New investment to drive forward next generation of net zero planes and cars

- Government announces £80 million investment in next-generation electric cars and planes through Industrial Strategy
- Collaboration with industry and academia could accelerate development of electric and hybrid aircraft
- Investment comes from modern Industrial Strategy – keeping the UK at the forefront of new vehicle development and tackling climate change

Government today unveiled an £80 million investment to help develop the next generation of electric vehicles – and which could also help develop new hybrid aircraft.

The investment – through the modern Industrial Strategy – will help ensure the UK is able to supply products both in the UK and abroad, to help cut carbon emissions from a range of industries including transport, energy, agriculture and construction.

Development of these new technologies – known as Power Electronics, Electric Machines and Drives (PEMD) – will be led by industry and academia and supported by over 130 organisations, collectively offering global reserves of as much as £600 billion.

This collaboration will mean investment through four key strands to provide opportunities for industries in the UK to move away from fossil fuels, and new electric products. These four strands are:

- Fast Start Fill the Gaps/Proof of Concept Programmes – a project that aims to fill identified gaps in the supply chain for PEMD;
- Industrialisation Centres – aiming for the UK to develop the next generation of PEMD products such as electric vehicles and hybrid aircraft, as well as providing a focal point for the business community;
- High efficiency, high volume supply chains – investing in the UK's capability to develop the necessary machining tools for new manufacturing techniques; and
- Low volume, high value supply chains – aiming to help just-in-time manufacturers to sustain long-term growth

Business Secretary Greg Clark said:

> Companies like Jaguar and Lotus are choosing the UK to develop their new electric vehicles, while Easy Jet and Rolls Royce have chosen the UK to develop their hybrid planes – all recognising and investing in the expertise and talents of the UK.
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> Building on our Faraday Battery Challenge and Battery Industrialisation Centre this co-investment from Government and industry is a key part of our modern Industrial Strategy, building on our strengths and helping to create the next generation of net zero technologies that will transform entire industries.
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> The UK leads the world on combatting climate change and is the first major economy to legislate for net zero.

This investment is part of the Industrial Strategy Future of Mobility Grand Challenge, transforming the way people work and travel.

Key targets include:

- Eliminating diesel rolling stock from UK railways by 2040;
- Accelerating the delivery of electric and hybrid aircraft by 2040; and
- The delivery of zero carbon road transport by 2040

The challenge will deliver technologies that will enable the UK's road, rail, maritime and aviation networks to dramatically reduce emissions.

The programme also supports clean growth by driving down costs and delivering a volume supply chain necessary to deliver low-carbon technologies – building partnerships between industries of all sizes.

UK Research and Innovation Chief Executive, Professor Sir Mark Walport said:

> Driving the Electric Revolution will strengthen the UK's capability to deliver next generation electric vehicles, hybrid aircraft and smart grids. It will ensure these industries, both large and small, are rooted here in the UK attracting inward investment into our manufacturing base.

Dr Will Drury, Head of Electronics & Electric Machines Products, Ricardo Automotive & Industrial:

> Underpinning the drive to reduce our carbon footprint and decrease

> global reliance on fossil fuels is electrification. This is occurring across every sector of society from energy generation for our homes to how we move about. Driving Electric Revolution challenge will underpin the growth of the UK supply chain critical to enlarge GDP and jobs in Power Electronics, Machines and Drives; an area in which the UK already has global recognition.

PEMD is a set of cross sectoral products used to change fossil fuel-based systems into electric systems, powered by battery or some other stable electrical source. Power electronics refers to components used to control and convert electrical power e.g. from direct to alternating current or from higher to lower voltages and vice versa. Electric machines are devices which convert electrical energy into mechanical work and vice versa, for example, electric motors and generators. Drives refers to the combined control electronics, software and power electronics used to integrate the systems.