



# Universities



## Low Carbon Technologies

“

The future is happening. Our universities and R&D centres are working with the private sector to drive down emissions and develop technology, supporting sectors which will create the jobs of the future here in the West Midlands.”

*Andy Street, Mayor of the West Midlands*

### Key Messages

West Midlands universities' research excellence and industry expertise are playing a critical role in tackling some of the biggest energy challenges facing the UK.

The West Midlands Energy Capital initiative is a smart energy innovation partnership which aims to make the West Midlands one of the most attractive locations to build innovative clean energy technology companies in the world.

The West Midlands region is a global centre of expertise in low carbon transport, pioneering R&D in electric car and battery technology.

### University Specialisms

Our universities maintain close links with industry partners, helping to:

- Advance energy storage, including developing a range of battery and hydrogen storage technologies
- Develop smart technology, using AI to integrate the actions of all the components in an energy system.

Universities advance our understanding of:

- Hybrid-engine technology
- Sustainability in diesel performance
- Lightweight materials for aerospace and automotive applications.



### Thriving Cities

Birmingham, Coventry and Wolverhampton



### A £92bn Economy



8,870

### Companies Active

In this sector



63,500

### Employed

In the sector



### World Class

University-led research with National Battery Prototype Centre and National Automotive Innovation Centre, both in Coventry



### Warwick

Advanced Propulsion Centre



**West Midlands Growth Company**

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# Key University Facilities/Projects



## Aston University

### European Bioenergy Research Institute (EBRI)

- Provides practical bioenergy solutions for companies and local authorities in the West Midlands, UK, Europe and beyond.
- The EBRI team is helping businesses to act sustainably and to develop new products and services from a wide range of waste material.

### Power Electronics, Machines and Power System Group

- Undertakes research into both theoretical and practical aspects of power electronics and their impact on electrical power networks.



## Birmingham City University

### Powertrain Test and Development

- An independent auto-industry research facility catering for hybrid-engine research and the exploration of cleaner burning fuels and bio-fuels.
- Collaborating with Jaguar Land Rover, Ford, MIRA, JCB, Ricardo, as well as leading automotive software developers, equipment specialists from Japan and India, and German powertrain consultancies.



## Coventry University

### Institute for Future Transport and Cities

- Brings together world class expertise in disciplines across art and design, human factors, engineering, manufacturing, computer systems and business studies to deliver a vision of safe and sustainable transport solutions fit for the cities of the future.

### Centre for Advanced Low Carbon Propulsion Systems (C-ALPS)

- A new advanced testing and research facility for the transport industry.
- The new £50m Centre for Advanced Low Carbon Propulsion Systems (C-ALPS) creates cleaner mobility solutions for the global transport sector.
- C-ALPS will drive research into low carbon transport propulsion solutions and associated development methods and tool chains .

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## University of Birmingham

### Birmingham Energy Institute

- The Birmingham Energy Institute is the focal point for the University and its national partners to create change in the way we deliver, consume and think about energy.
- Harnessing expertise from the fundamental sciences and engineering through to business and economics to deliver co-ordinated research, education and global partnership development.



## University of Warwick

### Energy Innovation Centre

- A national facility for battery research across the R&D process from materials and electrochemistry through to application, integration and recycling/re-use.
- Facilities support test, development and scale-up of new battery chemistries from concept through to full proven traction batteries produced in industrial quantities.



## University of Wolverhampton

### Built Environment Climate Change Innovations

- Promotes sustainable economic opportunities and growth by working with small and medium enterprises to develop innovative climate change solutions within the built environment.