDUCE CO₂ EMISSIONS



HG2V (Hydrogen Grid to Vehicle) will investigate the challenges around hydrogen gas quality in the network; and its potential impact on the performance of fuel cell vehicles.



Context

As the UK moves to clean, low emissions transport options, hydrogen Fuel Cell Vehicles (FCVs) are likely to play an important role alongside other technologies. Converting the UK's gas network to 100% hydrogen (H₂), or gradually increasing the level of H₂ blended with natural gas creates an opportunity for a H₂ supply which could be used for FCVs. However, as FCVs are sensitive to fuel purity, future hydrogen gas quality in the network needs to be explored.

The Project

HG2V will investigate the contaminations made in the H₂ supply chain to determine whether a cost-effective separation/purification system can be developed which would allow H₂ to be taken from the gas grid and used at re-fuelling stations for FCVs.

It will engage with experts in industry, academia and government to gather and share information about a range of topics including:

- Sources of H₂ contaminants in the supply chain
- Technology and landscape
- Economic impact
- Network simulation

The goal is to design, build and commission a H₂ gas grid simulation with sections for development, trial and validation of cost-effective separation, and separation/purification systems.

It is part of wider industry work addressing the technical and commercial knowledge gaps for H₂ transport. The results will be used by a broad range of stakeholders, including H₂ producers, network operators, vehicle manufacturers and technology developers.

Future H₂ Transport Sectors

Regional rail



HGVs



Public vehicles such as buses and refuse trucks



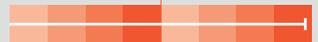
Investigating purity for:



H₂ fuel cell technology is **zero emissions** at point of use.

Timeline

Oct 2018 | Sept 2021



Partners:

