



Remote-controlled 'photo-copters' reduce the need for manned flights.

80 per cent less by 2050 nationally. These include the Northern Way initiative to investigate new solutions for carbon capture and storage.

"The region has long been a pioneer of nuclear energy, supporting around 300 companies with a combined turnover of approximately £3bn a year."

At the opposite end of the spectrum to nuclear energy is the growing number of SMEs that are also set to make an impact on a low carbon future. Among them is Small UAV Enterprises run by Greg Colley at the Daresbury Innovation Centre. The business operates a high-tech remote controlled helicopter which can be used to replace energy-intensive manned flights to carry out

aerial photography in a huge range of situations, from farming and archaeology to safety checks on wind turbines and cooling towers. The business has been supported by Eco-Innovation, a programme based at Lancaster University and delivered by C-Tech Innovation. The initiative has received £2.3 million from the NWDA and Northwest ERDF programme, and is designed to identify opportunities for innovation that will help cut the environmental impact of businesses. The Northwest is one of just a few regions in the UK to have a dedicated Climate Change Action Plan and supporting the adoption of low carbon products and services is a key part of it, explains Mark Atherton, the NWDA's director of energy and environment.

As part of the plan, the Agency is backing a new £2.3 million Low Carbon Market Development programme. Run by Envirolink Northwest, the three year initiative is designed to boost the region's market for renewable energy. The money will target renewable energy companies developing technologies that have substantial opportunities in the region, in particular onshore and offshore wind, micro-generation and energy from waste.

"It's about providing support for projects and market development," explains Atherton. "We are offering tangible, hands-on help to get ideas off the ground and ensure the region enjoys the economic opportunities that they will undoubtedly bring."

The region is also leading the way in areas such as solid state lighting, which use light emitting diodes rather than electrical filaments, while the unique nature of the Northwest coast means the region remains at the forefront of developments in tidal power.

"There is a huge amount of expertise in the region's universities around tidal power, and some of this technology will soon be commercialised, which will produce another export opportunity for the region," says Atherton.

Elsewhere the Joule Centre is helping to maximise commercial opportunities developed by the region's universities, while the Energy Innovation Centre at Capenhurst is collaborating with smaller businesses and innovators to create an environment where their ideas can flourish.

A mixture of innovation and expertise, along with the physical geography of the Northwest, means the region is now making great strides towards a low carbon future, says Atherton. But he also believes that it's crucial the region continues to play a bigger role in the battle against climate change.

"It's not just about cutting our own carbon emissions, but also about providing the goods and services that can help other countries and other parts of the UK to do the same," he says. <

The Econoclean System

"The beauty of our system is that it works without the use of water or power – it's carbon neutral," says Kevin Betts, inventor of a revolutionary dry wheel cleaning system, Econoclean.

The innovative kit uses a 'shaker bar' system to clean wheels that have become caked in mud and is typical of a host of breakthroughs that are set to play a major role in a low carbon future.

With stringent legislation now in place about contaminating public highways the system is helping companies comply with the law.

Before leaving building sites, landfill tips and quarries, HGVs are simply directed to drive over a strip of metal bars. The weight of the wagon on the bars makes the tyres distort, creating a squeezing action which causes up to 98 per cent of mud and other contaminants to drop out of the tread.

Now, with the help of Eco-Innovation, Betts is modifying the equipment, with even narrower bars to ensure the wheels don't simply pick the mud up again as they drive over it.

"We're also looking at fixing the shaker bars at slightly different heights which might add some undulation and improve the cleaning process even further," he adds.