

Over £30 million government investment to boost batteries and hydrogen vehicles

- £9.4 million of government funding for 22 studies to develop innovative automotive technology, including hydrogen vehicles and a lithium extraction plant
- the first year of £22.6 million commitment by the government-backed Faraday Institution to build on vital research into battery safety and sustainability
- funding supports the government's plan to phase out the sale of new petrol and diesel cars by 2030 and Build Back Greener from the pandemic

Pioneering research into battery technology, the electric vehicle supply chain and hydrogen vehicles is to be backed by over £30 million of government funding, Minister for Investment Gerry Grimstone announced today (Tuesday 30th March).

Twenty two studies will receive a share of £9.4 million, including proposals to build a plant in Cornwall that will extract lithium for use in electric vehicle batteries, a plant to build specialised magnets for electric vehicle motors in Cheshire and lightweight hydrogen storage for cars and vans in Loughborough.

The government-backed Faraday Institution is also committing the first year of a £22.6 million programme to continue its work to further improve the safety, reliability and sustainability of batteries.

This funding comes ahead of the phasing out of the sale of new petrol and diesel cars by 2030, as pledged in the government's 10 Point Plan for a green industrial revolution. Research into alternative ways to power vehicles is a fundamental part of this transition, ensuring the UK remains a world leader in automotive technology and boosting jobs and skills in regions leading the way.

Minister for Investment Gerry Grimstone said:

We have set an ambitious target to phase out the sale of new petrol and diesel cars by 2030. To support that it is crucial we invest in research so we can power ahead with the shift to electric vehicles as we build back greener from the pandemic.

The world leading research announced today showcases the very best of British innovation and it will support all stages of the automotive supply chain to make the switch to electric vehicles – from developing batteries, to exploring how to recycle them.

Investment in battery technology will help motorists and the environment by improving performance and reducing costs of electric vehicles. It is also good for businesses and workers, supporting the creation of new jobs, new industries and the development of technologies to power the automotive and energy revolution in the UK.

This latest round of studies funded through the Automotive Transformation Fund includes:

- Cornish Lithium – Trelavour Hard Rock Lithium Scoping Study [Cornwall]: Lithium hydroxide is an essential part of vehicle battery production. This study will assess the feasibility of developing a sustainable UK supply chain through the construction of an extraction plant that will produce low-carbon lithium hydroxide from a hard rock source in St Austell.
- Less Common Metals – New UK Magnet Plant [Cheshire]: This study has identified a promising approach to create a new UK magnet plant that will produce high-quality lightweight magnets for motors in electric vehicles
- Haydale Composites Solutions Ltd – Hydrogen storage for vehicles [Loughborough]: Storing hydrogen requires high-strength durable containers for safe operation in vehicles. This project will assess the suitability of Haydale's promising lightweight, low permeability storage tank, which could help to unlock the pathway to hydrogen propulsion

The Faraday institution will use today's funding to explore:

- battery safety, by investigating the root causes of cell failure in lithium-ion batteries and how this can lead to fires. It will also investigate the environmental consequences of such fires and help develop a consensus around the best method of fighting lithium-ion battery fires
- solid state batteries, which have the long-term potential to deliver improvements in safety and significantly increase the distance an electric vehicle can cover between charges
- recycling and reusing batteries to increase the sustainability of the future automotive supply chain

The Faraday Institution will also examine the use of batteries on the energy grid and for aerospace. Under the Institution's strengthened commercialisation strategy, which has also been launched today, it will identify and target market opportunities, ensuring that the UK remains a competitive global leader in the latest battery technology.

The research announced today through the Advanced Propulsion Centre and the Faraday Institution demonstrates the government's commitment to nurturing innovation in the automotive industry. The government is committed to advance the UK's future transport system through its extensive R&D Roadmap and to increase economy-wide R&D investment to 2.4% of GDP by 2027.

About the Advanced Propulsion Centre

Funding for the 22 studies into the automotive supply chain comes from the Automotive Transformation Fund, delivered through the Advanced Propulsion Centre (APC).

The APC collaborates with UK government, the automotive industry and academia to accelerate the industrialisation of technologies, supporting the transition to deliver net-zero emission vehicles.

Since its foundation in 2013, APC has funded 150 low-carbon projects involving 375 partners, working with companies of all sizes, and has helped to create or safeguard over 50,000 jobs in the UK (APC estimate of person-years equivalent). The technologies developed in these projects are projected to save over 260 million tonnes of CO₂, the equivalent of removing the lifetime emissions from 10.2 million cars.

About the Faraday Institution

Powering Britain's battery revolution, the Faraday Institution is the UK's independent institute for electrochemical energy storage research, skills development, market analysis, and early-stage commercialisation. Bringing together expertise from universities and industry, the Faraday Institution endeavors to make the UK the go-to place for the research and development of new electrical storage technologies for both the automotive and wider relevant sectors.

The first phase of the Faraday Institution is funded by the Engineering and Physical Sciences Research Council (EPSRC) as part of UK Research and Innovation, a non-department public body funded by a grant-in-aid from the UK government. Headquartered at the Harwell Science and Innovation Campus, the Faraday Institution is a registered charity with an independent board of trustees.