

# ENERGY AND ENVIRONMENT



## A THRIVING ENERGY AND ENVIRONMENT INDUSTRY

Home to the largest low carbon sector in the UK outside of the South East, Manchester provides the perfect base to locate a low carbon business. It offers access to significant market opportunities, a strong, established skills base and an impressive range of cutting-edge research facilities.

Businesses located here are well placed to access the £3.4 trillion global low carbon market, particularly in the areas of civil nuclear and power transmission & distribution.

Manchester is fully committed to the low carbon agenda and is a driving force in the trial and demonstration of new low carbon technologies. Over the next few years, it is estimated that Manchester will invest approximately £8-10 billion to decarbonise, creating significant opportunities for businesses.

The city region also hosts the UK's largest regional financial, professional and business services hub employing over 265,000 people across major financial and legal practices with low carbon expertise.

### Key Strengths:

- **Nuclear:** located at the heart of the UK's largest nuclear cluster, home to significant businesses including NuGen's HQ and the world-leading Dalton Nuclear Institute.
- **Power Distribution:** a world-class transmission & distribution and smart grid industry cluster which includes Siemens Transmission & Distribution and S&C Electric (owned by Rongxin Power Electronic).
- **Innovation Test Bed:** world-leading research facilities, state-of-the-art science parks and dedicated "living labs" such as The Triangulum Project and The Energy House, Europe's only full-scale building in an environmental chamber and the world's only full-scale brick-built test facility in a controlled environment, provide businesses with controlled and real-world environments to test and trial new low carbon innovations.
- **Consultant Engineering:** home to a large cluster of national and international projects such as Jacobs Engineering, AECOM, Mott MacDonald and Bouygues Energies & Services.
- **Financial and Legal Services:** specialist low carbon financial and legal services are provided by the UK's largest regional financial and professional services hub.

## SECTOR STRENGTHS

NuGen relocated its HQ from London to Manchester due to its nuclear expertise and access to nuclear new build sites. This positions the city as an ideal location for supply chain companies, serving not only NuGen but Horizon Nuclear Power and EDF.

“Siemens has a global presence in the energy and low carbon sectors and with offices and manufacturing facilities around the UK, Siemens Transmission & Distribution has its primary location in Manchester. Manchester has a very healthy energy sector and though its focus on defining and implementing an energy strategy fit for low carbon future, it will provide significant market opportunities for its sector.”

Paul Maher, Managing Direct,  
Smart Grid Division - Siemens

National Grid High Voltage Laboratory

## ENERGY AND ENVIRONMENT IN THE UK

£11.5 billion expenditure on decommission all NDA sites by 2125

50%+ of UK's civil nuclear workforce is based in Greater Manchester and wider region

 The home of NuGen's headquarters

 £80m public buildings retrofit programme

 £24.5bn is being invested in national power networks until 2023

 £12bn domestic buildings retrofit programme

Breadth of blue chip companies

 114,000+ employees in manufacturing & engineering activities

## ...AND IN GREATER MANCHESTER

## NUCLEAR POWER AND DECOMMISSIONING

The UK's nuclear new build programme is worth approximately £60 billion and is expected to create an estimated 16GW of capacity by 2030. Of the five confirmed sites, Wylfa Newydd and Moorside (near Sellafield) sit within 200km of Manchester, with the new build and decommissioning sites easily accessible from the city region.

The birthplace of nuclear physics, Manchester, and the wider North West region, has a thriving and established ecosystem of over 250 civil nuclear supply chain companies, including Tier 1 to Tier 4 nuclear supply chain companies.

In addition to the considerable investment in nuclear new build, the significant expenditure in the UK's nuclear decommissioning programme, worth circa £3 billion per annum, presents a long-term opportunity for nuclear businesses.

As the only region in the UK with full fuel cycle capabilities, the North West undertakes the full range of activities from uranium conversion and uranium enrichment, to fuel manufacture, power generation, spent fuel reprocessing and waste management. With such a range of facilities within the region, this creates opportunities for businesses specialising in fuel.

## SIEMENS GLOBAL CENTRE OF COMPETENCE FOR HIGH VOLTAGE GRID CONNECTIONS (HVDC)

This new engineering centre is the first of its kind outside of Germany and houses the Global Centre of Competence for High Voltage Grid Connections. Its main focus is the design and build of HVDC transmission systems for the UK and North West Europe and is a core element in many offshore wind farm developments.

Siemens Off Shore Wind Centre

## SMART SYSTEMS AND HEAT

Manchester has been selected along with two other UK cities to trial an innovative modelling tool, which will map the trajectory to a decarbonised heating model in domestic properties by 2050. The £80m project with the Energy Catapult will map which low carbon technologies are needed to meet the UK's decarbonisation targets over the next 35 years and will be followed by a demonstrator pilot in 2018.

With a reputation for engineering, Manchester is home to a notable number of global engineering consultancies that work across the energy sector such as nuclear, waste to energy, building management and smart grid. These include Arup, Balfour Beatty and Sir Robert McAlpine.



## TRANSMISSION & DISTRIBUTION (T&D) AND SMART GRIDS

Between 2015-2023, over £24.5 billion will be invested in the national power networks and an estimated investment of up to £15 billion between 2012-2022 in smart meters and related processes.

Manchester is already a leading force in the trial of new approaches to network management thanks to Electricity North West, one of the UK's most forward thinking Distribution Network Operators.

## ACCESS TO INDUSTRY FOCUSED R&D

With access to pioneering expertise in nuclear research and development, Manchester is ideal for national and international nuclear businesses looking to innovate. The four universities within the city region collaborate closely with international businesses such as Siemens, EDF, Rolls-Royce and ABB. This includes the globally recognised Dalton Nuclear Institute, the National Grid Power Systems Research Centre and the Research Institute for the Built Environment at the University of Salford.

Other assets include The Institute for Renewable Energy and Environmental Changes, Sustainable Urban and Regional Futures Centre, The Greater Manchester Hydrogen Partnership, The National Graphene Institute, the UK's home of graphene commercialisation, and the world-renowned The Tyndall Centre for climate change research.

### Investors in Manchester



Contact Dan Storer, Director of Business Development, to find out how Manchester can help you innovate.

T: +44 (0)161 237 4470

E: daniel.storer@midas.org.uk

Twitter: @MIDAS\_LifeSci

