North East England

Leading the way in ultra-low emission vehicles

September 2009

Leading the way in ultra-low emission vehicles and infrastructure

North East England is the UK's leading region for the development of ultra-low emission vehicles.

North East England is a major advanced industrial economy with a strong engineering and innovation focus.

Transforming the automotive industry

The UK Government has established North East England as the leading region for the development of ultra-low emission vehicles. This recognises strengths in automotive manufacturing and advanced research in automotive and energy technologies.

The world's first truly low carbon region

Accelerating the development of ultra-low emission vehicles and infrastructure is an important part of North East England's low carbon vision. This will see the region enabled by renewable energy, intelligent networks and design.

Collaborative partnerships

The region is currently working on developing this vision and would like to hear ideas and proposals from potential partners interested in helping to achieve this.

Drivers for change: ultra-low emission vehicles

Leading the way in ultra-low emission vehicles

The UK is a major market; as many as a fifth of motorists would consider buying an electric car in the next 5 years, which would mean an extra 6.75 million of these vehicles on Britain's roads[1].

The rapidly growing market for ultra-low emission vehicles has accelerated research and development activity in these emerging technologies.

Ultra-low emission vehicles

Hydrogen and biofuel technologies are likely to make important long-term contributions to decreasing emissions from road transport. However, the global automotive industry is currently focusing on electrification as the most viable low carbon solution in the medium-term.

Environmental benefits

The principal driver for electric vehicles is carbon reduction. In 2007 22% of UK carbon dioxide emissions came from road transport.[2]

EVs also offer zero emissions of NO_x and SO_x particulates and a decrease in local area noise pollution in urban areas.

Economic advantages

Estimates suggest that the average annual running cost for a family car could be 89 per cent less expensive for an electric vehicle compared to the fuel costs for a conventional vehicle.[3]

The UK market has been further stimulated by Government purchase incentives to subsidise the cost of commercial and passenger electric vehicles.

References

1.RAC Foundation survey 2009

2.DEFRA e-Digest statistics about climate change

3.House of Oirechtas, Drive for Zero: EVs are a winning proposition, 2009

north east england

A history of manufacturing excellence and a strong automotive sector

Leading the way in ultra-low emission vehicles

North East England's automotive sector includes the largest volume manufacturer of passenger cars in the UK and the world's largest volume manufacturer of electric vans and trucks.

North East England has a long history of manufacturing excellence and is home to a £1 billion automotive sector.

Automotive manufacturing excellence

Nissan's Sunderland plant produces 25% of all cars manufactured in the UK and is one of the most productive plants in Europe.

North East England is also home to major firms such as Komatsu, Caterpillar, Cummins and British Engines. These companies are supported by a local automotive supply chain including world-class companies such as Calsonic Kansei, ComeSys, TRW, and Johnson Controls.

UK hub for electric vehicle development and manufacturing

The Renault-Nissan alliance is investing £200 million in a European Centre of Excellence for Battery Manufacturing in Sunderland. The plant is scheduled to supply 60,000 batteries a year for EVs.

Smith Electric Vehicles is the world's largest volume manufacturer of road-going commercial EVs. Smith recently announced a joint venture with Ford, aimed at the light vehicle sector, and with LTI to develop a battery powered urban taxi cab. Smith also has prestigious contracts with blue chip companies including Coca-Cola, TNT and AT&T.

Other EV manufacturers and converters in North East England include: AVID Vehicles, HILTech Developments and Jumbotugs.

north east england

Advanced research and development in low carbon transport

Leading the way in ultra-low emission vehicles

In addition to leading research in electric vehicles, North East England hosts the largest concentration of new fuels manufacturing in Europe, a major hydrogen programme and advanced research in renewable energy technologies.

The region boasts world-leading research and development capabilities in universities and specialist research centres. Examples include:

Low carbon transport research and development

- Economical conversion of conventional vehciles into hydrogen hybrids at University of Sunderland.
- Development of novel energy efficient power drive trains at Newcastle University.
- Leading automotive design research in aerodynamics at Durham University and vehicle interiors at Northumbria University.

Energy technologies and new fuels development

- Electrochemical power sources at Newcastle University.
- Hydrogen fuel cells, storage and catalysis technologies at the Centre for Process Innovation.
- 50% of the UK's petrochemical industry is located on Teesside, providing skills and production capacity to lead on biofuels development and hydrogen manufacture.

Intelligent and enabled low carbon cities

- Advanced technologies and behavioural research to facilitate radical changes in transport systems and infrastructure at Newcastle University.
- Development of new and renewable energy technologies and efforts to advance smart grids at NaREC.

north east england

Supporting the low carbon transformation of the automotive industry

Leading the way in ultra-low emission vehicles

The UK Government has designated the North East as a Low Carbon Economic Area with a focus on transforming the automotive industry to specialise in ultra-low emission vehicles.

As the UK's first low carbon economic area (LCEA) with a specialist focus on low emission vehicles, North East England will provide support for innovation and demonstration, skills training and clustering of manufacturing. This will include:

Investment sites and business support

- Building on existing industrial strengths, the LCEA establishes investment sites for companies wishing to locate in the North East to realise new opportunities in emerging low carbon sectors.
- Extensive support is available or R&D, investment and skills development.

Ultra-low emission vehicle R&D centre and test track

- An R&D Centre will bring together fundamental and applied research in ultra low emission vehicle technology from all 5 North East universities and commercial developers.
- An open access test track and off-road facility for manufacturers and developers of ultra low emission vehicles.

Training centre

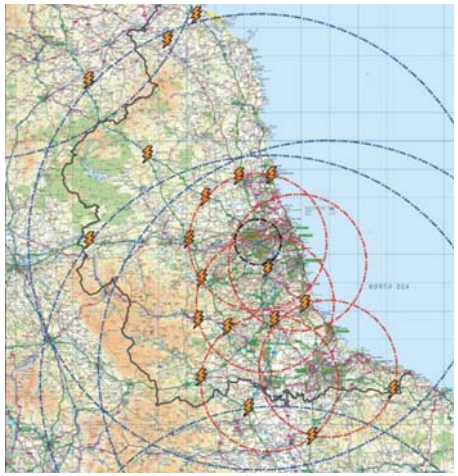
- A specialist training centre for the manufacture and maintenance of ultra low emission vehicles and infrastructure.
- Infrastructure upgrades include development of the existing energy network, extension of a wind farm and construction of a 100MW combined heat and power plant.
- Reinstatement of a freight rail line to a major deepwater port will make exports and imports more cost effective.

north east england

Electric vehicle infrastructure and demonstration projects

Leading the way in ultra-low emission vehicles

A major pilot infrastructure project began in 2009 in Newcastle and the region is hosting a £5.5 million electric vehicle demonstration project.



Advancing the deployment of ultra-low emission vehicles and related infrastructure are part of an overall commitment to speed up the development of a low carbon and smart region. Key projects underway in North East England include:

Establishing a charging infrastructure across the North East

- A major infrastructure pilot in Newcastle began in 2009, with a range of on-street, public and workplace charging points being installed across the city. This infrastructure will be extended across the region in 2010 and 2011.
- Three North East cities – Newcastle, Sunderland and Middlesbrough – have been identified as leading UK centres in advancing the deployment of electric vehicle charging infrastructure.
- North East England taken a leading role in establishing common standards for charging points to ensure that developments are aligned across the UK and compatible with Europe.

Accelerating the development and testing of electric vehicles

- £5.5 million funding will accelerate the development of an initial 35 passenger vehicles in the North East, including Nissan cars, Smith electric taxis, Smith people carriers, a Smith minibus and AVID saloon cars.
- Newcastle University's Transport Operations Research Group will monitor and model the performance and use of the vehicles, providing valuable intelligence to support the development of vehicles and infrastructure for the mass market.

north east england

For more information please contact:

Dr David Beeton
Business Strategy Senior Specialist
Email: david.beeton@onenortheast.co.uk
Direct Dial: +44(0)191 229 6382

One North East
Stella House
Goldcrest Way
Newburn Riverside
Newcastle upon Tyne
NE15 8NY
Tel: +44(0)191 229 6200
Fax: +44(0)191 229 6201

enquiries@onenortheast.co.uk
www.onenortheast.co.uk