

# West Midlands Low Carbon Investment Prospectus

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# The West Midlands is a great place for low carbon investment. It is a vibrant, modern and diverse economy, with a world class and fast growing low carbon business sector.

## Key strengths of the West Midlands include low carbon vehicles, low carbon buildings and low carbon energy.

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### About this Prospectus

Sustainability West Midlands (SWM) is the sustainability adviser to the leaders of the West Midlands. We have developed this prospectus to highlight the collective strengths in the low carbon economy across the six Local Enterprise Partnerships (LEPs) in the West Midlands and the scale of low carbon investment opportunities. It emphasises why the West Midlands is such an excellent place for low carbon investment.

We hope that this encourages potential investors such as businesses, institutional funders and government to investigate the strong joint and individual offers from the LEPs and join us in growing a sustainable economic future.

### Forward

#### **We invented the high carbon revolution; join us in creating the low carbon one**

Three hundred years ago businesses, inventors, and investors moved to the West Midlands and created the industrial revolution. The legacy is still here in the form of the highest concentration of manufacturers and engineering skills in the UK, sitting at the heart of the transport network. As you would expect we also have large industrial sites and young people waiting for the next industrial revolution to transform their lives and the world it will serve.

This prospectus shows this new low carbon economic revolution is well underway in the West Midlands. But we need new businesses and investment to help us grow.

In return, we can offer major low carbon market opportunities in areas such as vehicles, buildings, and energy. As well as leading businesses and manufacturing strengths, outstanding research facilities, a central location, excellent connectivity, a skilled workforce and high quality business premises.

The six Local Enterprise Partnerships in the West Midlands provide a strategic lead on activities to grow and sustain the vibrancy of local economies and all six are committed to supporting the development of the low carbon economy.

This prospectus produced by Sustainability West Midlands (SWM) provides an independent snapshot of our shared commitment and opportunities. This is the first such document in the UK. SWM will be providing annual updates on our progress to help us share good practice and demonstrate our commitment to a low carbon revolution.



**Dr Martin Reeves**  
**Chair of West Midlands Local Carbon LEP Leadership Group**  
**Chief Executive of Coventry City Council and SWM Board member**

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## Acknowledgments

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## What the West Midlands offers Low Carbon Investors

The West Midlands has international strengths in key growth areas such as:

- **low carbon vehicles**, including transport infrastructure;
- **low carbon buildings**, including new build and energy efficiency retrofit; and
- **low carbon energy**, including bioenergy, fuel cells, energy distribution, management and supply chains.

In each of these areas there are:

- **significant local market opportunities** in the West Midlands and access to markets throughout the UK;
- **leading low carbon businesses to work with** already based in the West Midlands;
- **world class research capabilities** and collaboration with industry; and
- **skilled workforce and training facilities**, with excellent low carbon, manufacturing and engineering skills, and facilities for developing employees' low carbon skills.

Investors in low carbon business sectors in the West Midlands can also benefit from:

- **the West Midlands' strategic geographic position and its excellent transport connectivity** to markets in the rest of the UK and internationally;
- **a relatively low cost base** compared with other parts of the UK and Europe;
- **availability of high quality business sites and premises** for low carbon investors and the quality of life that the region has to offer; and
- **strong public sector support and commitment** to developing low carbon businesses in the West Midlands, such as procurement, planning, and green business clubs.

The rest of this report describes these advantages that the West Midlands offers low carbon business investors and includes contact details for more information from the individual Local Enterprise Partnerships at the end.

## Low carbon growth areas in the West Midlands

The UK Government is committed to achieving an 80% reduction in carbon emissions by 2050 (from 1990 levels) and an intermediate target of 34% reduction by 2020. To meet these targets, each unit of economic output in Britain will need to be produced using an average of one tenth of the carbon dioxide emitted today. This requires a transformation in how energy is generated and used. Combined with factors such as the need to reduce the UK's reliance on imported fossil fuels and the rising costs of energy, the UK's transition to a low carbon economy is driving major investment and market opportunities.

For example, the UK Government estimates that £160 billion of investment is needed in areas such as renewable heat, energy efficiency, power generation and transmission between now and 2020.

Key areas of opportunity in the UK include:

- low carbon vehicles and transport
- low carbon buildings and energy efficiency, including retrofit and new buildings
- low carbon and renewable energy
- energy transmission networks, smart grids and metering
- carbon capture and storage
- new nuclear
- low carbon product design and manufacturing
- resource efficiency and waste management infrastructure.

The West Midlands lies at heart of the UK and with its excellent transport links and accessibility, being based in the West Midlands enables businesses to access these opportunities throughout the UK.

“The West Midlands provides an excellent supply of graduates, including engineering and research in relevant green technologies, together with a central UK location with good transport links to London and overseas.”

Professor Dame Julia King, UK's Low Carbon Business Ambassador and Vice-Chancellor of Aston University

## Key growth area: Low carbon vehicle and transport

### Local market opportunities

Investment in low carbon vehicles and transport is growing rapidly because of rising fuel costs, EU targets, industry standards and UK government policy for low carbon vehicles. The future low emissions strategy for the West Midlands, which will focus on vehicle emissions, will also drive demand.

The West Midlands has 30% of the automotive jobs and 60% of related R&D jobs in the UK and is a global leader in low carbon vehicles. It is an excellent place for businesses to be based, linked to the region's world class automotives sector, existing strengths in low carbon and electric vehicles, leading edge automotive research centres and extensive experience in electric vehicle charging networks and fuel cells.

Public transport operators in the West Midlands are also pioneering the use of electric and hybrid technologies on buses and trains; while traffic network management schemes on the local motorway network developed in the West Midlands have now been rolled out nationally.



### **CABLED (Coventry and Birmingham Low Emission Vehicle Demonstrator)**

- This project which completed 2012, showcased electric cars across Birmingham and Coventry and has been the UK's largest public study into low carbon vehicles. It made 110 Ultra Low Carbon Vehicles available to a cross section of car users, delivered electric vehicle charging infrastructure at users' homes, workplaces and in public areas and collected data on their everyday use, including vehicle performance, infrastructure usage patterns, impacts and requirements. The results will help shape and support future decisions around low carbon transport and infrastructure planning in the West Midlands and nationwide.

**EVs4GPs (Electric Vehicles for Doctors)** - This is one of the largest rural trials of electric vehicles in the UK. This project is testing the vehicle use to deliver public health services, from market town hubs in Warwickshire.

## Leading businesses in the West Midlands to work with

Locating in the West Midlands provides the opportunity to work in collaboration with the many low carbon vehicle businesses based in the region. These companies are active throughout the UK and internationally and include the headquarters of international automotive businesses and investors from overseas.

The region's strengths in this area include: low carbon vehicle research and development, low emission engine and vehicle design, manufacturing of low carbon vehicles and transport equipment, electric vehicles, automotive component supply, efficient engine technologies, electric vehicle charging infrastructure, development of alternative fuels, biofuels, fuel cells and fuel supply infrastructure.

Examples of the many leading businesses in the West Midlands include: Aston Martin, BMW, Denso, GKN Driveline, Jaguar Land Rover, Johnson Controls, Micro: Cab, MIRA, Penso, Ricardo, Stadco, Tata, Valeswood Fuel Cells, Zytec Automotive, as well as considerable low carbon automotive research capabilities.

**Zytec Automotive** - Based in Lichfield, is a leading designer of powertrain for electric and hybrid vehicles with customers including Daimler Chrysler for its SMART car and General Motors. The company which provides a hub for these technologies in the Midlands has in-house testing facilities and has recently been awarded a Regional Growth Fund Grant from the UK Government of £1.3m towards a £5m development of an Electric Production Technologies Centre.

**MIRA** - Based near Nuneaton, is a globally recognised automotive consultancy; including in low carbon vehicles. The planned £300m MIRA Advanced Technology Park will provide a facility available to the automotive industry and associated supply chains, with a focus on low carbon automotive technologies and Intelligent Transport Systems.



## World class low carbon research capabilities

The West Midlands has world class low carbon research capabilities based in the region's 14 universities, colleges and private sector research bodies: providing investors with opportunities for developing low carbon products and technologies and accessing highly skilled staff.

Particular strengths of the West Midlands low carbon research base include: low carbon energy and power generation, energy infrastructure, renewable energy, biomass and biofuels, anaerobic digestion, fuel cells, low carbon vehicles and automotives, energy efficiency, low carbon buildings and advanced manufacturing.

The West Midlands' low carbon vehicle and transport research capabilities include: MIRA near Nuneaton; TATA Motor's Technical Centre and research facilities in Ansty, Coventry; Jaguar Land Rover's design, engineering and research centres in Coventry and Warwickshire; Coventry University's Automotive Applied Engineering Research Group; the Centre for Hydrogen and Fuel Cell Research at University of Birmingham; the Manufacturing Technology Centre at Ansty Technology Park; Birmingham City University's Advanced Powertrain group within the University's Centre for Low Carbon Research; the National Automotive Innovation Campus at the University of Warwick; and Warwick University's UK Energy Storage R&D Centre for the advancement of electric and hybrid vehicle batteries.

### **The Warwick Manufacturing Group UK Energy Storage R&D Centre for the advancement of electric and hybrid vehicle batteries**

- The £13 million research centre which opens in 2013 has been co-funded by Government (£9 million funding) and industry (£4 million). It has been created to capitalise on the growing electric and hybrid vehicle battery market, which is estimated to be worth £250 million for the UK by 2020. The centre will help to secure future growth opportunities for the UK's automotive sector, and builds on the Government's £400 million commitment over the next four years to support electric cars and other ultra-low carbon vehicles.

**National Automotive Innovation Campus (NAIC)** - A £92 million centre is being built in Coventry to develop the cars of the future, including developing the latest technologies to reduce CO2 emissions and oil dependency. NAIC, based at the University of Warwick, builds on the area's lead role in developing future automotive technologies and is jointly funded by the Government, Jaguar Land Rover and Tata Motors' European Technical Centre, working closely with the Warwick Manufacturing Group.



## Skilled workforce and training facilities

The West Midlands was the birthplace of the Industrial Revolution and has the highest proportion of manufacturing companies of any UK region. Being based in the West Midlands enables low carbon businesses to access the region's skilled workforce with its extensive low carbon manufacturing and engineering skills. Businesses also benefit from the region's large graduate talent pool, the many low carbon university courses delivered across the West Midlands and the region's rapidly developing low carbon training facilities and apprenticeship schemes.

For vehicles and automotives this includes Aston, Birmingham, Birmingham City, Coventry, Keele, Staffordshire, Warwick and Wolverhampton Universities.

**Training provision for the I54 Enterprise Zone** - The I54 Enterprise Zone on the boundary between South Staffordshire and Wolverhampton is under development as a technology based business park and will be home to Jaguar Land Rover's new engine plant, along with other technology based companies. The I54 Enterprise Zone is expected to create almost 4,000 new jobs by 2015 in advanced manufacturing and environmental technologies including aerospace, engineering and sustainable construction. The Black Country Local Enterprise Partnership has received Government Funding to ensure that the region's colleges, universities and independent skills providers are able to develop the skilled workforce required to meet the increased demand from the I54 Enterprise Zone and major employers such as Jaguar Land Rover.

## Key growth area: Low carbon buildings

### Local market opportunities



The UK has a target to reduce CO2 emissions from housing by 29% by 2020. With around 75% of the existing 25 million UK homes expected to still be in use in 2050 and 60% of properties having been built before 1964, improving the energy efficiency and reducing carbon emissions from buildings will be a major market opportunity. This will drive demand for products and services such as internal and external wall insulation, ultra-efficient boilers, low energy lighting, 'smart' or intelligent metering, draught proofing and microgeneration technologies such as solar thermal and photovoltaic (PV), biomass heat, micro Combined Heat and Power (CHP) and heat pumps.

High levels of fuel poverty and forecast future increases in energy costs mean that improving the energy efficiency of the 2.3 million dwellings in the West Midlands is a very high priority for local authorities and a major business opportunity estimated to be worth £15 billion in the West Midlands over the next 10 to 15 years. Parts of the West Midlands are leading the way in implementing large scale housing retrofit programmes, with activities linked to the Government's new Green Deal finance mechanism and the Energy Company Obligation. The Birmingham Energy Savers (BES) programme for example, is the largest housing retrofit programme in Europe and similar programmes of activity are expected elsewhere in the West Midlands.

Along with low carbon retrofit of existing buildings, there are also significant business opportunities in the West Midlands for the construction of new low carbon homes, offices, industrial and non-domestic buildings. This is being driven by the UK Government requirement for 'zero carbon' new homes by 2016, the need to reduce energy bills and fuel poverty and new local planning requirements for low carbon buildings. Combined with expected future increases in house building to address housing shortages and forecast population growth, these factors are driving demand for low carbon building design, low carbon building materials and construction techniques, insulation, efficient heating systems, microgeneration, smart metering, low energy lighting and water efficiency products and services.

**Birmingham Energy Savers (BES)** - The UK's leading housing retrofit programme and the largest in Europe, has been set up by Birmingham City Council to retrofit housing and non-domestic buildings. BES will deliver low carbon retrofit to up to 60,000 households in Birmingham by 2020, fitting properties with energy efficiency measures such as insulation, new boilers and renewable energy technologies.

Initially worth up to £600 million, activity may be extended to other parts of the West Midlands and be worth up to £1.5 billion to 2020, by making it one of world's largest retrofit schemes.

Carillion Energy Services is delivering BES in partnership with Birmingham City Council and will be working with many businesses based within Birmingham and across the West Midlands, generating significant business and employment opportunities.

## Leading businesses in the West Midlands to work with

The West Midlands has one of the largest concentrations of construction and building products companies in the UK. Many of these are involved in low carbon building design, engineering, construction, retrofit, supply of low carbon building products, energy efficiency technologies and microgeneration.

Examples include: Amec, Amey, Arctic Circle, Arup, Bullock, Capita Symonds, Carillion, Corus, Cundall, Domestic & General Insulation, E.ON, Galliford Try, IMI, Kingspan, npower, Orbit, Skanska, Tarmac, Thomas Vale, Tomlinson Group, Wates, WHG, Wolseley and Worcester Bosch.



**Carillion Energy Services** - A national company with headquarters in Wolverhampton, is one of the UK's largest providers of energy efficiency and sustainable energy solutions to domestic, social and commercial properties. This includes large scale renewable energy installations through to domestic scale products and services such as energy surveying, insulation, efficient boilers and heating controls, LED lighting, rainwater harvesting and micro-generation technologies such as solar thermal, solar photovoltaic and heat pump systems.

## World class low carbon research capabilities

The West Midlands has many low carbon construction centres of excellence.

Examples include: the Centre of Refurbishment Excellence in Stoke-on-Trent; the national Centre for Low Carbon Research at Birmingham City University; the Centre for the Built Environment, Information Systems and Learning Technology Research at Wolverhampton University; Keele University; the Centre of Sustainable Energy Engineering & Design at Warwick University.

**The Centre of Refurbishment Excellence (CoRE)** - Is an independent national centre based in Stoke-on-Trent for learning and skills development for the construction industry working for a low carbon, resource efficient UK through refurbishment of existing homes and workplaces. CoRE brings together skills providers, manufacturers and construction firms with the shared ambition of "Creating sustainable buildings for tomorrow from today's existing houses." Partners include Stoke City Council, the Building Research Establishment (BRE), Stoke-on-Trent College, E.ON and the European Regional Development Fund.

**Sustainable Energy Engineering & Design (SEED) at Warwick University** – SEED undertakes research in low carbon energy technologies and design, to underpin a sustainable built environment. It is part of the inter-disciplinary Warwick Institute for Sustainable Energy and Resources and research is focused in five principal areas: heat pumps and heating/cooling technology, heat transfer modelling and design, energy storage and phase change materials, lightweight building structures, solar energy and sustainable chemical processes.

## Skilled workforce and training facilities

Being based in the West Midlands enables low carbon businesses to access the region's skilled workforce with its extensive low carbon skills. Businesses also benefit from the region's large graduate talent pool, the many low carbon university courses delivered across the West Midlands and the region's rapidly developing low carbon building training facilities.

For construction skills these include the Centre of Refurbishment Excellence in Stoke, Wolverhampton and Coventry Universities,

South Birmingham, Warwickshire, Stoke on Trent and Wolverhampton Colleges, as well as private sector training providers such as the Worcester Bosch training centre in Worcester and the Wolseley Sustainable Building Centre. There is also the West Midlands Centre for Construction Excellence based at Coventry University and a series of local construction excellence networks.

**The Wolseley Sustainable Building Centre** - Based in Leamington Spa, was the UK's first commercial showcase for sustainable building products and construction methods. It enables all involved in construction, from architects through to builders, to experience the latest technologies and the widest range of sustainable, energy-efficient and recycled building products.

## Key growth area: Low carbon energy

### Local market opportunities



The UK has a target for 15% of its energy to come from renewable sources by 2020, compared to around 7% today. In the West Midlands there are significant market opportunities for large and small scale renewable energy, including biomass, biofuels, anaerobic digestion, wind energy, geothermal, photovoltaics, solar thermal, ground and air source heat, and energy supply chains. There are also large market opportunities for energy recovery from waste, district heating networks and combined heat and power linked to new developments and regeneration schemes, in urban areas such as Birmingham, the Black Country, Coventry, Solihull and Stoke.

Other significant future opportunities in energy infrastructure improvements include the development of 'smart' grids that can manage multiple flows and demands of energy, 'smart' metering and the development of the energy transmission networks, coupled with the expected growth of district heating schemes and microgeneration.

In addition the West Midlands' large and vibrant industrial base, its growing population and targets to reduce waste going to landfill and increase recycling mean that there are many market opportunities for businesses involved in resource efficiency, recycling, waste reprocessing, product and manufacturing process design and waste management infrastructure. This often creates further energy opportunities through biomass or anaerobic digestion.

**Energy Infrastructure in North Staffordshire** - A range of stakeholders across North Staffordshire and Stoke-on-Trent (including ceramic and other manufacturers, universities and local authorities) are developing an ambitious energy security project and multi-million pound investment, to create a closed loop energy system from which local industry and much of the poorest housing in Stoke would benefit. The approach would incorporate district heating, combined heat and power, biomass and the City's unique position relative to certain geological conditions which provide the potential for geothermal heat and power.

## Leading businesses in the West Midlands to work with

There is a large cluster of energy related companies in the West Midlands. Companies are involved in energy generation, power supply, microgeneration, larger scale renewable and low carbon technologies such as biomass, anaerobic digestion, wind, marine energy, waste to energy and combined heat and power.

Examples include Aceon, Alstom Power, Alumnet, BiogenGreenfinch, Caplor Energy, Centrica, Cofely District Energy, Converteam, Dodd Group, Doosan Babcock, E.ON, Eco2Solar, EH Smith, EOS Energy, Goodwin Steel Castings Ltd, Green Energy Networks, Lessco2, McCamley UK, National Grid, New World Solar, npower, Quartzelec, Siemens, Talbotts, Veolia Environmental Ltd and Zest Energy Solutions.

**E.ON** - Is Europe's largest private energy company and has approximately 6,000 staff located in and near the Coventry and Warwickshire area. Their UK HQ is located at the Westwood Business Park, Coventry and is the base for the delivery of EON's UK renewable energy programmes. This includes offshore wind, large scale biomass (including the transformation of Ironbridge Power Station to run on wood pellets rather than coal), Combined Heat and Power, Energy from Waste, Anaerobic Digestion/Biomethane businesses and the E.ON Green Deal team.

**BiogenGreenfinch** - Operates food waste anaerobic digestion plants in Ludlow, Bedfordshire and Northamptonshire, which in total process 90,000 tonnes of food waste annually. BiogenGreenfinch recently installed a plant for Harper Adams University College and is planning further plants across the UK.

**AceOn Group** - Based in Solihull and Telford specialises in research, development and manufacturing of intelligent battery systems and solar powered portable energy generation products, such as solar docking stations which provide off-grid electricity generation for equipment such as mobile phones, lighting, computers and refrigeration. AceOn recently won an export for growth award and is expanding its distribution of products throughout the world.

## World class low carbon energy research capabilities

The West Midlands has leading energy research capabilities. These are often shared through collaborative working through the Energy Technologies Institute, Birmingham Science City Low Carbon Group, and the European Climate Knowledge Innovation Centre.

Individual facilities include the European Bioenergy Research Institute at Aston University; the Faculty of Technology, Engineering and the Environment at Birmingham City University which is developing bio-energy technologies including anaerobic digestion and Combined heat and power; the Low Carbon Energy Group at the Keele University; Harper Adams University; Coventry University's Energy & Environmental Technology Applied Research Group; CERAM Research in Stoke-on-Trent; the Institute for Energy Research & Policy at Birmingham University; the Siemens wind energy research laboratory at Keele University; the Warwick Institute for Sustainable Energy and Resources ; and the Staffordshire University's Centre for Energy Efficient Systems.



### The European Bioenergy Research Institute (EBRI) -

This is a leading international centre of bioenergy research technology at Aston University. EBRI works with industrial partners to develop and test technologies in fields such as pyrolysis, gasification, biogas, bio-hydrogen and algal based biofuels. EBRI has recently built world class bioenergy technology testing and demonstration facilities which enable industrial partners to test and develop technologies and biofuel feedstocks. EBRI works with many industrial partners from across Europe, including West Midlands businesses such as Severn Trent, E.ON, Biogen Greenfinch, Cofely and Veolia. Applications include decentralised bio-fuel production for low carbon vehicles, housing and urban developments.

EBRI plans to expand to 70 staff and £10 million in turnover over the next few years. It is located in the West Midlands because of the region's strong ambitions on the low carbon agenda, combined with strengths and benefits such as:

- the region's strong skills base on low carbon technologies;
- the proximity to large markets and many industrial partners;
- the lower cost base compared with the south east and other parts of western Europe; and
- the availability of industrial premises and development land.



**The Birmingham Fuel Cells Group (Centre for Hydrogen and Fuel Cell Research)** - At the University of Birmingham was formed in 2000 and is nationally and internationally recognised for its expertise in fuel cell technologies. It is part of the £6.5 million West Midlands Science City initiative, and the £1 billion Energy Technologies Institute's Midlands Consortium. It has been awarded £5.5 million by the Research Councils UK's energy programme to run a Doctoral Training Centre in Hydrogen, Fuel Cells and their Applications, the first of its kind in the UK. The Centre covers hydrogen production, storage, utilisation and economics, and its focus includes solid oxide fuel cells and proton exchange membrane fuel cells. It provides R&D, applications and demonstrations of hydrogen and fuel cell systems and has numerous patents in fuel cell technologies.

The Centre is home to England's first hydrogen filling station (launched in 2008), a hydrogen powered house, a hydrogen fuel cell Combined Heat and Power unit and a fleet of hydrogen fuel cell vehicles. The Fuel Cells Group is helping to develop a Hydrogen and Fuel Cell Supply Chain in the West Midlands and UK, working with 60 businesses to develop and manufacture hydrogen fuel cell components.

**Coventry University's Energy & Environmental Technology Applied Research Group (EETARG)** – The group is an applied engineering group focusing on sustainable energy and the development of environmental technologies. The main focus area of the group is concerned with thermofluids, in particular numerical simulation of thermofluid applications, and energy technology such as CO2 capture and biofuels.

## Skilled workforce and training facilities

Skills and training facilities in the West Midlands specialising in low carbon energy span a broad range of skills including low carbon, energy engineering, electrical installation and heating and microgeneration.

Examples of these training providers include the Power Academy at Warwickshire College in Rugby, the Worcester Bosch training centre, the European Bioenergy Research Institute, at Aston University, Birmingham City University's Low Carbon Centre and Warwick and Birmingham Universities.

**The Power Industry Academy** - Is a new state-of-the-art training facility in Rugby, providing skills to technicians looking to work in the UK's low carbon power sector. It provides training and resources for the energy manufacturing supply chain with a focus on turbines and low carbon power generation, including offshore wind. It has strong links to leading low carbon businesses based in the West Midlands such as Alstom and Converteam.

## Other Low Carbon Strengths in the West Midlands



As you would expect in a diverse and dynamic economy, the West Midlands also has complementary strengths in many other areas of the low carbon economy.

- **World class manufacturing.** Many businesses in the West Midlands are involved in high tech engineering, advanced manufacturing, design and component supply for low carbon technologies, power systems, electrical controls, heating technologies, metal fabrication and composites. Examples of such businesses are Alston Grid, GE Energy Ltd (Converteam UK Ltd), ABB Ltd.
- **Low carbon professional services.** The West Midlands has leading businesses providing legal advice relating to the low carbon economy, carbon finance, corporate finance and banking, engineering consultancies, energy and environmental consultancies. Examples include: Martineau, Wragge & Co, Eversheds, Wright Hassall, PinsentMasons, Grant Thornton, KPMG, ARUP, Encraft, Enviros, Cundall, Atkins, Hyder Consulting, URS Scott Wilson, WYG, Gifford, Mott MacDonald, RPS, WSP, Amec, Wardell Armstrong, Waterman, White Young Green.
- **Resource efficiency, waste management and recycling.** Many businesses of all sizes involved in commercial, industrial and household waste, recycling, reprocessing and materials recovery, resource efficiency and waste minimisation advice and technologies, including businesses such as EMR, SITA, Smurfit Kappa, Veolia Environmental, Weir Waste, Whale Tankers and many more.
- **Strengths in other parts of the environmental industries.** This includes environmental consulting, water and wastewater treatment, flood risk management, air pollution control, land remediation, environmental monitoring, environmental management, green infrastructure and the natural environment. Examples of businesses include: E4Environment, Enviros, Hydrologic, Severn Trent Water, South Staffordshire Water and UK Flood Barriers.

**Wardell Armstrong** - Is one of the UK's leading specialists in energy and climate change, infrastructure and waste management, and employs 350 staff. Of those, 130 are based in their Stoke-on-Trent headquarters, and others in offices such as Edinburgh, Cardiff, Moscow and Beijing. Their experience ranges from environmental risk management to the financing of alternative energy options, in fields which vary from offshore wind farms to carbon capture and storage.





## Benefits of locating in the West Midlands for all low carbon businesses

The West Midlands also has a range of benefits and support for all businesses wishing to either enhance their low carbon performance through improved production processes, or to innovate and diversify into new low carbon products and services.

## West Midlands' strategic geographic position and excellent transport connectivity

Located at the heart of the UK and with excellent national and international transport links, the West Midlands is an ideal base for accessing markets throughout the UK and internationally. There are excellent national rail, road and air links, including quick connections to London. Three international airports (Birmingham, Coventry and East Midlands) allow easy access to international markets, with flights to Europe, Scandinavia, China, North America, Africa, South America, Australia, Japan, India, Russia, the Middle East and the Far East.

The relatively low cost base of locating in the West Midlands, excellent sites and premises and quality of life are all significant factors in attracting low carbon businesses to the region.

**Juwi Renewable Energies** - In November 2010, the German solar energy company Juwi, announced that it has selected the West Midlands as the company's new base in the UK. Juwi Renewable Energies works with land owners, farmers, communities and owners of large roof-tops to help them set up solar power plants.

Daniel Parsons, Juwi Solar business development manager, said: "We aim to provide renewable energy solutions in the UK which are not reliant on large-scale offshore wind or massive power plants, but are of a scale which enables land owners and local communities to generate a different income stream and also reduce their CO2 footprint." The firm decided to make the move into the UK market following the introduction of the Feed-in tariffs (FITs) and other future regulatory schemes such as the Renewable Heat Incentive.

The firm selected the West Midlands for a number of reasons after considering other parts of the UK. "It was important to be in the middle of the country, have very good road access and, as we are a German company, to have good international airport links to Germany, and it is a great place with good support for businesses."

**Caterpillar European Remanufacturing Centre** - This is one of the largest engine remanufacturing facilities in Europe and takes in used diesel engines and components and refurbishes them for re-use. "The combination of access to highly skilled engineers and a good transport network helped us decide to locate our first remanufacturing centre outside North America, in the West Midlands" Richard Elsdon, Director of Government Affairs, Caterpillar UK Ltd.

"We're pleased to be bringing our prototype to the UK for the first time. Our location at Keele University Business and Science Park has led to a real partnership where we've been able to utilise academic interest in the area to turn our expertise into commercial reality."

Dr Scott Elliott, CEO, McCamley UK Ltd (Urban Wind Turbines)

## Availability of high quality business sites and premises

There are many excellent sites and premises for low carbon businesses throughout the West Midlands, with good accessibility and transport links and with cost advantages over locations in areas such as London and the South East of England. Many of these sites have energy efficient buildings and are well served with low carbon energy supply and low carbon transport infrastructure. A number of examples of available business investment sites are provided below, and for further information please contact the Local Enterprise Partnerships – contact details are provided at the end of this document.

- **Advanced Manufacturing Hub** at the Aston Regional Investment Site, Birmingham.
- **ACT Building**, Coventry Technology Park - 2,300 sq m, situated on Coventry University Technology Park, BREEAM 'Very Good'.
- **Etruria Valley and the Chatterley Whitfield Enterprise Centre** in North Staffordshire – recently converted from a former historic colliery site and incorporating a range of modern green innovations (e.g. a biomass boilers).
- **Blue Planet**, Carbon Neutral Distribution Center in North Staffordshire.
- **Ludlow Eco Park**, Ludlow Shropshire.
- **I54** – a major new business zone on the boundary of South Staffordshire and Wolverhampton.
- **MIRA Advanced Technology Park near Nuneaton** - identified by Government as an Enterprise Zone and is planned to provide a 1.5 million sq ft technology park for businesses in sectors such as the automotive industry and associated supply chains, including a focus on low carbon automotive technologies and Intelligent Transport Systems. The technology park will be Europe's most advanced independent transport technology facility.
- **Stoneleigh Park** near Kenilworth, Warwickshire, is the former home of the Royal Show. The site has been recently acquired from the Royal Agricultural Society of England (RASE) (who are one of the many occupiers), and will be subject to a multi-million pound investment for improvements.
- **Tyseley Environmental Enterprise District** – Birmingham's designated enterprise district for low carbon and resource recovery businesses. Grants are available for company set up.



### **Tyseley Environmental Enterprise District, Birmingham**

- To exploit the growth in resource recovery and low carbon technologies, Tyseley is designated as Birmingham's Environmental Enterprise District. Proposals at Tyseley Wharf and Energy Way for new high quality business park environments, along with property assistance programmes, will improve the range and quality of property available to business. Links between businesses and academic institutions will be fostered to support the development of environmental and low carbon technologies.

The site will become a key location for the low carbon economy in Birmingham; encouraging recycling, energy production and renewables including manufacturing and supply chain development. Redevelopment or refurbishment of vacant and underutilised sites in the area has the potential to provide over 100,000 sqm of new floorspace, creating 1,500 jobs.

## **Strong public sector support and commitment**

The six Local Enterprise Partnerships and Local Authorities across the West Midlands are committed to supporting the development of the low carbon economy. Sustainability West Midlands, as the private sector led independent advisory body, often provides annual reviews and monitoring to the LEPs and local authorities to ensure continuous improvement in the public sector support provided to low carbon businesses. This support can take many forms:

- **Stimulating the market through procurement and planning.** Local Authority led actions to stimulate the development of low carbon markets through, for example, establishing large scale low carbon housing retrofit programmes and procuring low carbon vehicles. Also using local planning policies to raise the low carbon performance of new buildings and initiatives to support the development of low carbon energy infrastructure and installations such as district heating networks.
- **Encouraging collaboration on research and innovation.** Supporting the development of low carbon research institutes and building links between research bodies and businesses. For example many public bodies are working hard to ensure future government and EU funding helps to grow joint low carbon research in the West Midlands.
- **Building supply chains.** Public funding is assisting companies in the West Midlands to innovate and diversify into new low carbon markets, develop technologies and strengthen low carbon supply chains. Examples include the Green Bridge scheme (led by the region's LEPs), which in 2012 received £20 million funding from the Government's Regional Growth Fund to support the development of low carbon business supply chains in the West Midlands.
- **Promoting good practice through business networks and clubs.** In addition to the many businesses involved in the low carbon economy, the West Midlands has well developed business networks which provide an effective route to identify and work with businesses, support organisations and innovation partners. These networks are often supported by the public sector and cover areas such as low carbon housing retrofit and construction, renewable energy, low carbon vehicles, resource efficiency and environmental management.

Examples include the Marches Environmental Technology Network (metnet), the Renewable Energy Technology Alliance (RETA), the Sustainable Housing Action Partnership (SHAP), the BESST network in Telford, the Staffordshire Environmental Business Network (SBEN), Heartwoods, the Renewable Energy Supply Chain Opportunities programme (RESCO), the Midlands Environmental Business Club (MEBC), Business in the Community (BITC), National Industrial Symbiosis Programme (NISP) and the West Midlands Climate Adaptation Partnership.

Sustainability West Midlands works with many of these networks to coordinate and enhance their reach and impact and ensure the West Midlands is a place where there is the rapid exchange and collaboration of ideas, resources and people to develop low carbon businesses.

### **The West Midlands Manufacturing Advisory Service**

- Helps manufacturers to improve productivity, grow their business, develop new products and increase their advanced manufacturing capabilities, including a specific focus on low carbon and environmental markets and helping businesses to improve their environmental performance.

### **The Marches Environmental Technology Network (metnet)**

- Supports businesses in the Marches area of the West Midlands (Herefordshire, Shropshire, Telford & Wrekin and Worcestershire) that supply low carbon and environmental technologies and services or businesses diversifying into these markets. The network provides business briefings, networking events to foster collaboration, information on market opportunities, free marketing, information on funding and signposting to business support in areas such as innovation, finance and skills. It helps over 300 companies to build local supply chains and develop commercial collaboration between companies.

### **The Renewable Energy Technology Alliance (RETA)**

- Is an alliance of businesses in Coventry and Warwickshire, working together to develop the low carbon economy and help their customers become more energy efficient. RETA develops local supply chains for low carbon technologies and services, develops low carbon employment and training opportunities, helps to build collaboration between businesses and provides companies with information on grants, support, market opportunities, research and training.

### **Business Environmental Support Scheme in Telford (BESST)**

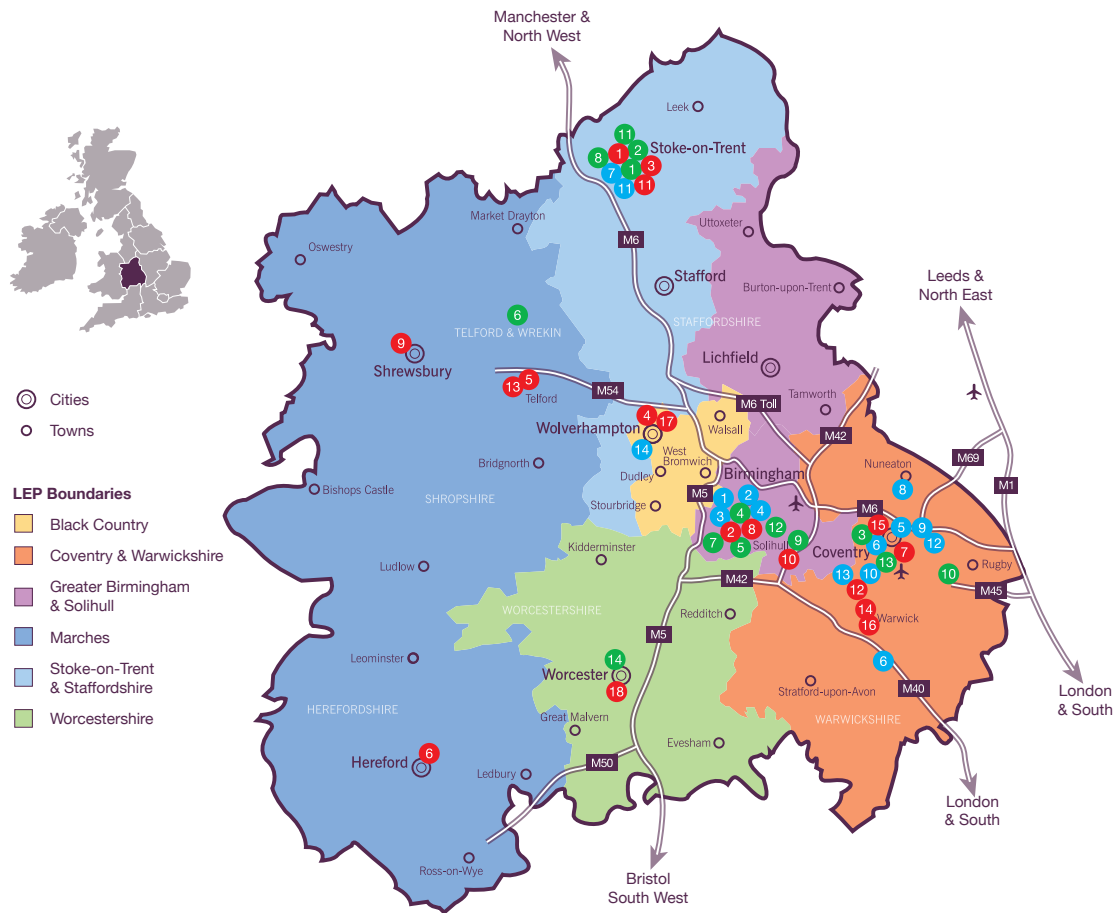
- Is a network of businesses which helps companies to improve their environmental performance in order to boost competitiveness and reduce their environmental impact. The network is supported by Telford and Wrekin Council and involves sharing of good practice, as well as linking businesses to suppliers of advice and technologies for carbon reduction, energy and resource efficiency.

### **Staffordshire Business Environment Network (SBEN)**

- Managed by Staffordshire County Council, is a network of over 300 companies, large and small, who share best practice to enhance environmental performance and energy efficiency, including access to finance, training and corporate social responsibility. It includes key local employers such as Wedgwood Waterford, Schneider Electric, 2050 Logistics and Finnings UK.



## Examples of low carbon research and training centres in the West Midlands



### ● Low Carbon Vehicles:

1. Aston University
2. Birmingham City University's Advanced Powertrain Group within the Centre for Low Carbon Research
3. Centre for Hydrogen and Fuel Cell Research at University of Birmingham
4. Centre for Low Carbon Research at Birmingham City University
5. Coventry University's Automotive Applied Engineering Research Group
6. Jaguar Land Rover's design, engineering and research centres in Whitley in Coventry and Gaydon in Warwickshire
7. Keele University
8. MIRA, near Nuneaton
9. Manufacturing Technology Centre at Ansty Technology Park
10. National Automotive Innovation Campus at the University of Warwick

11. Staffordshire University
12. TATA Motor's Technical Centre and research facilities in Ansty, Coventry
13. UK Energy Storage R&D Centre for the advancement of electric and hybrid vehicle batteries at Warwick University.
14. Wolverhampton University

### ● Low Carbon Buildings:

1. CoRE - Centre of Refurbishment Excellence, in Stoke-on-Trent
2. Centre for Low Carbon Research at Birmingham City University
3. CERAM Research in Stoke-on-Trent
4. City of Wolverhampton College
5. Constructing Excellence based in Telford
6. Herefordshire College
7. Low Impact Buildings Centre at Coventry University
8. South Birmingham College

9. Shrewsbury College
10. Solihull College
11. Stoke on Trent College
12. Sustainable Energy Engineering & Design at Warwick University
13. Telford College
14. Warwickshire College
15. West Midlands Centre for Construction Excellence based in Coventry
16. Wolseley Sustainable Building Centre in Leamington Spa
17. Wolverhampton University
18. Worcester College of Technology

### ● Low Carbon Energy:

1. Centre for Energy Efficient Systems at Staffordshire University
2. CERAM Research in Stoke-on-Trent
3. Energy & Environmental Technology Applied Research Group at Coventry University
4. European Bioenergy Research Institute at Aston University
5. Faculty of Technology, Engineering and the Environment at Birmingham City University
6. Harper Adams University
7. Institute for Energy Research & Policy at Birmingham University
8. Low Carbon Energy Group at the Keele University
9. The National Skills Academy for Power in Solihull
10. Power Academy at Warwickshire College in Rugby
11. Siemens wind energy research laboratory at Keele University
12. Solihull College
13. Warwick Institute for Sustainable Energy and Resources at Warwick University
14. Worcester Bosch training centre in Worcester
15. Wolverhampton University

## Contact Details

For further information about investing in the West Midlands and available investment sites and opportunities, please contact the Local Enterprise Partnerships:

### **Black Country Local Enterprise Partnership**

**Website:** [www.blackcountrylep.co.uk](http://www.blackcountrylep.co.uk)  
**Address:** Black Country Consortium Limited, The Deckhouse,  
Waterfront West, Dudley Road, Brierley Hill, DY5 1LW  
**Telephone:** +44 (0)845 815 1515

### **Coventry and Warwickshire Local Enterprise Partnership**

**Website:** [www.cwlep.com](http://www.cwlep.com)  
**Address:** Coventry & Warwickshire LEP, c/o Jaguar Land Rover,  
53G/0/1 Banbury Road, Gaydon, Warwick CV35 0RR  
**Telephone:** +44 (0)247 683 1061

### **Greater Birmingham and Solihull Local Enterprise Partnership**

**Website:** [www.centrefenterprise.com](http://www.centrefenterprise.com)  
**Address:** Greater Birmingham & Solihull LEP Executive,  
Ground Floor, Baskerville House, Centenary Square,  
Broad Street, Birmingham, B1 2ND  
**Telephone:** +44 (0) 121 303 4369

### **Marches Local Enterprise Partnership**

**Website:** [www.marcheslep.org.uk](http://www.marcheslep.org.uk)  
**Email:** [enquiries@marcheslep.org.uk](mailto:enquiries@marcheslep.org.uk)  
**Address:** The Marches LEP, Shirehall,  
Abbey Foregate, Shrewsbury, SY2 6ND  
**Telephone:** +44 (0)1743 252 525

### **Stoke-on-Trent and Staffordshire Local Enterprise Partnership**

**Website:** [www.stokestaffslep.org.uk](http://www.stokestaffslep.org.uk)  
**Email:** [businessenquiries@stokestaffslep.org.uk](mailto:businessenquiries@stokestaffslep.org.uk)  
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### **Worcestershire Local Enterprise Partnership**

**Website:** [www.worcestershirelep.org](http://www.worcestershirelep.org)  
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Shire Business Park, Worcester,  
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