Supporting the Low Carbon Economy under the 2014-20 EU funding programme in the Marches, Worcestershire and Stoke & Staffordshire LEPs

Evidence Report – Final Version

Creating a Competitive Edge for

People, Places & Organisations

Contents

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1. Introduction

Study Purpose

Innovas Consulting has been appointed by Shropshire Council to support partners in the **Marches**,[1] **Worcestershire** and **Stoke-on-Trent & Staffordshire** Local Enterprise Partnerships (LEPs) to identify opportunities to support the low carbon economy in their respective areas, including through drawing down funding from the 2014-20 European funding programmes[2]. As outlined in the Invitation to Tender (ITT), the objectives of the study are to:

- Define the term low carbon economy, clearly identifying the individual components that make up a broader definition and the international and national drivers that are influencing its development
- Using existing research, datasets and strategies to provide a summary view of the importance of the low carbon economy in each of the three LEP areas
- Identify the threats and opportunities for the low carbon economy within each of the three LEPs, which would benefit from intervention
- Identify a series of potential interventions that will seek to address the threats and take advantage of the opportunities, developing individual project briefs that include:
  - Project description
  - Project rationale (including strategic linkages, need and demand)
  - Potential applicant and delivery partners
  - Objectives and outputs
  - Indicative budget and potential sources of funding (clearly identifying whether the particular project would be eligible for funding under the 2014-20 European Structural Fund programmes)
  - Milestones.

The analysis contained in this report, which has been used to inform the development of the project briefs, is based on a secondary analysis of existing research and data. The assignment has not involved any primary research.

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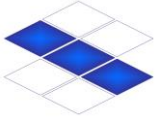
[1] The Marches LEP area is made up of Shropshire and Telford & Wrekin.

[2] The principal funding sources are the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the European Agricultural Fund for Rural Development (EAFRD), which is delivered in England under the Rural Development Plan for England (RDPE).



Study Approach

Our overall methodology is broken into six Phases as shown below:

Figure 1.1: Study Methodology

Overall our approach has combined:

- **Research:** a review of existing research in order to make best use of existing data and to utilise any other research and consultation already undertaken. In addition we have fed in our findings from other relevant projects and our previous experience
- **Interviews and consultations:** these have been essential both in building a clear picture of both the issues and opportunities, and in creating a consensus around the Project Briefs and Action Plans and the practicality of implementation
- **Co-operation:** throughout this project, Innovas has worked closely with key members of the Steering Group and have ensured clear and regular communications at every stage of the project.

2. Strategic and Policy Context

Purpose of Chapter

This chapter summarises the change in economic development policy at the European, UK and sub-national level in relation to support for growth in the low carbon economy, placing this in the wider economic strategic context. It is not intended as an exhaustive review of the vast range of strategies, programmes, action plans and evidence reports that have been published. Instead, we highlight those policies (and policy changes) that are of most relevance to the three LEP areas.

European Policy Context

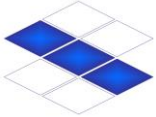
Lisbon and Gothenburg Agendas

The Lisbon Strategy (often referred to as the Lisbon Agenda) was launched in March 2000. It aimed to make the European Union (EU) the world's most competitive economy by 2010, supported by three "pillars":

- An economic pillar laying the groundwork for the transition to a competitive, dynamic, knowledge-based economy, with a strong emphasis on adapting quickly to changes in the information society and to investing in research and development
- A social pillar designed to modernize the European social model by investing in human resources and combating social exclusion, with Member States expected to invest in education and training, and to conduct an active policy for employment, making it easier to move to a knowledge economy
- An environmental pillar, added at the Göteborg European Council in June 2001, which sought to encourage countries to decouple economic growth from the use of natural resources.

The Lisbon Agenda presented the overarching policy framework which guided the development of European Structural Fund programmes and investment priorities for the 2007-13 programme period. The Lisbon Agenda sought to transform the European Union's labour, capital and product markets, with two broad, overarching aims:

- **Generating stronger, sustainable economic growth.** Achieving this goal requires a significant increase in emphasis on competitiveness, innovation and knowledge-intensive activities, with the explicit targeting of investment on:
  - Improving competitiveness and raising productivity
  - Using knowledge to gain competitive advantage
  - Increasing and improving investment in research & development
  - Facilitating innovation, the use of information and communication technologies and the sustainable use of resources



- Making Europe more attractive to business
- Building infrastructure for a competitive economy.

- **Creating more and better jobs.** A stronger economy will drive higher quality job creation in the EU and policies that promote social inclusion will facilitate faster economic growth by increasing the effective labour pool, with investment targeted on:
  - Encouraging more people into the workforce
  - Increasing the adaptability of workers and flexibility of labour markets
  - Investing in human capital through better education and skills.

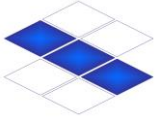
The EU Sustainable Development Strategy 2001 (the Gothenburg Agenda), and its 2005 mid-term update, provided a 'third dimension' to the Lisbon Strategy, and sought to promote

- Social progress which recognises the needs of everyone
- Effective protection of the environment
- Prudent use of natural resources (sustainable production and consumption)
- Maintenance of high and stable levels of economic growth and employment.

Europe 2020 Growth Strategy

Launched in 2010, the Europe 2020 strategy is intended to inject new momentum into the Lisbon agenda and to reflect the growing priority attached to climate change and lower carbon emissions. Ambitious targets have set for employment, R&D, climate change, education and social inclusion, with ERDF programmes seen as having a contribution to make to achieving them. Europe 2020 reinforces the EU's emphasis on innovation, employment and the low carbon activity, and activities in the remaining period of the 2007-13 programmes, as well as those of successor 2014-20 programmes will need to be strongly aligned with the strategy. The strategy's main targets include:

- Raising EU employment rate from 69% to 75%
- Reducing school drop-out rates to under 10%
- Reducing the number of Europeans living in poverty by 25%
- Reducing greenhouse gas emissions by 20% compared to 1990 levels (or by 30% if the conditions are right)
- 20% of total energy consumption to be from renewable energy and increasing energy efficiency by 20% by 2020
- 3% of the EU's GDP to be invested in Research and Development.



European Structural Fund Programmes

2007-13 Structural Fund Programmes

The West Midlands[3] ERDF competitiveness and employment programme[4] has had some £350m of ERDF to invest. It focuses on four main priorities:

- Priority 1: promoting innovation and research and development
- Priority 2: stimulating enterprise development
- Priority 3: achieving sustainable urban development
- Priority 4: developing inter-regional activity.

The programme acknowledged that as a former major manufacturing, energy-intensive region the West Midlands faces significant challenges as it seeks to adjust to a low carbon economy. The need to reduce carbon emissions and move to a low carbon economy is seen as a critical requirement if the region is to make its contribution to tackle the threat of climate change.

The programme has a particular focus on the Environmental Technologies cluster, low carbon energy sources and sustainable transport, and a key objective of stimulating innovation leading to sustainable production and development. This includes activities that seek to stimulate "eco-innovation", developing new products, processes and services that reduce the waste of natural resources and raw materials, improvements to energy efficiency, reduction of environmental impact and addressing climate change across all four activity areas.

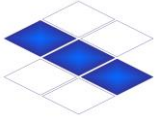
Under Priority One, the low carbon agenda translates into actions which seek to stimulate collaboration between businesses and the research base to develop and commercialise low carbon solutions for national and international markets. Under Priority Two, this means helping regional businesses to exploit the economic benefits of increased resource efficiency and facilitating investment in the development of low carbon technologies and services. Under Priority Three, the focus is on developing community-focused low carbon initiatives and ensuring that development optimises the use of previously developed land buildings and meets high standards of resource efficient design.

The West Midlands ESF Framework 2007-13[4], worth around £350m of Structural Fund investment, contains two Priorities: Priority 1 - Extending Employment Opportunities; and Priority 2 - Developing a Skilled and Adaptable Workforce. The ESF Framework seeks to complement ERDF investment in relation to moving towards a low carbon economy by:

- Ensuring all training activity is delivered in such a way that is consistent with sustainable development principles

[3] The West Midlands region includes the three LEP areas that are the focus of this study, as well as Birmingham & Solihull, the Black Country and Coventry & Warwickshire.

[4] Government Office West Midlands and Advantage West Midlands (2007).



- Providing the skills required to support the growth of the environmental technology sector, particularly in relation to higher level and entrepreneurial skills
- Across all sectors, ensuring that there is special focus on training for new 'green jobs'
- Using community focused low carbon initiatives as an innovative engagement tool for tackling worklessness and NEETs and assisting the sustainability of these communities
- Conducting research into future skills needed for future technologies and sectors.

2014-20 Structural Fund Programmes

Proposals for delivering EU funds in 2014 to 2020 were initially contained in a Common Strategic Framework (CSF), which provides the parameters within which the 2014-20 European Structural Fund programmes and investment priorities will be developed. Following on from the CSF, the Structural Investment Funds (SIF) brings together the various European funding streams, including ERDF (European Regional Development Fund), ESF (European Social Fund) the Cohesion Fund, EAFRD (European Agricultural Fund for Rural Development) and the EMFF (European Maritime and Fisheries Fund) into single programmes.

It is intended that projects can be developed utilising more than one European funding source. This potentially paves the way for the development of joint ERDF-ESF projects, which had been a feature of previous Structural Fund programme periods, but which had been much more difficult to bring forward in the 2007-13 programme period due to the splitting of the former Objective One, Two and Three programmes into separate ERDF and ESF programmes, managed by different bodies.

The SIF contains ten themed Priorities for funding. These are: Research Technological Development & innovation; ICT; SMEs; Low Carbon Economy; Climate Change; Protecting the Environment; Sustainable Transport; Employment and Labour Market Mobility; Social Inclusion and Poverty; Education and Lifelong Learning. Three are of specific relevance to this study and are described below. Priority Four (Low Carbon Economy) is the focus of this work and expected to receive around 15% to 20% of ERDF during the 2014-20 programme period.

However, investments under Priorities Five (Climate Change) and Six (Protecting the Environment) will also be considered if they are clearly supporting delivery of Priority Four objectives. The key thematic areas under Priorities Four, Five and Six, and the links between different European funding streams, are show below.

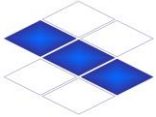


Table 2.1: Priority Four: Supporting the Shift towards a Low Carbon Economy in All Sectors

EU Growth Programme Framework priorities	Potential European Regional Development Fund activities	Related European Social Fund activities[53]	Potential European Agricultural Fund for Rural Development activities
Build the market in low carbon environmental technologies, goods and services.	• Adoption of domestic energy efficiency and low carbon construction techniques, including ultra-low carbon exemplar demonstrator buildings. • Adoption of low carbon technologies to build the market in the LCEGS sector supply chain (including support to SMEs to deploy local carbon solutions and support to diversify technologies from one sector to another).[54] • Assist the market to develop, design and manufacture materials, goods and services with embedded low carbon technologies. • Deployment of localised Carbon Capture and Utilisation, Energy Storage and Waste to Energy projects and infrastructure. • Support business to engage in knowledge transfer with HEIs and FEIs to encourage commercialisation of Low Carbon technologies.	• Skills/ employment development for low carbon including via Higher Apprenticeships, University Technical Colleges and placements/ working with industry. • Help those without jobs and labour market entrants gain accredited low carbon skills/ employment. • Sustainable Land management and forestry skills. • Skills/ employment for retrofitting and low carbon heating. • Skills to enable knowledge transfer.	• We do not anticipate any support for activities to be supported by European Agricultural Fund for Rural Development under this thematic objective priority.
Non domestic low carbon technologies and energy efficiency.	• Energy efficiency[55] in enterprises including industrial processes, designing out waste, recovery of 'waste' heat energy and CHP. • Moving to renewable and low carbon fuels to generate heat and power • Actions aligned to the Government's Waste Prevention Programme which drive low carbon innovation in relation to waste and re-use. • Building retrofit and energy efficiency especially whole building solutions exemplifying next phase technologies which are near to market.	• Adaptation skills for all sectors to support low carbon transition including eco-innovation and skills to drive change.	• Provide support or access to finance for local projects to support renewable energy initiatives.

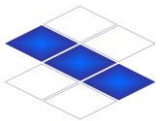


Table 2.1: Priority Four: Supporting the Shift towards a Low Carbon Economy in All Sectors

EU Growth Programme Framework priorities	Potential European Regional Development Fund activities	Related European Social Fund activities[53]	Potential European Agricultural Fund for Rural Development activities
Whole place low carbon solutions.	N.B. Actions under this priority should deliver Low Carbon best practice as part of an integrated whole place approach: • Whole place[56] low carbon initiatives such as smart cities including low carbon transport, urban design/ land use, energy efficiency, low carbon energy, smart meter/ smart grid programmes, waste infrastructure and demand management. • Decentralised and off grid renewable energy schemes[57] such as district heating & cooling networks, deep geothermal heat, renewable heat, CHP, micro-generation, biomass. • Resilient energy infrastructure. • Green and blue infrastructure to reduce whole place energy requirements. • ICT applications that contribute to reducing carbon emissions and energy efficiency. • Low carbon modal shift/ smarter choices, smart systems, electric/ ultra-low carbon vehicle infrastructure and supply chain development. • Low Carbon financial instruments to deliver whole place solutions.	• Low carbon power and heat skills. • Low carbon transport and network management skills. • Urban design/ construction/ planning skills. • Low carbon land use skills.	• We do not anticipate any support for activities to be supported by European Agricultural Fund for Rural Development under this thematic objective priority.
Innovation and adoption of low carbon technologies	• R&D, innovation[58] and supply chain development for low carbon technologies and materials[59] (including small scale pilot programmes that test the market with new low carbon solutions). • Development of technology centres of excellence, manufacturing clusters and the development of appropriate test facilities and deployment infrastructure. • Demonstration and deployment of renewable technologies in the UK renewable energy roadmap (onshore wind, offshore wind, marine energy, biomass electricity and heat, ground and air source heat pumps and renewable transport). • Development of mitigation related adaptation technologies, such as cooling, and low carbon water management. • Research, development, demonstration and adoption of low carbon vehicles and fuels. • Support business to engage in knowledge transfer with HEIs and FEIs to encourage commercialisation of Low Carbon technologies.	• Skills for low carbon new build and alternative construction methods. • Offshore engineering skills • Skills centres for renewable energy training. • Innovation skills in low carbon transport technologies. • Skills to enable knowledge transfer.	• We do not anticipate any support for activities to be supported by European Agricultural Fund for Rural Development under this thematic objective priority.

Source: *BIS,* Development and Delivery of European Structural and Investment Funds Strategies: Supplementary Guidance to Local Enterprise Partnerships (2013).

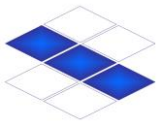


Table 2.2: Priority Five: Promoting Climate Change Adaptation, Risk Prevention and Management

EU Growth Programme Framework priorities	Potential European Regional Development Fund activities	Related European Social Fund activities[61]	Potential European Agricultural Fund for Rural Development activities
Enable economic development through investment in flood and coastal risk management.	Investment in aspects of emerging local authority Flood Risk Management Plans (including shoreline and catchment management actions) that deliver emerging local Economic Strategies, Local Plans and appropriate developments that stimulate sustainable growth for communities affected by increasing flood and coastal risks. Support innovative approaches to management of coastal squeeze that: • Maximise sustainable growth for local coastal communities and the tourism economy. • Mitigate harbour development impacts • Deliver flood and coastal risk management as well as habitat and place-making outcomes. Support natural process driven and community-led initiatives that address coastal and surface water flood risk in rural, coastal and urban areas that are most in need of environ-mental regeneration to deliver sustainable growth. Sponsor knowledge transfer and inter-regional co-operation initiatives between communities who are at increasing flood and coastal risk. Devise an investment programme to deliver sustainable economic futures for communities at risk that complement and match Flood and Coastal Risk Management capital programme (which focus on protection of existing households, infra-structure and businesses).	Develop training and intermediate pathways to community volunteering and employment opportunities in: • The construction, specification and installation of property-level protection. • Deployment, operation, maintenance and management of existing and new community flood risk management systems. • Operational watercourse maintenance to deliver land drainage, environmental and flood risk outcomes. • Supporting the highly vulnerable as aspect of incident management. Training opportunities and activities will be targeted at communities in marginalised areas with high levels of flood and coastal risk vulnerability. Capacity building to enable local stakeholders to develop, adopt, resource and maintain FCRM assets when these are critical to sustaining or growing the economy of local communities (but unaffordable from domestic FCRM grant in aid, alone).	We do not anticipate any support for activities to be supported by European Agricultural Fund for Rural Development under this thematic objective.

Source: *BIS,* Development and Delivery of European Structural and Investment Funds Strategies: Supplementary Guidance to Local Enterprise Partnerships (2013).

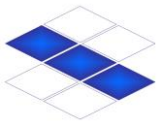


Table 2.3: Priority Six: Protecting the Environment and Promoting Resource Efficiency

EU Growth Programme Framework priorities	Potential European Regional Development Fund activities	Related European Social Fund activities[63]	Potential European Agricultural Fund for Rural Development activities
Investments in Green and Blue infrastructure and actions that support the provision of ecosystem services on which businesses and communities depend to increase local natural capital and support sustainable economic growth.	Investments in Green Infrastructure (which includes freshwater habitats), as part of integrated actions for sustainable development to support better places for people to live, work and do business, helping to secure: • The rehabilitation of land and regeneration of brownfield sites. • New and enhanced recreational routes and infrastructure that attract business through their contribution to coherent and resilient ecological networks. For example restored and safeguarded rivers, estuaries and coasts, and terrestrial habitats with improved ecological status, improved air quality, and economic value to an area.	• Training and support for unemployed and disadvantaged groups to engage in supporting actions, e.g. habitat restoration and enhancement schemes. • Training tools to educate non-biodiversity decision-makers, general public and SMEs on environment issues for their work. • Adult Vocational Training and skill sets for all economic sectors. • Educate residents on the importance of habitat and nature improvements for regional and coastal tourism. • Support to engage and train NEETS in habitat and built heritage restoration and enhancement schemes that foster aesthetic, touristic and environmental value. • Support for "Active Citizen" projects/ initiatives, (both vocational and non vocational) to stimulate social cohesion, reduce isolation and promote good physical and mental health. • Support to engage and train priority groups in habitat and built heritage restoration and enhancement schemes that foster aesthetic, touristic and environmental value. • Support for skills related to 'Brownfield skills strategy' – decontamination methods and skills.	• Support funding for strategically important tourist projects. • Support and promote tourism, recreation and leisure. • Support for destination development and marketing.[64]

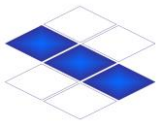
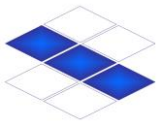


Table 2.3: Priority Six: Protecting the Environment and Promoting Resource Efficiency

EU Growth Programme Framework priorities	Potential European Regional Development Fund activities	Related European Social Fund activities[63]	Potential European Agricultural Fund for Rural Development activities
Investment in the uptake of innovative technologies and resource efficiency measures to increase environmental protection, resilience and performance of businesses and communities.	• Potential exchange of new and existing solutions for water quality and quantity issues between users and other areas sharing these problems. • Investment to support area assessment, networking and local water resource and materials use planning for SMEs in areas of resource stress, e.g. water where supply exceeds demand. This could generate export, match-making, exchange and reuse of materials and licenses and uptake of innovative approaches. • Develop and support materials reprocessing sector capacity in England. Also investment in the uptake of new products. Market analysis to identify growth opportunity areas. • Increase awareness of waste as a resource, novel and innovative uses including the opportunity of recycling to enable cost savings. • Sponsor regional knowledge transfer hubs across areas with key environmental challenges such as high flood or coastal erosion risk or water quality issues to develop innovative solutions that maximise sustainable outcomes to local environmental challenges.	• Integrate resource efficiency into European Social Fund Skills Training Programmes. • Recycling training programmes to provide skills enabling, for example, reuse and maintenance for reuse.	• We do not anticipate any support for activities to be supported by European Agricultural Fund for Rural Development under this thematic objective.

Source: *BIS,* Development and Delivery of European Structural and Investment Funds Strategies: Supplementary Guidance to Local Enterprise Partnerships (2013).



The low carbon economy is also supported across a number of other Priorities:

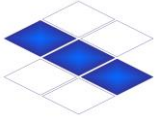
- Priority One (Research, Technological Development and Innovation) seeks to promote business investment in research and innovation and to support the ambitions of other thematic objectives, for example low carbon economy, resource efficiency and protecting the environment, particularly where these activities align with high growth areas.
- Priority Two (ICT) highlights the role of ICT applications in meeting future societal challenges, which could include e-Health, ageing population, reducing carbon emissions, resource efficiency, education, integrated ICT solutions for smart cities.
- Priority Three (SMEs) seeks to support the development of SMEs in emerging areas linked to European and regional challenges, which could include innovative services reflecting new societal demands or products and services (eg. eco-innovations, the low carbon economy and resource efficiency).
- Priority Seven (Sustainable Transport) supports a range of initiatives, including innovative road pricing, user charging systems and traffic management, and in fuelling and charging infrastructure for new carbon-free vehicles for urban transport, although the Government's current position is that in More Developed regions there is insufficient European Structural and Investment Funding available to make a significant contribution to the funding of major infrastructure investments under this thematic objective. In Transition and Less Developed regions, if budgets allow, there may be scope to fund road investments and contribute to rail schemes where to do so would make an area more economically viable and result in new businesses being able to establish themselves in the surrounding area.
- Priority Eight (Employment and Labour Mobility) has an emphasis on sustainable integration of young people not in employment, education or training (NEET) into the labour market. This includes promotion of self-employment and entrepreneurship for young people, which could include emerging sectors in a low carbon economy and the care and health sectors.

2014-20 European Structural Fund Geographies

Under the SIF the Commission has proposed to change the classification of regions using groupings of NUTS III local authority areas as the basis for division (as opposed to the NUTS I classifications used for the previous three programme periods. In the UK, NUTS I regions were the nine English Government Office regions, Scotland, Wales and Northern Ireland.

The new arrangements divide the West Midlands into three programme regions. It should be noted, however, that the European regional programme areas in the West Midlands, shown below, are not all co-terminus with LEP geographies. For example, Herefordshire is in a different programme region to Shropshire and Telford & Wrekin.

- Staffordshire, Stoke, Shropshire, Telford and Wrekin



- Birmingham, Black Country, Solihull and Coventry
- Herefordshire, Worcestershire, Warwickshire.

Each of the programme areas above is required to develop European Structural and Investment Funds Strategies for the 2014-20 funding period, containing investment priorities. Draft versions must be submitted to central government during September 2013[6].

The 2007-13 programme period identified two categories of programme areas: Convergence Regions (regions in which GDP per head is below 75% of the previous EU-15 average); and Competitiveness Regions (some of which contained Phasing-In Areas (former Objective One areas) with their own ring-fenced allocation of funding within the wider regional funding settlement). For the 2014-20 programme period, there are three categories of programme areas:

- "Transition" status is to be given to those programme regions that have a GPD per capita of 75%-90% of the enlarged EU-27 average. Transition regions will receive more funding and will be able to access a higher "intervention rate" of Structural Funds (ie up to 60%-70% of total project funding could be from Structural Fund sources, compared to the current upper limit of 50%).
- Programmes regions classed as "More Developed" (ie. GDP per capita above 90% of the EU-27 average) will be constrained by a 50%-60% intervention rates.
- "Less Developed" regions are those in which GDP per capita is below 90% of the EU-27 average.

In the West Midlands, Staffordshire, Stoke, Shropshire and Telford & Wrekin have been classed as a Transition regions and the remaining areas have been identified as More Developed. In July 2013, the Government published further guidance for LEPs[5]. The guidance confirmed that there will be a minimum amount that must be dedicated to the European Social Fund at UK level (about 46%) with some flexibility how this is met across the country. The Government recognises that there may be more difficulty absorbing high levels of European Social Fund in less developed and transition regions. The Government has proposed that in less developed regions, the aim should be to dedicate 25% as ESF; in transition regions 40%; and in more developed regions 50%.

Prior to this, in June 2013, it was announced that individual LEPs will receive their own nominal allocation of European Structural Funds[6] for the 2014-20 period, as follows (totals are for ERDF and ESF combined).

- Worcestershire – £59m (c. £105 per head) ***[c. £29.5m ERDF and £29.5 ESF]***
- Stoke-on-Trent and Staffordshire – £139m (c. £125 per head) ***[c. £69.5m ERDF and £69.5 ESF]***

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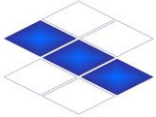
[5] *BIS,* Development and Delivery of European Structural and Investment Funds Strategies: Supplementary Guidance to Local Enterprise Partnerships (2013).

[6] Source: BIS Ministerial Statement; at an assumed exchange rate of €1 = £0.86.



- The Marches – £98m (c. £140 per head). ***[c. £54m-£59m ERDF and £39m-£44m ESF].***

The guidance also confirmed that low carbon investments (Priority Four) should receive the following indicative levels of investment.

- Less Developed regions - at least 12% of ERDF on this objective
- Transition regions - at least 15% of ERDF on this objective
- More Developed regions – at least 20% of ERDF on this objective.

This gives a combined total of around £30m of investment in Priority Four projects across the three LEP areas during the 2014-20 funding period.

The SIF also places an emphasis on joining up across investment areas and programme geographies, including:

- **Joint Action Plans**: The development and delivery of a group of projects with a minimum public contribution of €10m (c. £8.5m), to defined targets and outputs and carried out under the responsibility of the beneficiary. A member state, managing authority or any designated public body can submit a proposal for a joint action plan.
- **Integrated Territorial Investment**: Where an urban development strategy or other territorial strategy requires an integrated approach involving investment under more than one priority axis of one or more operational programme; essentially combining ERDF, ESF, EAFRD and EMFF money.

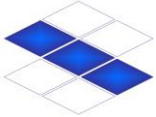
UK Policy Context

In response to the Stern Review[7], the UK's Climate Change Act (2008) committed the government to ambitious carbon reduction targets. The UK now has a legally binding framework to reduce greenhouse gas emissions. The current intention is for these to be 34-42 per cent reductions by 2020 (compared to 1990 levels). As such targets are re-visited regularly, they are likely to be strengthened, and will set the UK firmly on course to decarbonising its economy. However, these are absolute reductions, so need to be met even if the economy grows.

Following on from the Climate Change Act, the Government published the *UK Carbon Transition Plan*, setting out a roadmap to 2020 for the transition to a low carbon economy. At a national level, the Government published *New Industry, New Jobs*, its strategic vision for the recovery from recession and long term economic development, and a number of linked successive documents detailing how this will be delivered and the wider impacts (including Going for Growth, Jobs of the Future, and the UK Low Carbon Industrial Strategy). These set out the importance of the low carbon sector in supporting the long-term economic future of the UK[8]. In

[7] BIS, *Stern Review on the Economics of Climate Change* (2006).

[8] We have not included details of all of these documents in this report; rather we have sought to identify the direction of travel of UK government policy on the low carbon economy.



addition, there are a number of specific schemes which seek to increase the use of renewable technologies and increase energy efficiency in the domestic and commercial sectors, such as Green Deal, Energy Company Obligations (ECO), Feed in Tariffs, Renewable Heat Incentives. These are covered in the respective LEP chapters of this report.

The paper, *Building Britain's Future: New Industry, New Jobs*[9], sets out a strategic vision for a long-term low carbon economic future. It highlights a number of key trends that will shape the economy, including: rising incomes in developed and developing countries; increased demand for low carbon goods and services and for greater energy and resource efficiency; new technologies driving consumer and business demand; and demographic changes. Two key elements are highlighted as critical to maintaining competitive advantage for the UK economy:

- Ensuring that the economy is driven by high levels of skills and creativity, continuing to be an economy driven by the creation and exploitation of knowledge
- Focusing on technological change where this is reshaping industries and demanding high levels of innovation, skills and investment. These will include increased digital communications and a range of low carbon technologies and new processes in chemical, automotive, aerospace and other industries.

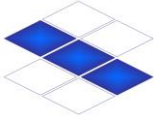
The UK *Low Carbon Industrial Strategy*[10] is one of a suite of strategies building on the New Industry, New Jobs paper, and outlines both the scale of potential opportunities provided by the transition to a low carbon economy, and the programme of government action for assisting British based firms in seizing these opportunities. The strategy sets out three key principles for a positive environment for low carbon business:

1. A long-term strategic approach from government that sets stable frameworks for businesses and consumers
2. A pragmatic approach to the role of both markets and government in making the transition to low carbon quickly and effectively, recognising that the need to progressively increase the cost of carbon, encourage low carbon innovation, remove barriers to market for some low carbon technologies and adapt to inevitable climate change, will require intelligent intervention from government
3. A recognition that government has a responsibility to ensure British-based companies and people are equipped to compete for the new demand created by global climate change policies.

The UK Low Carbon Transition Plan sets out the Government's route map for the transition to a low carbon economy in the period up to 2020. The plan discusses carbon reductions across five main categories: power and heavy industry; transport; homes and communities; workplaces and jobs; and farming, land and waste. The key plans and announcements from the document include:

[9] BIS (2009).

[10] BIS (2009).



- Getting 40% of the UK's electricity from low carbon sources by 2020
- Helping industry by supporting the development and use of clean technologies
- Producing a longer term roadmap for the transition to a low carbon UK for the period 2020 to 2050 and a vision for a smart grid.

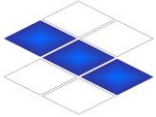
The UK Carbon Plan[11] sets out how the UK intends to make the transition to a low carbon economy while maintaining energy security, and minimising costs to consumers, particularly those in low income households. The Carbon Plan aims to move the UK towards a more efficient, low carbon and sustainable economy, through which the UK will become less reliant on imported fossil fuels and less exposed to higher and more volatile energy prices in the future. The Plan describes how the UK will attempt to meet its most recent (the fourth) Carbon Budget[12], which requires a 50% reduction in carbon emissions (from 1990 levels) by 2023-27, and its longer-term 2050 goal of an 80% reduction. Requirements include:

- Cuts required by 2027 on 1990 levels: Electricity – 75%-84%; Industry – 20% to 24%; Transport – 17% to 28%
- Between 40GW and 70GW of new low carbon power to be deployed by the end of the decade; renewables to increase between three and five time; up to five large nuclear stations needed
- Industry must improve energy and resource efficiency, use carbon capture technology and replace fossil fuels with low carbon sources
- Average new car emissions will need to fall to between 50 and 70 gCO2/km, compared with 144 gCO2/ km in 2010. Mass market roll-out of ultra-low emission vehicles anticipated along with efficiency improvements in conventional vehicles and increased use of biofuels
- Between 21% and 45% of heat supply to UK buildings will need to be low carbon by 2030
- Carbon capture and storage technology on up to 10GW of fossil fuel plants.

The cost to the economy likely is estimated as ranging from a net benefit of £1bn to a net cost of £20bn over the lifetime of the measures.

[11] DECC, *UK Carbon Plan: Delivering Our Low Carbon Future* (2011).

[12] The Carbon Plan replaces the previous Government's *UK Low Carbon Transition Plan,* published in 2009, which set out measures to meet the first three carbon budgets, set out in the 2008 Climate Change Act. The Carbon Budget is scheduled to be reviewed again in 2014.



Three LEP Areas Policy Context

From Regional Development Agencies to Local Enterprise Partnerships

The Coalition Government, formed in May 2010, has embarked upon a plan for radical reform of public services alongside extensive cuts in the budgets of almost all government departments as part of its plans to reduce the budget deficit and stabilise the level of UK public debt. The previous administration's ambition to achieve a better balance in economic growth across sectors and regions remains, although the institutional arrangements have been completely remodelled.

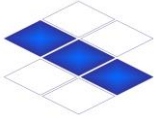
The main thrust of the Government's plans has been the removal of the regional tier of economic development and spatial planning, and an increased emphasis on sub-regional and local decision making. In addition to the abolition of Regional Spatial Strategies and Government Offices, the most important announcement was the abolition of RDAs and their replacement by Local Enterprise Partnerships (LEPs).

LEPs represent a major sea change in regional development. Until recently, regional development has typically taken the form of handouts from central government for big capital and revenue projects, usually administered by quangos in the belief that they would stimulate enterprise. The results have been mixed, although one message is clear: businesses will cluster where they see advantages in clustering and not where well intentioned planners want to put them.

The White Paper "Local growth: realising every place's potential", published in October 2010 provided further detail on the role that Local Enterprise Partnerships (LEPs) are expected to play. Whilst LEPs inherited some RDA responsibilities in relation to local enterprise development and business competitiveness, their roles initially was largely a strategic and leadership one, with no central government funding, and no programmes or projects that central government is expecting or asking LEPs to run on their behalf. However, in future LEPs may have increasingly important roles in strategy, delivery and funding as the Coalition realises that its needs to fill the "sub-national space" between national bodies and local authorities. The devolution of European Structural Funds to LEP areas is in keeping with this evolution in the role of LEPs.

LEPs offer the potential for a systematic and holistic approach to local development best managed from the bottom up that utilizes the competitive advantages of each region. In order to be successful, LEPs will need to demonstrate a cross-sector, balanced approach to economic growth, building on assets to unlock the potential of the economy, businesses and workforce. In our view, there are four overarching priorities for LEPs, each of which aligns well with European funding programme priorities:

- Unlocking the growth potential of business and enterprise
- Enabling a flexible, skilled workforce
- Facilitating a low carbon economy
- Creating the underpinning environment for growth.



Developing Low Carbon Priorities

A range of reports on the low carbon economy have been published over the past few years[13]. The *Low Carbon Vision for the West Midlands in 2020*[14] set out an aspirational scenario in which businesses and communities thrive in a future regional economy that is environmentally sustainable. The report states that to help the West Midlands make the transition to the low carbon economy, the region will need to set a carbon emissions reduction target of 30 per cent (on 1990 levels) by 2020, with intermediate targets of 20% by 2010 and 25% by 2015. It covered themes such as:

- Low carbon energy supply
- Low carbon housing, buildings and regeneration
- Low carbon transport
- Resource efficiency and low carbon waste management
- Climate change adaptation
- Development of low carbon businesses and jobs.

A set of seven thematic investment priorities were subsequently developed *as part of the West Midlands Sustainability Priorities to deliver the Low Carbon Vision 2020*[15].

1. Retrofitting existing housing stock and buildings
2. District energy networks for regeneration areas
3. Public Sector Sustainable Procurement
4. Strategic approach to low carbon transport – developing Smarter Travel Choices
5. Landfill diversion infrastructure
6. Environmental infrastructure - protecting and enhancing natural assets, increasing resilience to climate change and addressing worklessness
7. Development of green jobs – green and low carbon skills.

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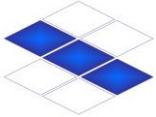
[13] These include: A Low Carbon Vision for the West Midlands in 2020; Low Carbon Economy in the West Midlands,; Renewable Energy Capacity Study for the West Midlands; Weathering the Storm - Saving and Making Money in a Changing Climate; and Socio-Economic Performance of the West Midlands in terms of the Low Carbon Economy. We have not included details of all of these documents here; key aspects of these reports that are relevant for the three LEP areas are highlighted in the individual LEP chapters of this report (Chapters 4 to 6).

[14] Forum for the Future (2009).

[15] Sustainability West Midlands, *West Midlands Sustainability Priorities to deliver the Low Carbon Vision 2020* (2011).



The most recent evidence on the low carbon economy is provided in the *Socio-Economic Performance of the West Midlands in terms of the Low Carbon Economy* report[16]. The report highlights a number of priorities for the low carbon economy in the region across a range of low carbon sectors/themes, including:

- Low carbon energy generation and transmission
- Low carbon buildings and construction
- Low carbon travel and transport
- Resource efficiency and low carbon manufacturing, products and services
- Low carbon agriculture and forestry.

The West Midlands European Service *ERDF Socio-Economic Framework SWOT Analysis* (2013) identified the respective level of prioritisation of each of the six West Midlands LEPs on the Low Carbon Economy Priority objectives, as drafted at the time. This is summarised below:

Table 2.4: Relative Strengths of West Midlands LEP Areas on Low Carbon Priority Objectives

4. Supporting the shift towards a low carbon economy in all sectors	Greater Birmingham & Solihull	Black Country	Coventry & Warwickshire	Worcestershire	Stoke and Staffordshire	Marches
4.1 Investment in the wider use of Energy Performance Contracting in the public buildings and housing sectors						
4.2 Energy efficiency and renewable heating and cooling in public buildings						
4.3 Energy efficiency measures and renewable energy use in SMEs						
4.4 Innovative renewable energy technologies						
4.5 Integrated low carbon strategies and sustainable energy action plans for urban areas, incl. public lighting systems and smart grids.						
4.6 Energy efficiency in agriculture and food processing through investments in more energy-efficient buildings and facilities, together with advice on energy-efficiency.						
4.7. The supply and use of renewable sources of energy, by-products, wastes, residues						
4.8 Reducing nitrous oxide						

[16] Sustainability West Midlands, *Socio-Economic Performance of the West Midlands in terms of the Low Carbon Economy* (2013).

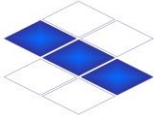
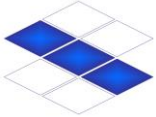


Table 2.4: Relative Strengths of West Midlands LEP Areas on Low Carbon Priority Objectives						
4. Supporting the shift towards a low carbon economy in all sectors	**Greater Birmingham & Solihull**	**Black Country**	**Coventry & Warwickshire**	**Worcestershire**	**Stoke and Staffordshire**	**Marches**
and methane emissions from agriculture						
4.9 Enhancing carbon sequestration and emission reduction in agriculture and forestry						
Source: Socio-Economic Performance of the West Midlands in terms of the Low Carbon Economy (2013). Note: Red = low priority; orange = medium priority; green = high priority.						



3. Defining the Low Carbon Economy

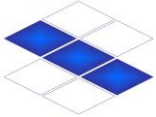
West Midlands Low Carbon Economy

The definition of the low carbon economy generally used by the West Midlands is

"An economy that produces goods and services of increasing value while reducing the associated greenhouse gases (GHGs) in their production, use and disposal…"

The aim of a low carbon economy is to integrate all aspects of itself from its manufacturing, agriculture, transportation, and power-generation, etc. around technologies that produce energy and materials with little GHG emission, and, thus, around populations, buildings, machines, and devices that use those energies and materials efficiently, and, dispose of or recycle its wastes so as to have a minimal output of GHGs. The activities that can be associated with a low carbon economy include

1. Low Carbon Energy Generation and Transmission
   - Renewable and low carbon energy and heat generation
   - Efficient energy transmission
2. Low Carbon Buildings and Construction
   - Low carbon buildings incorporating low carbon design, materials, energy efficiency, renewables and innovative technologies
3. Low Carbon Travel and Transportation
   - Low carbon vehicles: highly fuel efficient vehicles, electric cars, use of alternative fuels vehicles, fuel cells, plug-in hybrids etc
   - Low carbon vehicle infrastructure – eg. charging and fuel infrastructure
   - Behaviour change – initiatives to encourage people to change behaviour in favour of low carbon travel options, sustainable travel planning to increase use of public transport and smart use of low carbon modes of travel
4. Resource efficiency and low carbon manufacturing, products and services
   - Waste reduction/reuse/recycling, products incorporating high levels of recycled materials and energy is generated from residual waste. In households and businesses
   - Low carbon and energy efficient industry (including SMEs) – energy efficiency, resource efficiency, low carbon buildings, low carbon products, manufacturing processes and transport
   - Low carbon agriculture and forestry



5. Low carbon agriculture and forestry including energy efficiency in agriculture and related food processing, energy-efficient buildings and facilities, reducing nitrous oxide and methane emissions and enhancing carbon sequestration in agriculture and forestry.

It can be said that the low carbon economy cuts across all areas of the economy and as such all companies are involved in it. However not all companies provide products and services that impact on the low carbon economy, the ones that do have been classed as the low carbon and environmental goods and services (LCEGS) sector by the UK government. The table below identifies the main LCEGS sub sectors.

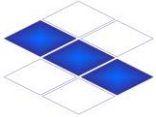
Table 3.1: Principal Low Carbon Economy Sub-Sectors

Environmental	Renewable Energy	Low Carbon
▪ Air Pollution ▪ Contaminated Land ▪ Environmental Consultancy ▪ Environmental Monitoring ▪ Marine Pollution Control ▪ Noise & Vibration Control ▪ Recovery and Recycling ▪ Waste Management ▪ Water Supply and Waste Water Treatment	▪ Biomass ▪ Geothermal ▪ Hydro ▪ Photovoltaic ▪ Wave & Tidal ▪ Wind ▪ Renewable Consulting	▪ Additional Energy Sources ▪ Alternative Fuel/ Vehicle ▪ Alternative Fuels ▪ Building Technologies ▪ Carbon Capture & Storage ▪ Carbon Finance ▪ Nuclear Power ▪ Energy Management

Previous definitions of the cleantech sector also add in:

- Green IT
- Clean manufacturing and industrial processes
- Energy storage
- Energy transmission – Smart grids
- Materials – Bio, Chemical and Nano.

All of these sub-sectors have low carbon credentials, and can be included in the definition of the LCEGS sector. The above definitions will therefore be used in this study to identify strengths, weaknesses, opportunities and threats for each of the LEP areas.



4. The Low Carbon Economy in the Marches

Profile of the Economy

Overview

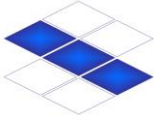
The Marches includes the unitary council areas of Herefordshire**,** Shropshire and Telford & Wrekin. It has around 630,000 residents and 27,730 businesses. Hereford, Shrewsbury and Telford are the key centres of population and employment. The LEP area is renowned for its high quality natural and cultural environment. Key assets include the Ironbridge Gorge World Heritage Site, the Shropshire Hills and the Wye Valley Areas of Outstanding Natural Beauty, Offa's Dyke, the rivers Severn and Wye, and places of interest including Ludlow and Ross-on-Wye, which combine to make it a significant centre for the expanding visitor economy. Some 57% of residents are classed as living in rural areas, compared to the England average of 26%.

Shropshire borders Wales to the west, Cheshire to the north, Staffordshire to the east, Worcestershire to the south-east and Herefordshire to the south. The county's population and economy is centred on four towns: Shrewsbury is located in the centre of the county; Oswestry in the north-west; Bridgnorth just to the south of Telford; and Ludlow in the south. The county has many further market towns, including Whitchurch in the north, Newport just to the north-east of Telford, and Market Drayton in the north-east of the county. Shrewsbury is the second-largest urban area in the Marches LEP area with a population of around 70,000. Shropshire's total population has risen from 283,173 in 2001 to 306,100 in 2011. This is an increase of 8% (just above the rate of increase for England as a whole). The Population density in Shropshire is 0.96 persons per hectare compared to 4.06 in England as a whole.

The borough of Telford & Wrekin has been a separate unitary authority (from Shropshire) since 1998. Telford, a new town in the east of the Marches LEP area, was constructed around a number of older towns and now is the most populous urban areas in the Marches LEP area with a population of around 140,000. The total population of Telford & Wrekin is 166,800.

Herefordshire is one of the most rural and sparsely populated in England. Hereford is the main economic centre. The County's population is 183,600[17], of which around one-third live in Hereford (making Hereford the third-largest urban area in the Marches LEP area). Compared to national figures Herefordshire has a higher proportion of people who work from home which is consistent with the profile of high levels of self-employment. Transport infrastructure is an issue raised by businesses as a constraint on growth: this includes firms' ability to ship and receive goods, as well as congestion in and around Hereford. This is reflective of the manufacturing nature of many of the businesses that have to compete with other companies that can transport products more quickly and cheaply because of their proximity to faster road and rail links.

[17] ONS mid-year population estimate (2011).



In August 2011 the Rotherwas Estate in Hereford was awarded Enterprise Zone status. The Enterprise Zone, has a focus on the defence and security sector, has been named Skylon Park. The 71 ha site, which includes three distinct but linked development areas at the South Magazine, North Magazine and Chapel Road, already benefits from the new Rotherwas access road, completed in June 2008, giving the estate quick and easy access to the A49, M50 and the rest of the motorway network. New internal access roads to the North and South Magazines have recently been completed and site clearance is ongoing in preparation for future development to begin as early as mid 2012. The Enterprise Zone is also strategically placed within an hour and half drive of the international airports at Birmingham, Bristol and Cardiff.

In April 2012, the Marches LEP was awarded more than £8.1 million by the Government from the Growing Places Fund to provide upfront capital funding (in the form of a loan) for physical infrastructure. Project proposals can submitted from local authorities, the private sector and any other interested parties. Repayment timelines to the fund and interest charges will vary, but greater weight will be given to schemes that can complete payments in less than five years. Funding will be recycled to enable further awards in future years

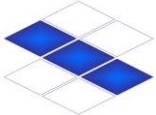
Economy and Business Base

Business Base

The Marches LEP area enjoyed a stronger rate of annual growth in GVA in the period leading up to the UK recession than other West Midlands LEPs. Between 1998-2008, the economy grew at an average rate of 4.8% per annum (pa), the fastest rate of growth of any West Midlands LEP area during this period, although a slower rate than the England average. By 2009, GVA per head was £15,700, although this was still some way below the England average (£20,700 per head).

The Marches has one of the highest business densities of any LEP area in England (44 businesses per 1,000 residents in 2010, the fourth highest business density of the 38 LEP areas), an average annual increase of 1.3% pa during the period 2000 to 2010, above the average rate of growth for England as a whole (1% pa over the same period). This high business density partly reflects the rural nature of the LEP area. Rural economies tend to be characterised by lots of small businesses and a higher rate of enterprises per capita, due mainly to the high level of self-employment.

However, the Marches has relatively low rates of both business start-ups and failures. This is not necessarily negative, providing that the existing business stock remains innovative and competitive, but does suggest that the LEP area is relatively dependent on industries and activities with a long local history, rather than new and emerging industries. The rate of Births, Deaths and Churn (PAYE and VAT registrations and deregistrations as a proportion of total active enterprises) was 8.1%, 10.9% and 19% respectively, all of which are below the respective rates for England. The rate of business survival after one, two and three years is 94%, 82% and 64% respectively. These two year and three year survival rates are above the England average. The Marches has the lowest rate of patenting (3.1 patents) per 100,000 residents of any English LEP. Again, this low rate of patenting is a characteristic of rural economies.



The Marches has a high share of employment in Manufacturing compared to most other LEPs (c. 14% of total employees). Motor vehicles, machinery and equipment, and food products are the main sectors. In keeping with other LEP areas that are predominantly rural, the Marches has a low level of employment in foreign-owned enterprises, indicating a much smaller presence of multinational firms. Just under 8% of employees work for multi-national enterprises (MNEs), compared to the England average of over 14%. Private and other services account for 46% employment, compared to 55% across England. The share of employment in the knowledge economy and high/medium tech manufacturing was 16% in 2010, compared to the England average of just over 22%. Employment in those sectors that had grown most rapidly (excluding public services) between 1999 2009 was 44.7%, around 5 pp below the percentage figure for England as a whole.

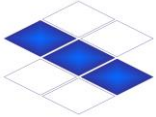
Key Sectors and Business

Sector specialisms include defence, food and drink, advanced manufacturing and environmental technologies industries. Tourism and leisure and business services sectors are also among the main drivers of economic development.

Manufacturing strengths lie in the food & drink and polymer industries. The concentration of plastics and polymers-related businesses creates opportunities for business development and collaboration across business areas. It is home to more than 100 polymers firms plus many others using plastics within their production processes. Key polymer industry companies already in Telford include German-owned Bischof & Klein; the European market leaders in household disposables manufacture Cedo UK and Craemer Environmental Systems, one of the world's leading injection moulders. The LEP area also contains a number of automotive component manufacturers, including the Tier 1 supplier Stadco.

The UK defence and security sectors continue to represent significant long-term growth opportunities for the UK economy, and the Marches is home to both high-profile defence-related businesses and security services businesses. The defence and security sector is a key driver for the economy in the Marches, with more than 80 companies in Herefordshire alone related to defence and security. It is home to Ministry of Defence operational bases and private sector companies, including those involved in the supply chain, such as Fujitsu.

The environmental technologies & services sector is one of the fastest growing sectors in the Marches. Across the Marches and the wider Midlands, the sector is worth around £8.5 billion a year across a range of sub-sectors including renewables, water technology, waste management and pollution control. The renewable energy sector is supported in the region by the Marches Environmental Technologies Network, which promotes collaborative working and business growth among businesses that provide products and services within the industry. The Marches has a large number of environmental consultancy firms. In Shropshire, more than 21% of the environmental companies are consultancy based, with a strong cluster around the Shrewsbury area.



Labour Market

Skills and Qualifications

Across the Marches, 27.2% of the population aged 16-64 are qualified to NVQ Level 4 or higher[18]. This is below the average for England, but higher than for the West Midlands (26.3%). Around 42% of the population were qualified to NVQ Level 3 or above, whilst 63% of the population is qualified to NVQ Level 2 or higher. The proportion of the population with no qualification (11.9%) is higher than the England average, but lower than the average for the West Midlands.

The share of employees that are highly-skilled in the Marches (ie. managerial and professional, and associate professional and technical – SOC 1 to 3) is 40%, compared to the England average of 45%. The share of employees that are medium skilled (ie. administrative and skilled associates and trades - SOC 4 and 5) is 24% (above the England average), whilst the percentage of employees that are low skilled (ie. elementary sales, services and operatives - SOC 6-9) is 35.6%). The share of adult residents with degree level qualifications or above (27.2%) is also below the England average

Employment and Unemployment

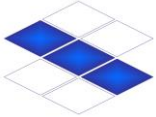
Figures for January 2013 show that the number of claimants in Shropshire increased to 4,856 or 2.6% as a percentage of the working age population. This compares to 4.6% for the West Midlands as a whole and 3.7% in England. In Telford & Wrekin, 4,575 people were claiming JSA (4.2% of the working-age population). The claimant rate was 2.4% in Herefordshire in January 2013. The greatest proportion of claimants by usual occupation are in the 'sales occupations', 'elementary trades, plant and storage related occupations' and 'elementary administration and service occupations'. The makeup of claimants by usual occupation is broadly the same in the Marches as nationally.

Low Carbon Economy in the Marches

Overview

The Marches population is steadily increasing, which in turn is increasing the need for new housing, with a further 26,000 new houses forecast to be required by 2031. The LEP has set a target of creating 12,000 new jobs and 3,000 new businesses whilst trying to enhance a low carbon economy. Notable environmental companies include BiogenGreenfinch, AMEC, Hydro-logic and Riversimple, and energy efficiency manufacturer Kingspan. There is one major power station in the area at Ironbridge, a former coal-fired station which underwent a biomass conversion in 2012, and is now online with a 79% reduction in carbon (and associated reduction in heavy metals and particulates as a result). This is the only operational biomass fired power station in the UK.

[18] Annual Population Survey, 2012.



As a mainly rural area, the Marches has a number of key opportunities not available to urban areas such as being able to grow biomass or site anaerobic digestion sites close to the source of fuel, but also brings with it challenges such as poor transport and communications infrastructure and links between business clusters being difficult. However, it is possible to see opportunities in many of the challenges facing the Marches. The Metnet website states that there are about 350 businesses registered on the site. These are categorised into:

- Environmental consultants
- Waste management and recycling
- Environmental monitoring
- Construction – low carbon
- Land remediation
- Renewable energy and low carbon technology
- Energy surveys
- Manufacturing – low carbon
- Cleaning services – solar panels and sustainable cleaning products.

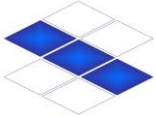
This is a useful start in terms of identifying and registering local companies, however there are a number of areas which are missing from the wider low carbon definition shown in Chapter 3. This probably reflects the actual companies in the Marches area and indicates that the following sub sectors are not well represented in the area.

- Water supply and treatment
- Building technologies
- Energy management
- Low carbon vehicles
- Alternative fuels.

The Metnet website is an exemplar of how to provide a simple resource for end users, companies and the public sector.

Academic/Research Strengths

The Marches area being mainly a rural area with few large urban centres has few academic centres, however it does have one strong centre for the agricultural and environmental sectors in Harper Adams which has demonstrated a good track record in working successfully with business. The other colleges have a number of higher education courses which support the environmental sector in the Marches.



- **Harper Adams University College:** Strong focus on agriculture, horticulture and crops research; Rural economy studies; Links to agri-business with excellent reputation in its fields; Conducting Anaerobic Digestion roll out projects.
- **Hereford College of Technology:** Agriculture; Construction; Countryside and environment; Engineering; Forestry and arboriculture; Motor vehicle engineering.
- **Shrewsbury College of Technology:** Construction; Motor vehicle engineering; Engineering.
- **Telford College of Arts and Technology:** Engineering; Automotive technology and engineering; Construction. The college is also embarking on the UK's first "Green Training" pilot in conjunction with Telford & Wrekin council and its Green Deal delivery partner, Carillion Energy Services.
- **Walford and North Shropshire College:** Agriculture and engineering; Countryside and wildlife management; Engineering; Environmental Sciences; Forestry and horticulture; Motor vehicle engineering.
- **Ludlow and Hereford 6th Form Colleges:** Environmental studies.

The academic establishments and course/research focus in the Marches is mainly in the agricultural, horticulture, environmental sciences, rural economy with courses such as engineering, construction and motor vehicle engineering providing useful generic support. Though it would be good to have strong academic and research centres providing a wealth of support across all the sub sectors identified as supporting the low carbon economy, the focus on rural and agricultural based research/courses is right for the Marches. This therefore provides a degree of focus as to where future growth in the low carbon economy and the sub sectors in the LCEGS sector is likely to come from based on the reality of the area.

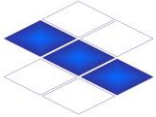
Strengths, Weaknesses, Challenges/Opportunities and Threats

The Marches area has a number of key areas where it can be seen to have environmentally focused strengths these include:

- Agriculture with 80% of the land in the area and employing 16,000 people
- Food and Drink companies which are supplied by the strong agriculture sector
- Well developed supply chains for Food and Drink and Agriculture
- Well linked academic support for Agriculture and Food and Drink with aligned research centres and academic/training courses
- The Metnet initiative supporting local LCEGS companies and providing a vital link between customers and suppliers.

There are also some areas of weakness:

- Poor infrastructure (water, drainage, electricity, broadband and mobile phone coverage)
- No major utilities company facilities in the region around which supply chains can be developed



- Limited academic/research support for areas such as renewable energy, low carbon vehicles, water supply, waste management, recycling and alternative energies.

Areas where progress has been made include:

- Recycling rates in Herefordshire have increased from 35% in 2009-10 to 40% in 2011-12
- Waste going to landfill in Herefordshire has decreased from 100,300 tonnes to 85,600 tonnes
- Energy efficiency of houses has increased above national average.

Areas where more progress can be made include:

- Lack of transport options in rural communities
- Emissions of CO_2 per head higher than national average
- Deployment of renewable energies
- Employers still have hard to fill vacancies which leads to the demand for migrant labour remaining high.

Major challenges/opportunities include:

- Population growth in the Marches will require new housing and facilities – forecast to require 26,000 new homes by 2031
- Flooding risks will require flood defence infrastructure
- Water availability for agriculture
- Lack of mains gas – supply to 69% of houses – national average 87%
- Fuel poverty is above national average 17%
- Providing services to a scattered rural population.

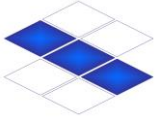
Specific Low Carbon Features

Green Deal

There is a major focus on retrofitting the existing housing stock to improve energy efficiency in the Marches with 3 pilot community projects also being started. A key issue for the Green Deal has been the confusion and lack of awareness of what is actually involved in engaging with the programme.

Renewable Heat Initiative (RHI)

The RHI is available now to private companies, public sector and in the summer of 2013 to domestic customers. The aim is to increase the uptake of renewable heat generation through providing incentives similar to those of the Feed in Tariffs (FITs). The Marches has a much lower than UK national average of domestic properties connected to the mains gas supply 69% versus 87% and therefore is an ideal area for benefitting from the roll out of the domestic RHI in spring 2014 (the roll out was originally scheduled for



summer 2013). It should in theory be providing benefits to non-domestic properties already including public sector.

Public Sector

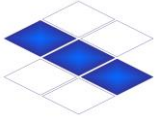
Historically it has been the public sector which has driven forward the growth in the low carbon economy. Recent initiatives such as the Renewable Obligations Certificates, Feed-in-Tariffs, Landfill Taxes and the Green Deal have moved the emphasis more to the private sector by providing incentives to either reduce costs or make profit. The percentage of people employed by the public sector in the Marches is 28% which provides a large opportunity to both reduce carbon emissions and energy costs at the same time. This is no easy task and one which in these constrained financial times with the reduction of capital spend budgets and with more restricted access to EU funding makes it considerably more difficult for the public sector to spend on low carbon projects.

However there are a number of mechanisms which are being used in other areas of the country which can support the uptake of lower carbon options, reduce energy/fuel use and reduce costs. These include Energy Performance Contracts (EPC), Fleet Management and combining procurement of selected areas across a number of local authorities, county councils and other public sector organisations using a platform which reduces tendering costs and enables local companies to engage with the public sector in a meaningful way. From the reports and websites reviewed there appears to be limited use of EPCs, outsourced fleet management or focused procurement platforms in the Marches area. There also appears to be limited take up of RHI and FiTs by the public sector, though this needs to be confirmed in discussions with the stakeholders.

Low Carbon Buildings

The Marches has made good progress in improving the overall energy efficiency of housing in its area with the level of decent energy efficient housing being above the UK national average. Incentive programmes such as the Green Deal can help to maintain the upward trend along with rising energy costs which make energy efficient technologies more cost effective in the long term. More can be done by the public sector and the 28,000 companies based in the area to improve their energy efficiency and this can be done through mechanisms such as the RHI, Green Deal and FITs as well as the use of energy performance contracts in the larger organisations.

The fact that to meet current forecast growth requirements for the population, it is estimated that a further 26,000 homes will be required by 2031, provides an opportunity to build new low carbon homes and to develop the local construction industry on a low carbon basis. Meeting the highest levels of low carbon buildings as stated by BREEAM would probably be too expensive initially, but the next levels down are being shown to be achievable cost effectively in the mid to long term in other regions of the UK. Sensible use of the planning regulations and support from the public sector and Metnet could see a step change in the energy efficiency of new builds in the Marches. This would also have a positive impact on the local economy providing



jobs for local people of all skill levels. The review of the reports and websites does not provide any indication of an area wide approach to new builds.

Support for LCEGS Sector Companies

The Metnet initiative is a welcome and growing addition to the support of the local LCEGS sector and one which appears to be using best practice and learning lessons from the mistakes of other regions in the UK. The website has the majority of components which are required by local companies such as update on changes in legislation which can either provide further opportunities or potential threats, a directory of local suppliers, funding options and business support events. One interesting area for events is the attempt to build links between local companies and local academic establishments, a rare occurrence and one which is most welcome in terms of trying to keep local students and those who have come to the area to study in the area. Skills has been identified in various reports as being an issue with local companies struggling to fill vacancies in the higher skilled areas. Metnet can provide that vital link between suppliers, customers, funders and potential employees. This is a key strength for the Marches area.

Renewable Energy Technologies

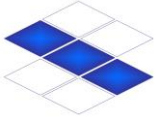
There appears to be a low level of deployment of onshore wind energy in the area along with minimal hydro electric, though there is an increasing level of deployment of biomass, anaerobic digestion and solar PV. The largely rural nature of the area with its large number of farms provides opportunities for increased levels of biomass, geothermal and solar deployment which is well suited to providing power and heat at source with biomass having a decent supply of fuel locally, geothermal which requires a large area around a building to be effective has plenty of land available on farms and in rural communities and solar PV with FITs providing incentives being particularly effective with the larger amounts of roof space not in shadow from nearby buildings. There also is an established supply chain locally which can supply and maintain equipment though few manufacturers with the exception of Biogen.

Waste Management and Recycling

Current trends are positive with higher levels of recycling taking place. The high number of food and drink companies in the area provides opportunities for initiatives to reduce their waste through recycling or more likely energy from waste projects such as anaerobic digestion, pyrolysis techniques as well as the manufacture of biofuels from waste. The added advantage is that landfill tax costs are reduced and income can be obtained from the various incentive schemes.

Water Supply and Wastewater Treatment

Water supply has and is a major issue in the area as much of the agriculture and horticulture sector requires a consistent and plentiful supply of water. Despite an extremely wet 2012, recent trends have been for water supplies to be restricted during the peak growing seasons with a negative effect on the sectors. This has also been in tandem with increased flooding which has also affected agricultural land as well as having a serious impact on householders in flood risk areas.



There are two opportunities here one for improving the effective use of water in agriculture and horticulture through the uptake of new water efficient technologies, making more use of the water that is available, decreasing the loss of water through the pipeline network and storing locally water more effectively. The second is for the improvement of flood defences in areas prone to flooding. Both opportunities can provide local companies with business growth, providing they have access to the tendering process.

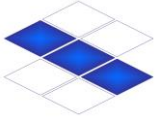
Sustainable Transport

The area has limited rail networks with no direct link to London, though via changes the main commercial centres of Birmingham, London, Manchester and Cardiff can be reached. There is no international airport in the area. Motorway links are via the M50 and M54 to the M5 and M6 respectively but apart from that, most of the roads in the area are non dual carriageways with congestion choke points in most towns. The opportunities for increasing the use of sustainable and low carbon transport lie mainly in road vehicles. There is little or no automotive industry and any initiatives would benefit neighbouring economic areas more than the Marches.

However there exists the opportunity to increase the rate of deployment of more fuel efficient vehicles both for public sector and private sector use. This will also reduce fuel use and hence be of economic benefit. The public sector could take a lead here in showcasing the various fuel efficient and low carbon vehicle options. The wide spread deployment of electric vehicles in the Marches is unrealistic at this time as the distances between potential charging points will be larger than for urban areas, though there are opportunities for town centered vehicle activities where the range of operation is limited.

Though it is not strictly a focus of this study, the improvement of traffic flow around the main towns must be a consideration, both in improving the fuel efficiency of local transport as well as improving connections between the industrial centres of the Marches and beyond. This will improve the attractiveness of the area for inward investment as well as make it easier for the rural population to access essential services and reduce travel times to work centres. If done sympathetically it will have minimal effect on the tourism sector which relies on retaining the undoubted beauty of the rural areas and towns in the Marches. In the absence of a comprehensive rail network, improved road networks would also make it easier for tourists to visit the area.

There is the opportunity for developing a more sustainable approach to transport without the need for large scale investment in infrastructure, more sustainable use of current infrastructure including car sharing and use of the Wheels 2 Work scheme would be eligible for EU funding and something which could benefit the region. This involves a degree of behaviour change which could be included in various schemes and projects – however this is something which requires consistent long term support and needs to be integrated into a wider low carbon transport strategy. Experience from other mainly rural areas of the country show that benefits can be felt but the practical difficulties of travel often require a combined infrastructure development and behaviour change programme.



5. The Low Carbon Economy in Worcestershire

Profile of the Economy

Overview

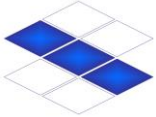
The Worcestershire LEP comprises Worcestershire County Council and the six district councils of Worcester City, Bromsgrove, Redditch, Malvern Hills, Wyre Forest and Wychavon. The county town, Worcester, is the main cultural, economic and business centre, supported by the towns of Redditch and Kidderminster in the north, and Malvern and Evesham in the south. The county contains a network of market towns and villages, which is dissected north-south by the M5 motorway, with the M50 providing connectivity to Wales and the M42 linking the county to the rest of the West Midlands region.

Worcestershire's major towns have developed specialist engineering and metal-work bases and, more recently, into dynamic centres of manufacturing and professional services. The city of Worcester has an established professional services economy operating on a local, regional and national level and, alongside it, a long-standing tradition in technology-rich manufacturing. Redditch, a former New Town, developed rapidly in the 1970s and 1980s and has, as a result, a very diverse technology and manufacturing base. To the south of Worcestershire, the town of Malvern has fast become a centre for hi-tech industries, with thriving manufacturing and R&D opportunities. The University of Worcester is a significant asset, being the fastest growing university in the country with education and health as the dominant courses but rapid expansion in sciences, particularly biological sciences.

The population of Worcestershire is 566,557[19], of which 355,931 are of working age (aged 16 to 64 years). This equates to 62.1% of the total population (compared to 64.7% for England as a whole). Median household income in 2012 was £29,570, above the average for the West Midlands (£26,422) and England (£28,799), although annual median earnings (workplace-based) at £22,685 are below the average for the West Midlands (£24,550) and England (£26,601). Around 40% of residents are categorised as living in rural areas.

The Government's Growing Places Fund awarded the Worcestershire LEP £3.8m funding to support priority public infrastructure projects. The first projects with an opportunity to create 500 jobs and unlock housing sites were approved by the LEP Board in March 2012 to deliver the greatest economic impact in the short term. Further bids are being invited in the newly launched Growing Places Round 2.

[19] ONS Mid-year estimates for 2011.



Economy and Business Base

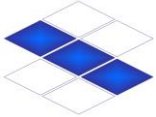
Business Base

Between 1998-2008, the economy grew at an average rate of 4.5% per annum (pa), a slower rate than the England average, although faster than other West Midlands LEPs area except the Marches. Total GVA in Worcestershire in 2009 was £9.2bn, which equates to 9.6% of the West Midlands total and GVA per head was £15,200, 73% of the England average. There are 25,425 businesses registered across Worcestershire, of which 13.3% are involved in "professional, technical and scientific) activities, 11% are construction firms and 10.4% of businesses are in retailing.

The key sectors in employment terms are manufacturing (15.9% of total employment), healthcare (13.4%), retailing (11.7%) and education (10.4%). Malvern Hills also has the largest proportion employed in Professional, scientific and technical roles at almost 10%, some 3.9pp higher than the county average most likely due facilities such as Malvern Hills Science Park. Like the Marches, Worcestershire is among the five LEP areas with the highest proportions of employment in manufacturing. Metal products remains a key manufacturing sub-sector.

Worcestershire has a low level of employment in foreign-owned enterprises, indicating a much smaller presence of multinational firms. Some 8.6% of employees work for MNEs, compared to the England average of over 14%. Private and other services account for 49% employment, compared to 55% across England. The share of employment in the knowledge economy and high/medium tech manufacturing was just under 18% in 2010, compared to the England average of just over 22%. Employment in those sectors that had grown most rapidly (excluding public services) between 1999 2009 was 44.9%, around 5 pp below the percentage figure for England as a whole.

The number of businesses has declined in recent years, reflecting the challenging economic climate. The number of new firms being formed fell from 2,730 in 2008 to 2,175 in 2010, whilst the number of business closures increased from 2,040 to 2,795 during the same period. However, the rate of growth in business failures was slower than that for the West Midlands as a whole and for England overall. The rate of new firm formation (43 new firms per 10,000 adults aged 16 and over) remains above the West Midlands average (41 new firms per 10,000 adults), but below the England average (49 new firms per 10,000 adults). Business survival rates (at 1 year, 2 years and 3 years) are 96.2%, 82.7% and 66.0% respectively, above the West Midlands and UK rates. Worcestershire has one of the highest rates of business survival of all English LEP areas, and a business density (40 firms per 1,000 residents) that is above the England average. As with the Marches, this partly reflects the rural nature of much of the LEP area.



The economy is heavily dominated by micro-enterprises (up to ten employees), which account for 85.8% of businesses[21] (compared to 83.9% of businesses across the West Midlands and 84.7% for England as a whole) and 22.5% of employment (compared to West Midlands – 18.6% and England – 19.4%). Firms with 11-49 employees account for 11.1% of total businesses and 28.2% of total employment in Worcestershire. Some 23.4% of the workforce is employed in firms with over 200 employees, compared to 31.2% for the West Midlands average and 31.5% for England as a whole. Warwickshire has second-highest rate of patenting (7.0 patents per 100,000 residents) of West Midlands LEPs (behind Coventry and Warwickshire), although this rate is below the England average (10.6 patents per 100,000 residents).

Key Sectors and Businesses

Worcestershire has a strong automotive supply chain with links with Jaguar Land Rover and other first tier car manufacturers. Although higher technology manufacturing activity is present in the County through companies such as Morgan Motors, Yamasaki Mazak, Harris Brush, Brintons, Worcester Bosch, Morgan Ceramics, and GKN, a high proportion of manufacturing employment remains within low technology manufacturing.

Worcestershire has an important defence and cyber security sector. It is home to QinetiQ in Malvern and the Malvern Hills Science Park has given birth to a number of spin out companies. This sector has the ability to stimulate growth across boundaries into neighbouring LEPs especially the Marches with its current focus on the Hereford Enterprise Zone, and Gloucestershire with GCHQ.

Worcestershire has a number of high profile businesses working successfully in the low carbon sector, and hosts innovative schemes taking the lead in sustainable construction and energy. The drive for carbon reduction and energy efficiency offers Worcestershire new business opportunities in developing low carbon products, technologies and services. Some such green energy production initiatives will follow from the increase in green waste under plans for expansion of locally grown food production.

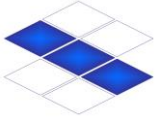
Labour Market

Skills

Across Worcestershire, 30.6% of the population aged 16-64 are qualified to NVQ Level 4 or higher[22]. This is below the average for England (32.7%), but higher than for the West Midlands (26.3%). Percentages are highest in Malvern Hills (46%) and lowest in Redditch (20%) and Wyre Forest (23%). Around 50% of the population were qualified to NVQ Level 3 or above in Worcestershire, compared to 46% for the West Midlands and 52% for England. Two-thirds of the Worcestershire population is qualified to NVQ Level 2 or higher. The

[21] Inter-Departmental Business Register (IDBR), 2012.

[22] Annual Population Survey, 2012.



proportion of the population with no qualification (12.2%) is higher than the national average (10.4%), but lower than for the West Midlands (14%).

The share of employees that are highly-skilled in Worcestershire (ie. managerial and professional, and associate professional and technical – SOC 1 to 3) is 46.2%, above the England average of 45%. In Worcestershire 21.8% of residents are employed in Professional occupations; more than in any other occupation and higher than both the West Midlands and England. The share of employees that are medium skilled (ie. administrative and skilled associates and trades - SOC 4 and 5) is 23.1% (again, above the England average), whilst the percentage of employees that are low skilled (ie. elementary sales, services and operatives - SOC 6-9) is 30.1%). The share of adult residents with degree level qualifications or above (29.4%) is also below the England average. Some 80% of Worcestershire candidates attain 5+GCSE grades A*-C, on a par with the national level with Malvern Hills taking the largest proportion and Wyre Forest the smallest.

Employment and Unemployment

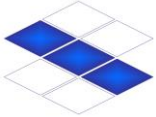
The employment rate in Worcestershire is higher than in the West Midlands or England and is also true when the employment rate is considered by gender. Across Worcestershire Wychavon has the highest employment rate, and Worcester has the lowest employment rate. The employment rate for Worcestershire is 71.5%, compared to 67% for the West Midlands and 70.2% for England as a whole. Across Worcestershire values are below 1, indicating more working age people than there are jobs available; Wyre Forest has the lowest job density with Worcester the highest. Approximately 14% of the Worcestershire population is self-employed, again a higher proportion than for the West Midlands or England.

The claimant count unemployment rate in January 2013 in Worcestershire was 3% (compared to 3.8% a year earlier), below the rate for England as a whole (3.8%) and well below the average for the West Midlands (4.7%). The district with the highest proportion of claimants of working age was Redditch (3.8%). The urban centre with the highest proportion of claimants aged 16-64 is Kidderminster (4.4%), and the lowest proportion is in Wythall (1.9%). In Worcestershire's urban areas the proportion of claimants aged 16-64 is 3.4% (0.4pp higher than the county as a whole).

Low Carbon Economy in Worcestershire

Overview

Worcestershire's population is forecast to increase to 595,000 by 2021. This increase in population will require new homes and this is forecast to be in the region of 22 to 34,000 new houses by 2031. Worcestershire has about 10MW of installed renewable energy capacity, most of which is landfill gas, though an energy from waste plant is planned for Hartlebury with a capacity of 15MW. This is a low level of renewable energy deployment. The Renewables UK website shows no wind farms in this area, this is also the case for the rest of the West Midlands. Major companies in the area include:



- Worcester Bosch - one of the UKs and EUs leading companies manufacturing and supplying energy efficient boilers and renewable energy products such as solar panels, ground/air source heat pumps
- GKN - a leading manufacturer of power train and fuel efficiency products.

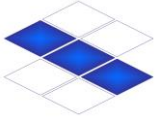
The Worcester LEP strategic priorities include "delivering strategic employment sites and related infrastructure for sustainable economic growth and a low carbon economy, with a focus on saving energy rather than climate change and a sustainable agenda more tangible on specific issues such as flooding and congestion". This reflects a common sense approach in times which are economically challenging and where the low carbon and climate change agendas are not seen as a priority above supporting economic growth and employment. The emphasis being on reducing energy, fuel and resource use which provides domestic, private and public sector customers with economic as well as environmental benefits.

This is very much the approach taken by most other areas of the UK recently and one which is very compatible with the development of a low carbon economy. The easier areas initially to address are those of greater efficiency, which also tends to have most benefit on a local level for businesses. The later steps to move the area to a full low carbon economy can follow – most Energy Performance Contractors tasked with reducing energy/fuel use will state exactly the same – reduce energy/fuel use as much as possible then look at alternative ways of providing low carbon energy. The initial economic gains are better and then alternative energy systems can be introduced at the levels that are genuinely required, which makes the chance of success greater and reduces the capital expenditure required to deploy them.

This does not mean that all renewable and low carbon energy alternatives should be ignored, on the contrary for new builds and situations where connection to mains electricity and gas are difficult, and hence more expensive, they are viable and cost effective options. This is especially true in the rural areas that make up most of the Worcestershire area.

Academic/Research Strengths

- **Worcester University:** Centre for Rural Research – the UKs only university based rural research centre (Agriculture, Economic development, Sustainability, Environmental sciences, Rural settlement and land use and Crops)**;** Institute of Science and Environment (Environment and animal biology, Aerobiology, Human and physical geography).
- **Worcester College of Technology:** Construction and sustainable technologies**;** Engineering and manufacturing**;** Science.
- **South Worcestershire College:** Construction**;** Engineering**;** Heating and plumbing**;** Motor vehicle engineering.
- **North East Worcestershire College:** Technology – mechanical and electrical engineering**;** Applied sciences; Construction**;** Engineering**;** Motor vehicle engineering.



- **Stourbridge College[23]:** Construction**;** Engineering**;** Building services engineering**;** Centre of excellence for construction and building .
- **Pershore College:** Agriculture**;** Food**;** Horticulture.

There are also a number of science and technology parks including Malvern Hills Science and Technology Park, Bromsgrove Technology Park and the Central technology Belt which is involved in running certain regional low carbon programmes including low carbon vehicle focused ones with Cenex and facilitating links between companies, academia and government.

Strengths, Weaknesses, Challenges/Opportunities and Threats

The Worcester LEP area has a number of key areas where it can be seen to have environmentally focused strengths these include:

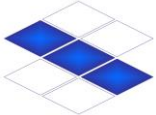
- Agriculture and horticulture – well developed supply chains
- Food and drink – 20% of GVA
- Well linked academic establishments for rural based environmental activities including food and drink
- Centre of excellence for horticulture
- Leading UK manufacturer of energy efficient boilers and renewable energy options including solar and ground/air source heat pumps
- nPower has major offices in Worcester
- Strong automotive supply chain
- Small number of companies (80) employing 50% of workforce – enables focus on maximum impact in small number of companies
- Good transport links
- Aligned partnerships
- Good support for LCEGS sector companies through Metnet, Business Central and a resource efficiency business support programme for local SMEs.

New centres of excellence are planned for engineering, construction and food production – all of which have a positive impact on the LCEGS sectors ability to support the development of a low carbon economy.

Areas of weakness include:

- Low level of renewable energy deployment

[23] Stourbridge College is actually in Dudley, although it is located very close to the Worcestershire border.



- Limited academic and research support for areas such as renewable energies, low carbon vehicles, water supply, waste management, recycling or low carbon buildings
- No major utilities companies based in the area
- No power generation in the area.

Areas where progress is being made include:

- Deployment of flood defences
- Waste to energy facilities are increasing in capacity and power generation
- Development of support for LCEGS companies
- Resource efficiency business support programme for local SMEs.

Areas where more progress can be made include:

- Deployment of renewable energy facilities
- Increased energy efficiency in buildings
- Increased fuel efficiency in public sector vehicle fleets.

Challenges/Opportunities include:

- Increasing population requiring more new houses and facilities
- Flooding risks requiring an increased level of flood defences
- Water availability for agriculture and horticulture
- Reducing energy/fuel costs for public sector
- Reducing energy /fuel for domestic and private sector
- Roll out of Green Deal /ECO programme.

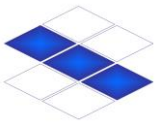
Specific Low Carbon Features

Green Deal

We are aware that negotiations with Green Deal/ECO providers are commencing in order to deliver a countywide Green Deal/ECO programme.

Renewable Heat Incentive

Given the rural nature of Worcestershire this would be an initiative worth supporting. The percentage of homes not connected to the mains gas supply is estimated at 20%.



Feed in Tariffs

Given that 68% of local LCEGS companies reported growth in the most recent financial year, this suggests that many are benefitting from FiTs in deploying renewable energy options. In addition, we are aware that the county council and many district councils have put in place RHI and FITs projects on their own estates.

Public Sector

Worcestershire County Council employs 19,500 people. Though no definite figures could be found for the overall percentage employed it is assumed that this will be similar to the UK national and around of 25%. This provides good opportunities for energy, fuel and resource efficiency initiatives which can be directly controlled by the public sector and with good co-operation across the various organizations could provide significant cost savings. Mechanisms such as EPCs, fleet management and procurement platforms can be utilised with low capital expenditure but good mid to long term benefits. From the reports and websites reviewed there appears to be limited use of EPCs, outsourced fleet management or focused procurement platforms in the Worcestershire area. There also appears to be limited take up of RHI and FiTs by the public sector, though this needs to be confirmed in discussions with the stakeholders.

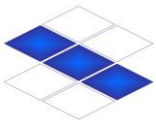
The public sector through initiatives such as Metnet and Business Central are supporting the LCEGS sector and with the links with neighbouring areas in the West Midlands and beyond the public sector and LEP are actively trying to develop a pan regional set of initiatives to address wider economic, transport and sustainable issues.

Low Carbon Buildings

The level of energy efficiency in homes in the Worcestershire area is about the UK national average 37% and therefore it can be said that good progress has been made, however more can be done. The requirement for upwards of 22,000 new homes by 2031 provides good opportunities for the introduction of higher energy efficiency standards across the Worcester LEP area as well as in new industrial builds. These new standards should not be at the expense of affordable housing and a careful balance needs to be made between energy efficiency and initial cost, though it is already being shown that as uptake of new technologies increases, the cost of them decreases, making them more affordable and more cost effective. The deployment of renewable and low carbon energy technologies for retrofit once energy efficiency measures have been completed tends to produce the best results from a cost and income view.

Support for LCEGS Sector Companies

The Metnet initiative is a welcome and growing addition to the support of the local LCEGS sector and one which appears to be using best practice and learning lessons from the mistakes of other regions in the UK. The website has the majority of components which are required by local companies such as update on changes in legislation which can either provide further opportunities or potential threats, a directory of local suppliers, funding options and business support events. One interesting area for events is the attempt to build links



between local companies and local academic establishments such as Worcester University and College, a rare occurrence and one which is most welcome in terms of trying to keep local students and those who have come to the area to study in the area.

Metnet can provide that vital link between suppliers, customers, funders and potential employees. There is also the link with Business Central a general business support programme that also is highly useful for the LCEGS sector companies. This should be seen as a strength for the Worcestershire area and one which can be built on in the future.

Renewable Energy Technologies

In common with the other West Midlands areas there is little or no deployment of wind energy and due to the inland nature of the area no marine energy and minimal hydro electric. The area where most appears to have been done in terms of deployment is waste to energy and biomass energy in the rural areas. This is something to build on and with the rural nature of Worcestershire there are good opportunities for the supply of biomass and farm waste materials as bio- energy fuel.

The largely rural nature of the area with its large number of farms provides opportunities for increased levels of biomass, anaerobic digestion, geothermal and solar deployment which is well suited to providing power and heat at source with biomass having a decent supply of fuel locally, geothermal which requires a large area around a building to be effective has plenty of land available on farms and in rural communities and solar PV with FiTs providing incentives being particularly effective with the larger amounts of roof space not in shadow from nearby buildings.

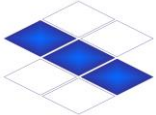
Waste Management and Recycling

The current levels of recycling has increased with 69% of waste at household recycling centres being recycled and the waste being sent to landfill decreasing. Performance appears to be above national averages in this area. There has been considerable investment in the improvement of waste and recycling facilities in Worcestershire particularly at the Pershore waste facility. There are 16 household waste centres and 4 bulking facilities for recycling across the county with a centralized composting centre in Bromsgrove.

The high number of food and drink companies in the area provides opportunities for initiatives to reduce their waste through recycling or more likely energy from waste projects such as anaerobic digestion, pyrolysis techniques as well as the manufacture of biofuels from waste. The added advantage is that landfill tax costs are reduced and income can be obtained from the various incentive schemes. Worcestershire has achieved beacon status in sustainability which indicates good practice and performance in this important area.

Water Supply and Wastewater Treatment

In common with the Marches area water supply has and is a major issue in the area as much of the agriculture and horticulture sector requires a consistent and plentiful supply of water. Despite an extremely wet 2012, recent trends have been for water supplies to be restricted during the peak growing seasons with a negative



effect on the sectors. This has also been in tandem with increased flooding which has also affected agricultural land as well as having a serious impact on householders in flood risk areas.

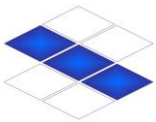
There are two opportunities here one for improving the effective use of water in agriculture and horticulture through the uptake of new water efficient technologies, making more use of the water that is available, decreasing the loss of water through the pipeline network and storing locally water more effectively. The second is for the improvement of flood defences in areas prone to flooding. Both opportunities can provide local companies with business growth, providing they have access to the tendering process.

Sustainable Transport

Worcestershire has no airports and decent rail links to neighbouring regions and has direct but limited links to London. The road network is well developed with the M5 motorway passing through the county and providing fast and easy access to neighbouring regions. There is a good automotive supply chain in the area which can be engaged with to ensure that low carbon vehicle initiatives are to the benefit of local companies where appropriate.

In common with other areas there exists the opportunity to increase the rate of deployment of more fuel efficient vehicles both for public sector and private sector use. This will also reduce fuel use and hence be of economic benefit. The public sector could take a lead here in showcasing the various fuel efficient and low carbon vehicle options. The wide spread deployment of electric vehicles in Worcestershire is unrealistic at this time, as the distances between potential charging points will be larger than for urban areas, though there are opportunities for town centered vehicle activities where the range of operation is limited.

Improved rail links with London and the potential for links to HS2 provides opportunities for better use of lower carbon transportation methods but may not directly benefit local companies as the railway and heavy construction companies are based outside the area.



6. The Low Carbon Economy in Stoke and Staffordshire

Profile of the Economy

Overview

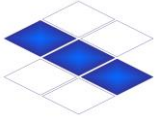
Staffordshire adjoins the counties of Cheshire (to the north west), Derbyshire (to the east), Leicestershire (to the east), Warwickshire (to the south east), West Midlands (to the south), Worcestershire (to the south), and Shropshire (to the west). The largest city in Staffordshire is Stoke on-Trent, which is administered separately from the rest of the county as an independent unitary authority. Lichfield also has city status, although this is a considerably smaller cathedral city. Main towns in the county include Stafford (the county town), Burton upon Trent, Cannock, Newcastle-under-Lyme, Leek and Tamworth. With the exception of Stoke-on-Trent, Staffordshire is divided into the districts of Cannock Chase, East Staffordshire, Lichfield, Newcastle-under-Lyme, South Staffordshire, Stafford, Staffordshire Moorlands and Tamworth.

The population of Staffordshire is 848,500 according to the 2011 Census. There has been an increase in all Staffordshire local authority areas since the last Census. However, East Staffordshire saw a 9.5% increase in its resident population between 2001 and 2011, which is the fastest growing population within the county and is also above the national and regional growth rates.

Staffordshire is deeply linked with the Stoke-on-Trent Unitary Authority area. The two areas are seamless with each other, with performance in Stoke-on-Trent closely influencing the wider Staffordshire County and vice versa. Although there are many complex differences throughout Staffordshire, the County does not tend to experience the extremes of wealth and poverty that exist in many of the larger conurbations driving the economic growth of the UK. There are, however, communities in Staffordshire which do experience similar levels of deprivation and multi dimensional problems as those experienced in the conurbations, although their dispersal throughout the area, when compared to major urban areas tends to mean that over the past decade, there have been fewer resources available to tackle these problems.

Around 80% of Staffordshire County's land area is classified as rural with around a quarter of the population living in rural areas. Rural Staffordshire appears to be prosperous; around 1 in 5 jobs in Staffordshire and Stoke-on-Trent are in a rural area, and this proportion is increasing whilst the number of jobs in urban areas is decreasing. The relative wealth that exists in rural parts of Staffordshire hides pockets of deprivation which are hard to identify, dispersed and sometimes more severe and difficult to tackle with conventional interventions.

Stoke-on-Trent is located in the north of the West Midlands and is almost equidistant from Birmingham and Manchester. Home to some 249,000 people (according to the 2011 Census) living in approximately 105,000 households in 20 wards (within a total area of 36 square miles), the City forms the largest part of the North Staffordshire conurbation containing some 360,000 people. This compares with the 2001 Census figure of



240,636 - a 3.5% increase in total population. This compares with a 7.8% increase seen across England & Wales and a 5.2% increase across the rest of Staffordshire. The number of occupied households has increased from 103,196 to 107,900, an increase of 4.6%. Average household size has therefore marginally decreased from 2.33 persons per household to 2.30 - in-line with trends observed elsewhere. The city has good transport links both north to Manchester and south to Birmingham and London. However, its internal transport infrastructure constrains economic growth. The lack of a clear, strong city centre has led to development being thinly spread rather than concentrated.

In 2011/12 seven businesses in the LEP area formulated successful bids for the first and second round of regional growth fund, worth over £15million. The LEP has also received £7.4m from Government to help better connect business by improving broadband infrastructure in Staffordshire.

Economy and Business Base

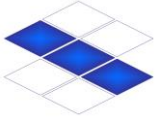
Business Base

GVA in Staffordshire and Stoke-on-Trent shows that GVA in Staffordshire County Council area was around £12.3 billion in 2009, the second largest total output of any West Midlands local authority area after Birmingham. Stoke-on-Trent GVA was around £3.5bn in 2009, giving a combined LEP area GVA of £15.8bn. However, the combined LEP area has the lowest level of GVA per head of any LEP area in the West Midlands at £14,900 per annum (74% of the UK GVA per head). Stoke-on-Trent has the fourth lowest level of GVA per head of any West Midlands local authority area and has experienced a significant fall in productivity relative to the UK average since the mid-1990s. This is largely as a result of the restructuring of the local economy.

The economic structure in Stoke and Staffordshire has changed considerably in recent years. Health, manufacturing, retail and education are the major employment sectors in Staffordshire and Stoke-on-Trent, accounting for nearly 50% of all jobs. By far the greatest growth in jobs over the past decade has been within the health sector. Health has seen the biggest increase in the number of businesses and provides the largest number of jobs, over 60,000. There has also been strong growth within the transport & storage and associated business administration, reflecting growth in logistics activities.

In line with national trends, manufacturing has reduced considerably, with the greatest decline in jobs seen in this sector, mainly due to the decline in the ceramics sector. However, in Staffordshire and Stoke-on-Trent, manufacturing remains a significant employer, with the sector providing nearly 50,000 jobs in the area. Nevertheless, the LEP area will have to continue to deal with long-term economic restructuring, the impacts and challenges of which have been huge and continue to be of concern. It is important to acknowledge that achieving successful restructuring is a long-term goal if the LEP area is to improve it lower-than-average rate of economic growth (3.9% per annum between 1998 and 2008.

The rural economy is taking on increasing significance, with the number of rural jobs growing, compared to falls in urban jobs. Many of the jobs lost in urban areas are from manufacturing industries, with growth in rural areas in tourism and leisure, ICT and food and drink. Between 2003 and 2010 employment in urban parts of



the area decreased by around 26,700 jobs, whereas the number of jobs in rural areas increased by around 12,800.

There are currently around 33,200 enterprises in Staffordshire and Stoke-on-Trent. The sectors with the largest number of businesses in 2012 were construction (4,800 enterprises) and professional, scientific & technical (4,150 enterprises). There have been some significant changes in the numbers of businesses by sector in recent years, with the health and professional, scientific & technical sectors seeing the biggest increase in the number of enterprises whereas the construction, business administration and support services and retail sectors have seen the biggest decline in business numbers.

Private and other services account for 48.5% employment, compared to 55% across England. The share of employment in the knowledge economy and high/medium tech manufacturing was 16.8% in 2010, compared to the England average of just over 22%. Employment in those sectors that had grown most rapidly (excluding public services) between 1999 and 2009 was 45.4%, around 4 pp below the percentage figure for England as a whole. Stoke and Staffordshire has a relatively low rate of patenting (4.3 patents per 100,000 residents), well below the England average (10.6 patents per 100,000 residents). Stoke and Staffordshire has a rate of employment in foreign-owned enterprises slight above the England average of over 14%.

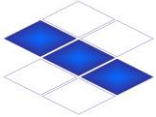
As has been the case for a number of years, enterprise rates tend to display a general pattern of higher levels of business start-ups in the southern parts of the LEP area when compared to the north. Overall, both Staffordshire (37.9 new firms per 10,000 adults aged 16 and over) and Stoke-on-Trent (28.6) have lower business start-up rates than the regional and national averages. The business start-up rate has declined significantly in both Staffordshire and Stoke-on-Trent since 2007. In 2010, Staffordshire's business death rate was 51.8 businesses per 10,000 adults, while Stoke-on-Trent experienced a rate of 38.7 businesses per 10,000 adults. However, the rate of new starts and business deaths are both lower than the West Midlands and England averages.

Key Sectors and Businesses

Stoke-on-Trent and Staffordshire's central location puts it within easy reach of many major automotive manufacturers. Jaguar Land Rover and Zytek Automotive are within the area, whilst Bentley Motors, General Motors and MG car plants are all within an hour's drive. There is a strong and varied automotive presence in the LEP area, including the electric and hybrid sectors – companies including Michelin, Johnson Controls, Pirelli, Magna and Zytek Automotive.

Alstom Grid, a key company in developing smart grid technologies, has its UK HQ based in Stafford. Specialists in building automation and energy management such as Siemens Building Technologies and Elster Metering have also located in the LEP area.

Staffordshire University's RESCO (Renewable Energy Supply Chain Opportunities) programme helps firms exploit opportunities in the low carbon and renewable energy markets. This is supported by The Stoke-on-



Trent and Staffordshire Local Enterprise Partnership which has established a Low Carbon Group to support the sector locally.

The LEP areas contains the i54 Enterprise Zone, a 220 acre (98 hectare) site at Wobaston Road, Pendeford on the boundary of South Staffordshire and Wolverhampton which is being developed as a technology based business park. Key company tenants include MOOG (aerospace - design, development and manufacturing operations for multiple aircraft flight controls programmes) and Eurofins (laboratory testing company servicing pharmaceutical, food, environmental and consumer product industries). Jaguar Land Rover is developing a new advanced engine facility to build low emission engines covering 100,000 sq m (1.1m sq ft), which is scheduled to open later in 2013.

Labour Market

Skills and Qualifications

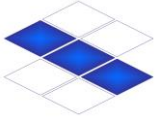
Tackling skills deficits in the working age population is vitally important, with a mixed picture across the LEP area. Staffordshire and Stoke-on-Trent have a lower proportion of working age population qualified to NVQ Level 3 and above than nationally (47.7% and 40.9% respectively, compared to 52.4% nationally). Staffordshire has experienced a slight decline between 2010 and 2011, and Stoke-on-Trent a slight improvement. However, the share of adult residents with degree level qualifications or above (26.5%) is below the England average.

The share of employees that are highly-skilled (ie. managerial and professional, and associate professional and technical – SOC 1 to 3) is 38.6, well below the England average of 45%. The share of employees that are medium skilled (ie. administrative and skilled associates and trades - SOC 4 and 5) is 21.8% (above the England average), whilst the percentage of employees that are low skilled (ie. elementary sales, services and operatives - SOC 6-9) is 39.4%), some 6 pp above the England average. Just under 13% of adult residents have no qualifications, around 2 pp higher than the average for England.

Educational attainment in Staffordshire and Stoke-on-Trent is improving. In Staffordshire, around 58% of pupils achieved five or more grade A* - C GCSEs including English and Maths in 2012 compared to 50% of pupils in 2008 and in Stoke-on-Trent 51% achieved the equivalent in 2012, compared to 37% in 2008. However, performance remains slightly below the regional and national averages. Across Staffordshire, a significant divergence in levels of attainment by district also remains. In Tamworth 49% of pupils achieved five or more A* - C GCSEs including English and Maths in 2011 compared to 64% in Staffordshire Moorlands.

Employment and Unemployment

At the peak of the recession, in April 2009, there were over 20,500 JSA claimants in Staffordshire and over 9,400 claimants in Stoke-on-Trent. The rate of increase in the county's claimant count in the year up to April 2009 was faster than that experienced regionally or nationally. This is likely to be due to Staffordshire having a higher proportion of employment in the more vulnerable sectors of manufacturing and construction than the West Midlands and national averages. However, the claimant count has steadily fallen since April 2009 but still



remains significantly higher than the levels seen prior to the recession. In June 2012 there were around 14,000 JSA claimants living in Staffordshire. The claimant proportion for Staffordshire was 2.6% in June 2012, which was lower than the West Midlands rate of 4.7% and the national rate of 3.8%. In Stoke-on- Trent the claimant proportion stood at 5.2% in June 2012 which was well above the rates seen prior to the recession and there has been only a slow improvement since the peak of the recession in April 2009 when the claimant proportion reached 6.1%.

At a district level, the proportion of residents claiming JSA benefit ranges from a low of 1.9% in Staffordshire Moorlands to 3.6% in Cannock Chase. Over the last year the only two districts to see an increase in both the number of JSA claimants and the claimant rate were East Staffordshire and Staffordshire Moorlands.

Low Carbon Economy in Stoke and Staffordshire

Overview

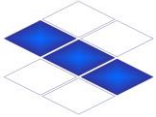
The latest population projections from the Staffordshire observatory indicate an increase in population of 100,000 to 950,000 by 2035. The projection is for 410,000 households by 2035 an increase of 65,000 households from 2011. This presents a huge challenge but also an opportunity to develop low carbon housing. The area has a good number of large companies in the automotive, power/energy and advanced engineering sectors including;

- Automotive – Jaguar, Michelin, JCB, Zytek, Pirelli
- Power/Energy – Alstom, Perkins, Converteam
- Advanced engineering – Goodwin, IMI Norgren, Goodrich Aerospace.

These companies are not only large but some are directly involved in the low carbon sector such as Alstom, Jaguar and Converteam with others being potentially good case studies of how to implement energy efficiency measures.

Around these companies there is a well developed supply chain, all of which adds strength to the ability of companies in the area to support the growth of the low carbon economy. It also means that there are companies and industries with critical mass that can be properly engaged with to provide solutions on a local basis, as well as the international and global nature of a number of them. This again adds strength to the areas offer with regards to the low carbon economy.

There are about 4,800 construction, 4,200 professional and scientific, 2,900 production, 2,500 agriculture and forestry and 1,400 transport and logistics companies in the area. This is a large company base to engage with regards to the low carbon economy.



Academic/Research Strengths

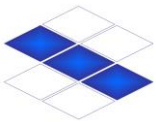
The area has some excellent universities with courses and research supporting the low carbon economy and sector.

- **Staffordshire University:** Centre for Energy Efficient Systems – research into (Renewable energy technologies, Energy transfer systems, Energy harvesting and storage, Power transmission, Grid connection, Efficient design, Vehicle systems to power electronics systems and devices); Centre for Information, Intelligence and Security Systems (Business intelligence and environmental protection, Environmental monitoring and protection.
- **Keele University:** EPSAM – Research Institute for Environmental Physical Sciences and Applied Mathematics (Environmental and sustainability – sub glacial, landforms and environments, Material chemistry and sustainable technologies); Business support group.
- **Stoke on Trent College:** The Centre for Refurbishment Excellence (CoRE), focused on reskilling construction workers to meet needs for low carbon energy efficient building standards. This is led by the Building Research Establishment and Stoke City Council.
  - Provides certification for SMEs to bid for local authority contracts
  - Facilitates Knowledge Transfer Partnerships
  - Provides training packages to support businesses
  - Demonstration space for new technologies and ideas
  - Construction and building environmental diplomas.
- **South Staffordshire College, Leek College and Burton on Trent College** support with: Motor vehicle engineering; Construction; Engineering and land-based industries.

Strengths, Weaknesses, Challenges/Opportunities and Threats

The Stoke on Trent and Staffordshire LEP area can be seen to have strengths in:

- Low carbon vehicles
- Power and energy
- Renewable energy
- Strong academic research in power, energy efficiency, energy storage, grid connection, low carbon buildings and environmental physical sciences
- Strong course provision in automotive and aerospace engineering, mechanical, electrical and electronic engineering as well as construction and low carbon buildings and land-based activities



- Well developed and innovative business support programmes which aim to build links between SMEs and the larger companies in terms of best practice and supply chain development
- Large companies with global presence in key low carbon economy areas of power, energy generation, automotive-low carbon vehicles and advanced engineering and materials
- Well developed supply chains in the automotive and energy industries
- Strong manufacturing and innovation base
- Excellent transport infrastructure.

Areas of apparent weakness include:

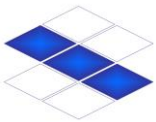
- Low level of energy efficient housing
- Lack of emphasis on rural economy
- Deployment of renewable energy technologies is limited based on DECC figures for eligible projects for FiTs, RHI and ROCs and compared to take up in other UK regions.

Areas where more progress could be made include:

- Increased energy efficiency in housing and public sector buildings
- Deployment of renewable energies
- Deployment of lower carbon vehicles
- Support the agricultural sector to examine their carbon footprint by introducing low carbon farming practices, investigate energy production and efficient resource use; the sector contribute approx 7% to GHG emissions in the UK and it has been set an emission reduction target of 11% by 2020.

Challenges/Opportunities include:

- Population growth of 100,000 by 2035 with increased new houses of 65,000 presents the challenge of siting the new build with its attendant infrastructure, but with the opportunity of developing a real strength in low carbon buildings design and construction
- Deployment of energy efficiency measures and renewable energies in the public sector which employs 90,000 people
- Staffordshire and Stoke, Marches and Worcestershire LEP areas are exploring the potential of becoming a Centre of Innovative Manufacturing (CIM) in Agri-Technology. Agri-tech offers huge potential to future proof the sector, enabling it to take advantage, as well as tackle and mitigate the impact of climate change.



Specific Low Carbon Features

Green Deal

The LEP area should be well placed to take advantage of the Green Deal with its strong academic and training focus on construction and low carbon buildings. However there will be a need for a strong communication of the benefits to the local population and the development of a communications portal should be considered along the lines of Metnet.

Renewable Heat Incentive

This is an area where progress can be made as there are large rural areas in Staffordshire, though not on the same scale as the Marches and Worcestershire. The level of households with gas mains supply is overall presumed to be close to the national average, however in the rural areas of Staffordshire the percentage of households not connected to the gas mains grid is 27% which is considerably lower than the national average for rural areas where the non connected households is 55%. There is a view that the benefits of the RHI might be better focused on commercial and public sector buildings, though there will still be an impact on domestic households in the rural areas where 27% of households can be supported significantly.

Feed in Tariffs

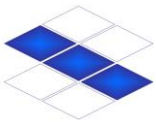
In common with the other areas this provides opportunities for the rural areas for domestic and farm holdings and in urban areas for public sector and community buildings.

Public Sector

Historically it has been the public sector which has driven forward the growth in the low carbon economy. Recent initiatives such as the Renewable Obligations Certficates, Feed in Tariffs, Landfill Taxes and the Green Deal have moved the emphasis more to the private sector by providing incentives to either reduce costs or make profit. There are 90,000 people employed in the public sector in the Staffordshire and Stoke area, and this provides a large base of public sector buildings and vehicles for which energy and fuel efficiency measures can be introduced.

This is no easy task and one which in these constrained financial times with the reduction of capital spend budgets and with more restricted access to EU funding makes it considerably more difficult for the public sector to spend on low carbon projects. However there are a number of mechanisms which are being used in other areas of the country which can support the uptake of lower carbon options, reduce energy/fuel use and reduce costs. These include Energy Performance Contracts (EPC), Fleet Management and combining procurement of selected areas across a number of local authorities, county councils and other public sector organisations using a platform which reduces tendering costs and enables local companies to engage with the public sector in a meaningful way.

From the reports and websites reviewed there appears to be limited use of EPCs, outsourced fleet management or focused procurement platforms in the Stoke and Staffordshire area. There also appears to be



limited take up of RHI and FiTs by the public sector, though this needs to be confirmed in discussions with the stakeholders.

Low Carbon Buildings

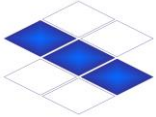
The level of energy efficient houses in the area is well below the national average at 12% for Stoke and 18% for Staffordshire compared to 37% for Worcestershire and 42% for Herefordshire. This presents a large opportunity for retrofitting the housing stock in the area and improving the overall energy efficiency as well as stimulating the local retrofit business sector. The support for the low carbon buildings and retrofit sectors is high in the area, and this opportunity could be used to develop the local business sector into a real strength. More can be done by the public sector and the 33,200 companies based in the area to improve their energy efficiency and this can be done through mechanisms such as the RHI, Green Deal and FiTs as well as the use of energy performance contracts in the larger organisations.

The fact that to meet current forecast growth requirements for the population, it is estimated that a further 65,000 homes will be required by 2035, provides an opportunity to build new low carbon homes and to develop the local construction industry on a low carbon basis. Meeting the highest levels of low carbon buildings as stated by BREEAM would probably be too expensive initially, but the next levels down are being shown to be achievable cost effectively in the mid to long term in other regions of the UK. Sensible use of the planning regulations and support from the public sector could see a step change in the energy efficiency of new builds in Stoke and Staffordshire. This would also have a positive impact on the local economy providing jobs for local people of all skill levels. The review of the reports and websites does not provide any indication of an area wide approach to new builds.

Support for LCEGS Sector Companies

There are good links between the various academic and research centres on a specific sector basis but no full scale sector support mechanism such as the Staffordshire Business Environment Network (SBEN) and Metnet. SBEN is delivering innovative, practical and cost effective support linking SMEs with large companies to spread best practice and developing supply chains between suppliers of energy/resource efficient products and local procurers including public sector. The business support seems to be general at area level. There is an opportunity to link LCEGS sector companies into funding streams and to develop stronger links with investment organisations such as those fostered by the Greater Cambridge Partnerships Cleantech group.

Stoke and Staffordshire is blessed with some truly global companies in the LCEGS sector including energy, low carbon vehicles, advanced engineering and materials. Increased business support that links local suppliers, companies and the public sector with these companies will bring benefits from increased development of local supply chains and the dissemination of best practice as most of these companies have already implemented energy efficiency measures as well deploying renewable and low carbon energy generation technologies. SBEN is something which can be built on with extra EU funding support.



Renewable Energy Technologies

Staffordshire County Council has installed solar photovoltaic panels on a number of libraries across the county and will be rolling solar panels out to 25 schools during the summer of 2013. Investments into biomass has seen the installation of biomass boilers at a number buildings across the county estate. In common with the other areas there appears to be a limited deployment of renewable energy technologies in the area, despite the number of strong local companies in this sector. There are opportunities for both rural focused solutions and urban ones, particularly in conjunction with the low carbon buildings strengths being developed in Stoke. Technologies will again be around bioenergy, solar, geothermal and waste to energy.

Waste Management and Recycling

Staffordshire County Council Household Waste Recycling Centres achieved a recycling rate of 60% across the 14 sites during 2012/13, with an overall recycling rate of 55% including services provided by the District and Borough Councils. Significant investment has seen the development of a new waste to energy plant at Four Ashes, which is due to come online in December 2013, generating electricity, CHP and reducing the need for waste disposal via landfill in Staffordshire. A new contract for the Household Waste Recycling Centres has recently been procured, which will deliver service enhancements and an improved recycling rate going forward. One difference to the other West Midlands areas is that there are a good number of large global companies in the region who have implemented resource efficiency measures which reduces the waste created as well as developing clean production processes. This knowledge if shared could be important in helping smaller local companies follow suit, and reduce their waste.

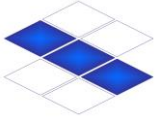
Water Supply and Wastewater Treatment

There is little on the water supply and wastewater treatment sector in any of the reports or websites provided. The planned increase in population will put a strain on current water supplies and as such water efficiency measures would become more important to avoid putting too much strain on the existing supplies.

Sustainable Transport

There are excellent transport links by rail with other areas of the UK including direct links to London. Though no airport is based in the area Manchester, Liverpool and Birmingham are in easy striking distance. The road network also provides excellent links with the main M6 motorway passing through the area as well as a solid network of dual carriageway roads to neighbouring areas. Compared to the other two LEP areas which are the focus of this study Stoke and Staffordshire is relatively compact with few isolated rural areas.

The presence of global automotive manufacturers in the area also provides a real strength in low carbon vehicle research and manufacture. This strength should be exploited by the public sector in the area to increase the use of fuel efficient vehicles that are also cost effective. A small number of electric charging points are being installed in the county which will enable electric vehicles to be used here with a degree of confidence – lack of charging points is a major disincentive for local customers to purchase electric vehicles. Engagement in this area is strongly recommended, as a partnership would benefit all parties.



7. Potential Low Carbon Opportunities

Overarching Strategic Priorities

Desk research and the project team experience showed that all regions in the UK face similar problems of how to focus on a number of low carbon initiatives which genuinely benefit the local area economically as well as providing the desired environmental impacts. Measuring these benefits is difficult, as unless there is a comprehensive baseline from which to work from benefits are estimated or based on a project by project basis. The difficulty for any public sector organisation or private/public partnership is that they can only influence directly their own operations. Across the LEPs, the public sector employs about 25% of the workforce and as such can have a very positive economic impact on the LCEGS sector through its own actions. Therefore one of the first strategic priorities should be to:

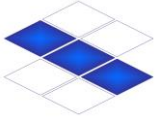
- Create a baseline of energy use in the public sectors own buildings for power and heating
- Create a baseline of fuel use by vehicles in the public sector
- Create a baseline of LCEGS companies in the area with analysis of economic measure such as employment and turnover
- Create a baseline of low carbon projects including renewable energy, energy efficiency, low carbon building construction and energy from waste
- Much of this information is probably already available and as such could be brought together fairly quickly.

The information from the Metnet will provide a good initial baseline of companies and projects currently ongoing across the LEPs.

The second priority is then to assess what can realistically be done to improve the energy, fuel and resource efficiency, deployment of low carbon energy generation for power and heat and increased use of low carbon vehicles and transportation.

To assist with the assessment and analysis engagement with local or West Midlands based energy performance contractors, fleet management specialists, large scale procurement specialists, automotive industry and low carbon energy specialists should be encouraged. This should provide a good indication of the types of projects that would be effective and would benefit local business as well as helping the area meet environmental and carbon emission targets.

The third priority is then to identify and engage with funding and support streams at local, regional, national and European level for the deployment of projects, research and development and business support. This is an area where the UK has traditional been behind other EU countries in exploiting the funding and support that is legitimately available.



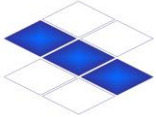
The fourth priority is then on delivering low carbon projects and programmes on the ground. Initial foci of projects could include:

- Retrofitting of domestic, public and private sector buildings for increased energy efficiency using EPCs and Green Deal where appropriate
- Ensuring all new build houses and buildings meets a minimum energy efficiency rating and training local people to deliver this construction
- Deployment of renewable and low carbon energy technologies using FiTs, Green Deal and RHI where appropriate
- Deployment of fuel efficient vehicles in the public sector whether through fleet management contracts or better selection of vehicles
- Deployment of waste to energy facilities focused on the agriculture, horticulture and food and drink sectors – this includes anaerobic digestion which is well suited to waste from these sectors
- Behaviour change of people in the domestic, private and public sectors – technology can take us so far but to gain maximum effects the long term and permanent behaviour change of people is required.

The underpinning and important strategic priority at all stages is communication with all concerned about what is being planned, what the current state of play is and what the objectives are, not just in terms of environmental benefit, but also in economic terms of employment, turnover and reduced costs in the long term for people, businesses and the public sector. Proper engagement of all stakeholders with behaviour change and support tends to come from clear communication and importantly delivery of realistic and attainable goals with clearly defined outcomes. This communication needs also to be aimed at those who will in the future become the workforce that will drive this forward at a local level i.e. students at schools, colleges and universities.

Conclusions from the Consultation Exercises

There is no doubt that the above strategic priorities are seen by the three LEP areas as being important in the development of a low carbon economy in each of the areas. However the resources to develop them are limited. Due to the nature of the various support organisations, which are focused generally on specific geographical, technology and environmental areas, there is no overarching organisation driving forward a unified approach across the three LEP areas. Setting up a new organisation to develop and deliver low carbon initiatives across all three areas is not seen as being currently viable or desirable at this time. Therefore the project plans recommended needed to take into account current programmes, projects and initiatives which are being delivered successfully and where EU funding would enhance what is being done, adding new elements to the delivery mix and building on the organisations that are already operating in the low carbon space. This meant that the original potential project plans mentioned in the draft report, which focused on enhancing procurement by the public sector and creating a baseline of low carbon companies in each of the three LEP

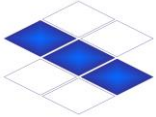


areas, were not seen as the optimum way forward at this time. They were felt to be something to be considered in the future, once the recommended project briefs (see Section 8) had been developed and implemented. It was also felt that the timing was not right, either economically or at this current stage of public sector re-organisation.

It was felt that smaller scale, though still substantial, projects, programmes and initiatives building on, and enhancing, current ones would support the development of co-operative working across the three LEP areas in a more constructive manner than trying to develop a new overarching organisation to do this. Experience from other areas of the UK and internationally support this approach. Different organisations working together with a focus on common themes, sharing experiences and developing cross LEP area working in a natural and constructive way, would be of greater benefit than effectively trying to rebuild the West Midlands regional approach, previously delivered by Advantage West Midlands.

The current UK low carbon strategic programmes focused on domestic users including Green Deal, the Renewable Heat Incentive and Feed in Tariffs have not been implemented and delivered in a way which suggests that the original aims will be met. Indeed with the Green Deal and RHI it is uncertain as to what will actually be achieved and whether RHI will be delivered at all, the latest implementation date has slipped again to spring 2014. The Green Deal has seen a high number of assessments with a very low take up of project finance to implement solutions.

This means that local initiatives focused on local issues, and using as much local supply chain content as possible take on an increasing importance, as it is clear that UK government schemes are being hampered by political, economic and administration factors making implementation difficult. These UK national schemes also do not bring together the various strands to ensure that, not only is the demand there for products and services, but that the local supply chain and its workforce can meet these demands. The project plans recommended do take these elements into account, and whilst not replacing current UK government schemes, does not rely on their effectiveness to be successful in developing a low carbon economy in the three LEP areas.



8. Project Briefs

Strategic LEP Economic Priorities

Each individual LEP has its own economic vision and strategy for growth. However, there are a number of priorities which are common across the LEP areas. These are summarised in the table below:

Table 8.1: LEP Common Economic Priorities

Strategic Priority	Specific Objectives
Business Competitiveness	▪ Supporting high value start-ups to establish and grow ▪ Supporting businesses and supply chains to increase their market share and strengthen their competitive position ▪ Supporting innovation by accelerating the implementation of new processes and new technologies ▪ Increasing inward investment
Skills, Training and Employment	▪ Extending employment opportunities by improving employability and skills of people out of work, including young people ▪ Developing a skilled and adaptable workforce by upskilling existing employees and developing leadership and management capabilities and approaches.
Physical/ Underpinning Economic infrastructure	▪ Developing high quality strategic sites and premises ▪ Ensuring high quality broadband and telecoms networks ▪ Promoting investment in key utilities, including energy, water and waste ▪ Improving the transport network
Transition to Low Carbon Economy	▪ Developing environmental technology sectors ▪ Exploring business opportunities emerging from new forms of energy production and other aspects of environmental improvement ▪ Adoption of renewable energy technologies and reducing energy use ▪ Provision of skills that are important in the context of a shift towards a low carbon economy

Strategic European LEP Low Carbon Priorities

The low carbon economy is identified as both a cross-cutting theme (ie. which is relevant and pervasive across all sectors of the economy) and as a collection of economic activities in its own right. Our desk-based research and consultations have identified the following key strategic low carbon priorities that are common across the three LEPs and which align with European funding priorities for the 2014-20 period:

- Retrofitting of domestic/public/private buildings for increased energy efficiency

- Ensuring new buildings across the domestic/public/private sectors meets minimum energy efficiency rating; training local people to deliver this construction
- Deployment of renewable and low carbon energy technologies such as anaerobic digestion, district heating networks and LED lighting
- Deployment of waste to energy facilities (including those focused on agriculture and food/drink sectors in the Marches and Worcestershire)
- Behaviour change of people in the domestic, private and public sectors
- Reducing carbon emissions from transport, including through the development of low carbon vehicles network
- Providing advice and support to businesses to maximise resource efficiency, including through skills and training
- Develop supply chain to support low carbon and green economy, including through promoting research and development.

Project Ideas

The desk-based research and consultations with partners identified a vast range of potential projects, many of which reflect specific areas of expertise and interest. Based on this work, the following projects have been identified, which have the broadest support across the LEP areas:

1. **Resource efficiency –** grants, awareness, business support, skills, links to GD, ECO, FiTs; link into large companies if possible
2. **Business support –** directory, small grants for R&D/capacity development, website, linking customers with suppliers, local supplier framework, supply chain development
3. **Anaerobic digestion –** development and deployment of micro anaerobic digestion to farms, food and drink companies; advice/guidance (as part of resource efficiency project)
4. **Woodland Enterprise Zones –** biomass/woodfuel supply chain development; link to waste-to-energy plants; potential Wyre Forest project via Forestry Commission
5. **Public buildings retrofit demonstrator –** programme to retrofit public sector "demonstrator" buildings (eg libraries), especially those earmarked for transfer to community groups; potential grant scheme to bid into
6. **New build game changing sites –** industrial sites where high levels of energy and resource efficiency deployment are enforced; meeting BREEAM Very Good+ standard (so above statutory requirements); SUDS; LED lighting for streets and public buildings; sustainable transport
7. **Energy Intensive Industries –** highly focused programme to support the development and deployment of energy efficient technologies and processes in EIIs including ceramics in Stoke area; focus on SMEs

8. **Training support –** centres specifically for levels 3,4 and 5 (at existing institutions); link school/university leavers to low carbon jobs; careers advice
9. **Water supply and flood defences**: predominantly at sites across Marches and Worcestershire.

Project Briefs are shown below. It was greed that where appropriate, the project briefs should identify potential areas/sites/sectors etc for investment, but that these would be as examples of where/how investment could take place, rather than being definitive at this stage. Although LEPs are tasked with preparing draft European Structural and Investment Funds Strategies by September 2013, in reality due to European programme approval processes, it may be some time before any 2014-20 funding period money is actually available to spend, and therefore project briefs should not be overly prescriptive at this stage.

In the meantime, further work will still be required by the LEPs and partners to ensure that the projects are reflected in the relevant LEP European Structural and Investment Funds Strategies, and subsequently to develop full ERDF/ESF project applications (which will have to be submitted to central government).

Project Brief 1: Resource Efficiency Programme	
Title	**Resource Efficiency Programme**
European Structural Investment Fund Priority	This project focuses on elements from Priority 4: Supporting the shift towards a low carbon economy in all sectors. ▪ Investment in the wider use of Energy Performance Contracting in the public buildings and housing sectors ▪ Energy efficiency and renewable heating and cooling in public buildings ▪ Energy efficiency measures and renewable energy use in SMEs ▪ Innovative renewable energy technologies ▪ Energy efficiency through investments in more energy-efficient buildings and facilities, together with advice on energy-efficiency ▪ The supply and use of renewable sources of energy, by-products, wastes and residues.
Summary Description of Project	The resource efficiency programme will build on existing resource efficiency programmes and take on elements successfully used by other programmes such as the CO_2 Sense schemes in Yorkshire and Humberside. It will provide support, practical advice and funding to improve the resource efficiency of local companies and public sector organisations.
Purpose/Objective	▪ To reduce use of resources in local companies and public sector organisations ▪ To increase energy efficiency ▪ To reduce carbon emissions in the three LEP regions ▪ To reduce energy costs ▪ To develop local supply chains ▪ To integrate with the Business Support Programme ▪ Provide and support a programme to enhance behaviour change for users ▪ To promote corporate social responsibility.
Rationale for Intervention (including market failure case)	There are existing programmes which are being delivered in each of the local LEP regions but nothing across the three LEP regions. These programmes can be built on and can provide match funding. Many local companies are aware of what they can and need to do with regards to resource/energy efficiency, but lack the financial and personnel means to implement solutions. Companies which have had financial support to implement solutions tend to continue implementing solutions with or without financial support to do so. They have seen the benefit of implementing solutions. Case studies can be delivered and used as exemplars. In certain parts of the LEP areas private sector energy supply companies who are tasked with supporting energy efficiency projects and have the finances to do so, are struggling to engage with commercial customers. They can use Energy Performance Contracts as well as support local programmes such as energy efficiency best practice.
Key Strategic Low Carbon Priority Addressed	This project will address the reduction of energy and resource use by local companies and public sector organisations. Providing advice and support to businesses to maximise resource efficiency, including through skills and training.

Project Brief 1: Resource Efficiency Programme	
Key Activities/ Interventions	▪ Grant funding (match funded) for resource and energy efficiency projects ▪ Awareness raising ▪ Renewable energy projects implementation ▪ Facilitation of contacts between local procurers and suppliers ▪ Awareness raising of opportunities/threats arising from legislation, regulation and support changes.
Quantitative Outcomes and Outputs	▪ Increased resource efficiency ▪ Reduced spend on energy.
Indicative cost (if known)	Estimated £1million of European funding per year.
Possible match funding source(s)	▪ Local authorities ▪ Private sector energy suppliers ▪ Private sector contribution from companies ▪ Green investment bank.
Local Impact and requirements (eg. on supply chains, partnership working/ linkages)	▪ Partnership working between public and private sector customers and local suppliers ▪ Increased partnership between companies in the same and related LEP regions ▪ Greater clarity for procurers of where to purchase low carbon products and services. Requirements: ▪ Building on current resource and energy efficiency programmes such as those delivered by Shropshire, Herefordshire, Worcestershire and Staffordshire County Councils ▪ Linking into academic establishments for technology support and joint research and development projects ▪ Cross border working to establish a combined company and capability directory ▪ Working closely with the resource and energy efficiency programmes.
Lead Body/Partner Champion	Potentially one of the councils that are already delivering resource efficiency programmes and can act as a conduit for match funding. Staffordshire, Worcestershire, Herefordshire and Shropshire Councils are all currently involved in supporting resource efficiency.

Project Brief 2: Business Support Programme	
Title	**Business Support Programme**
European Structural Investment Fund Priority	This project supports Priority Three (SMEs), which seeks to support the development of SMEs in emerging areas linked to European and regional challenges, including in the low carbon economy and resource efficiency.
Summary Description of Project	The project will support the development of the local supply chains and improve the effectiveness of local companies to supply low carbon products and services. It will provide support and practical advice backed up by funding to enable companies to develop.
Purpose/Objective	▪ Develop supply chain to support low carbon and green economy in the three LEP regions ▪ Support local procurers to purchase from local companies, where practicable ▪ Support low carbon sector companies to exploit technologies ▪ Provide grant funding for companies to develop technologies and business capacity ▪ Awareness raising of legislation and regulatory issues, opportunities etc ▪ Develop an integrated approach between suppliers of low carbon products and customers who use local resource and energy efficiency support.
Rationale for Intervention (including market failure case)	There are a good number of companies operating in and supporting the low carbon sector in the three LEP regions, however there are only a small number of medium or larger companies currently in the region. Much of the benefits of larger low carbon investments are being felt outside the three LEP regions. The local supply chain needs developing to take more of the local low carbon procurement spend and to take advantage of low carbon opportunities in other UK regions. There are existing business support programmes/providers (eg. SBEN, Metnet), which can be built on in each of the LEP areas. Each has a different focus and suffers from a small company pool in each LEP area to deal with. Combined, the company pool will be much wider, provide depth in specific technology areas (strengths) and enable a more comprehensive company directory to be developed into a supply chain that can service the local low carbon requirements.
Key Strategic Low Carbon Priority Addressed	This project will address the development of SMEs in the low carbon economy and resource efficiency. Research and development of new technologies including in renewable energy.
Key Activities/ Interventions	▪ Grant funding (match funded) for development of new technologies ▪ Grant funding (match funded) for capacity development ▪ Development and maintenance of a company directory ▪ Supply chain development ▪ Facilitation of contacts between local procurers and suppliers ▪ Awareness raising of opportunities/threats arising from legislation, regulation and support changes ▪ Linking into resource and energy efficiency programme ▪ Provision of locally based consultancy to support SMEs to reduce their energy usage – linked to above point.

Project Brief 2: Business Support Programme	
Quantitative Outcomes and Outputs	▪ Increased sales turnover of local companies ▪ Increased employment ▪ Higher percentage of local contracts going to local companies.
Indicative cost (if known)	Estimated £750,000 of European funding per year.
Possible match funding source(s)	▪ Local authorities.
Local Impact and requirements (eg. on supply chains, partnership working/ linkages)	▪ Increased development of, and depth, of supply chains ▪ Increased partnership between companies in the same and related LEP regions ▪ Greater clarity for procurers of where to purchase low carbon products and services ▪ Increased research and development of new technologies and services ▪ Increased level of commercialisation. Requirements: ▪ Building on current business support programmes such as those delivered by Metnet, Worcestershire County Council and Staffordshire County Council ▪ Linking into academic establishments for technology support and joint research and development projects ▪ Cross border working to establish a combined company and capability directory ▪ Working closely with the resource and energy efficiency programmes.
Lead Body/Partner Champion	Metnet is a possibility.

Project Brief 3: Anaerobic Digestion	
Title	**Anaerobic Digestion**
European Structural Investment Fund Priority	This programme focuses on elements from priority 4: Supporting the shift towards a low carbon economy in all sectors. ▪ Innovative renewable energy technologies ▪ The supply and use of renewable sources of energy, by-products, wastes and residues and ▪ Priority One (Research, Technological Development and Innovation) seeks to foster innovation and the knowledge base through co-operation, including the introduction of low carbon and green technologies.
Summary Description of Project	A co-ordinated programme to support and fund the building and commissioning of AD plants in rural areas either on farms or with food and drink companies which produce the raw waste materials. The support is to include awareness raising of potential customers, suppliers, potential employees and those who could potentially be affected by AD plants close by. Support also to include research and development funding to develop and improve AD technologies.
Purpose/Objective	▪ Development and deployment of micro anaerobic digestion to farms, food and drink companies; ▪ Advice/guidance (as part of resource efficiency project) ▪ Awareness raising of the benefits and restrictions of anaerobic digestion ▪ Grants to support the implementation ▪ Support to speed up planning permission.
Rationale for Intervention (including market failure case)	In the Marches and Worcestershire there are a large number of farms and food and drink companies with the right kind of raw material which can be treated using anaerobic digestion to provide biogas which can be used on site. There is a high level of potential in the three LEP areas for small and medium scale anaerobic digestion plants which can be based on site. Roll out of AD in the UK is low compared to other countries such as Germany, and awareness of the economic and environmental benefits of AD is not well known. There are perceived issues with AD regarding odours, extra transportation traffic and increased risk of fire/explosion hazards that is normally stated by neighbours and is based on information that quite often is wrong.
Key Strategic Low Carbon Priority Addressed	The key strategic low carbon priority addressed is the generation of energy from waste reducing carbon emissions across the three LEP areas.
Key Activities/ Interventions	▪ Awareness raising of the benefits of AD ▪ Information provision to address the negative issues around AD ▪ Programme support with regards to planning permission ▪ Grant funding (match funded) to build AD plants ▪ Support to develop skills of employees ▪ Support to develop supply chains for raw materials

Project Brief 3: Anaerobic Digestion	
Quantitative Outcomes and Outputs	▪ Increased numbers of AD plants built and commissioned ▪ Volumes of waste treated ▪ Volume of biogas generated ▪ Increased employment.
Indicative cost (if known)	£3 million of European funding per year.
Possible match funding source(s)	▪ Green Investment Bank ▪ Local authorities ▪ Central government ▪ Private sector.
Local Impact and requirements (eg. on supply chains, partnership working/ linkages)	▪ Numbers of AD plants built and commissioned ▪ Volume of biogas generated ▪ Volume of waste treated ▪ Amount of electricity and heat generated ▪ Development of skills in AD technologies and preparation of raw materials ▪ Development of local supply chains. Requirements; ▪ Development of links between academic research specialists, farmers, food and drink companies and suppliers of AD plant and services. ▪ Development of local supply chain ▪ Development of local employee skills set.
Lead Body/Partner Champion	Harper Adams with support from other partners (eg. NFU, CLA etc).

Project Brief 4: Woodland Enterprise Zones	
Title	**Woodland Enterprise Zones**
European Structural Investment Fund Priority	This project focuses on elements from Priority 4. Supporting the shift towards a low carbon economy in all sectors. ▪ Innovative renewable energy technologies ▪ The supply and use of renewable sources of energy, by-products, wastes and residues.
Summary Description of Project	This project is directly linked to the wider government initiatives around the establishment of Enterprise Zones. This creates a focus for activity and also a focus for funding.
Purpose/Objective	The key purpose is to promote woodland and forestry based enterprises aimed at developing renewable resources; further supported by the development of skills, with clear links to distribution chains, market development and the low carbon economy. Opportunities to learn from, and link to, other projects need to be explored, including: the Heartwood project in the Wiltshire/ Somerset area is an ideal example: this focuses on woodland protection and development; and Midlands Wood Fuel Ltd, which shows a commercial model for exploitation. The combination of the 2 projects would provide an ideal insight and potential strong partners.
Rationale for Intervention (including market failure case)	To put this in a wider context there is now a clear government priority for the protection and growth of forestry and its related industries, as contained in a Government Forestry and Woodlands Policy Statement, January 2013. The forestry and primary timber processing sector contributes £1.7bn in gross value added (GVA) to the UK economy, supporting around 43,000 jobs. In 2010 in the UK, it directly employed around 14,000 people in more than 3,000 separate enterprises, suggesting that the vast majority of forestry businesses are among the small and medium sized enterprises (SMEs) who are already benefiting from the action taken to exempt all SMEs from regulatory burdens. Annual sustainable timber harvesting in the West Midlands is running at c.400,000 tonnes, 200,000 tonnes below the 600,000 tonne potential harvest if all the small woodlands are brought into management. With the introduction of the Renewable Heat Incentive and the emergence of new funding opportunities such as the Green Investment Bank and the Rural Community Renewable Energy Fund, the scope for developing new initiatives around woodfuel is growing. The Local Enterprise Partnerships (LEPs) that have been encouraged across the country to bring together Local Authorities and businesses to promote and support local economic development have real potential to drive growth in the forestry sector. A number of LEPs, for example the Marches, New Anglia and Cumbria partnerships, already recognise this and are exploring the scope for realising the potential of the woodland assets in their areas more effectively. We will ensure that LEPs have up-to-date information on forestry businesses and the positive role that these can play in the economic recovery. The Forestry Commission is working with the Marches LEP and local businesses to explore the concept of 'Woodland Enterprise Zones', as proposed by the Panel. As well as quantifying the current value of the timber resource and forest industry in this area, the initiative will test the evidence base in order to identify potential areas that will enhance economic growth and create jobs via an increased demand for wood, wood

Project Brief 4: Woodland Enterprise Zones	
	products and woodland management in the Marches LEP area. The study will also identify any barriers limiting woodland management and sector development and how they might be removed with the help of a woodland enterprise zone. The rationale for intervention is further reinforced based on previous proposal for a South Kidderminster Enterprise Zone with the full support of the LEP, District Council and Forestry Commission.
Key Strategic Low Carbon Priority Addressed	This project will address various priorities. Key ones are: ▪ Developing and exploiting renewable sources of energy ▪ Enhancing carbon sequestration and emission reduction in agriculture and forestry ▪ Developing the related skills ▪ Developing an ecosystem services approach to woodland management ▪ Helping to quantify the value of ecosystem services from all timber activity, including wider social/non-economic benefits.
Key Activities/ Interventions	It is likely a cross-LEP approach would be taken in developing these. Each of these activities represents a project in their own right. The following is an indicative list which will need prioritisation locally: ▪ Biomass/woodfuel supply chain development with links to waste-to-energy plants (clean wood waste) ▪ Potential Wyre Forest project involving the Forestry Commission and Wyre District Council ▪ Link schemes to business support (e.g. raise awareness of payback on investment in biomass boilers and on performance; support for RHI registration, eg. for schools), but keep the focus on biomass/woodfuel development through established local expertise, woodland/rural professionals ▪ Development of small scale wood fuel boilers in domestic houses and smaller local businesses, ie. low capital cost. Linking to established local knowledge and wood fuel market development.
Quantitative Outcomes and Outputs	▪ Establishment of defined woodland enterprise zones ▪ Increased use of biomass boilers in the region ▪ Increased production of biomass fuel in the region ▪ Increased recycling or reuse of wood waste.
Indicative cost (if known)	£1-2 million of European funding per year
Possible match funding source(s)	▪ Forestry Commission ▪ DEFRA ▪ Local authorities.
Local Impact and requirements (eg. on supply chains, partnership working/ linkages)	In the case of the Wyre initiative this would build on existing partnerships allowing it to move faster and also present a model to be explored elsewhere in the WM. At this stage we cannot give more information on local impact in any details. Funding is going to be vital to get this going as well as strong partnerships with cross-border working.
Lead Body/Partner Champion (funding and delivery)	The Forestry commission is clearly a strong partner and then for each project it will need local partners (e.g. for the Wyre project it has the Wyre District Council as a partner).

Project Brief 5: Public Building Low Carbon Retrofit Demonstrator	
Title	**Public Building Low Carbon Retrofit Demonstrator**
European Structural Investment Fund Priority	This project supports the following aspect of Priority 4: Supporting the shift towards a low carbon economy in all sectors. ▪ Energy efficiency and renewable heating and cooling in public buildings.
Summary Description of Project	"Demonstrator" project to retrofit public sector, public facing buildings (ie. those buildings that are used by the general public, such as libraries), prioritising those buildings/assets that have been selected for transfer to community groups and social partners. EU funding will be used to bridge a funding "gap" in order to support roll-out of new, untested technologies and to ensure that buildings meet the highest energy efficiency ratings prior to transfer. The project will provide exemplar buildings demonstrating low carbon technologies across LEP areas, meeting BREEAM Very Good or Excellent standards. The project will be used in part to test the utilisation and application of new technologies and illustrate which approaches operate more effectively in different socio-economic and physical contexts. This project covers schemes that are not eligible for ECO or Green Deal. Note that retrofitting of social housing may be funded via a European Investment Bank loan fund. LEPs have the option to opt in to an overarching national fund, but with project delivery at LEP level.
Purpose/Objective	This project is intended to increase the use of innovative renewable energy and energy saving technologies in public buildings, thereby increasing the number of nearly zero-energy public sector buildings, ensuring that energy needs for heating and cooling are reduced to cost-optimal levels. It supports a genuinely "Big Society" approach by ensuring that public assets earmarked for transfer to community groups are of high environmental standards.It will also increase the retro fit of community buildings that will be unlikely to fund the measures themselves (i.e. village halls and community centres).
Rationale for Intervention (including market failure case)	The UK cannot meet its declared environmental targets without dramatically reducing the carbon-intensity, and running costs of buildings. Local authorities spend millions of pounds per year on energy and like all large users of energy, must pay a charge to the government for the carbon dioxide emitted, known as the Carbon Reduction Commitment (CRC). Installation of low carbon energy generation technologies and energy saving technologies will help to reduce local authorities' carbon footprint and serve as "exemplars" in the wider economy. It is easier to gain people's attention for the need for change, to significantly increase the quantity and quality of energy efficient retrofits when public authorities have a good approach. It is therefore important to demonstrate exemplary solutions at frequently used public building. The project also tackles energy efficiency market failures: imperfect information, and externalities (pollution and climate change arising from less than optimal use of energy by some parties is a type of externality).
Key Strategic Low Carbon Priority Addressed	The most recent evidence on the low carbon economy is provided in the *Socio-Economic Performance of the West Midlands in terms of the Low Carbon Economy* report. The report highlights a number of priorities for the low carbon economy in the region across a range of low carbon sectors/themes, including retrofitting of public, private and domestic buildings for increased energy efficiency.
Key Activities/ Interventions	Reductions in building-related GHG emissions can be achieved in many different ways: by increasing the amount of electricity generated from low- and zero-carbon technologies and by retrofitting existing buildings to reduce energy consumption and improve energy efficiency. In this project, public

Project Brief 5: Public Building Low Carbon Retrofit Demonstrator	
	buildings will be modified to create eco-efficient buildings achieving BREEAM Very Good or Excellent ratings. This will include: ▪ **Demonstration of zero-emission and positive-energy buildings.** Zero-emission buildings are buildings which have markedly reduced energy needs achieved through design and efficiency measures; energy needs required by these buildings should be achieved through renewable technologies and on-site generation. ▪ **Deep renovation of existing buildings to beyond cost-optimal levels.** By renovating deeply, using state-of-the-art technologies, it is possible to reduce the energy consumption of a building by more than 75%, focussing on improvements to heating, cooling, ventilation and hot water. The conditions for investment are: a) total cost of the renovation relating to the building envelope or the technical building systems must be higher than 25% of the value of the building, excluding the value of the land upon which the building is situated; or b) more than 25% of the surface of the building envelope undergoes renovation. A menu of practical measures which can be retrofitted to the existing public building stock will be presented (a one-size-fits-all approach will not be appropriate). The project will also include a comprehensive performance monitoring package for the installed measures, providing an ongoing support package to those organisations that benefit from the measures. A Community Interest Company (CIC) could be set up to manage the project or selected via a tendering process.
Quantitative Outcomes and Outputs	Output indicators could include: ▪ Number of organisations supported engaged in deployment of clean technology/renewable energy ▪ Number/type of low carbon refurbishment initiatives ▪ Number of sq. metres of upgraded premises achieving BREEAM standard of Very good or Excellent ▪ Number of low carbon energy efficiency demonstrator projects. Outcomes could include: ▪ Reduction in CO_2 emissions from public sector buildings ▪ Energy cost reductions by the public sector.
Indicative cost (if known)	A value of between £3m and £5m of European funding would be in keeping with ERDF schemes implemented in other English regions.
Possible match funding source(s)	Potential sources are: ▪ UK Green Investment Bank ▪ EIB (for social housing retrofit) ▪ Local Authorities ▪ Voluntary sector ▪ Heritage Lottery Fund.
Local Impact and requirements (eg. on supply chains, partnership working/ linkages)	Demand from the project will need to be met by a host of increasingly efficient products from suppliers of electricity, heating, ventilation, and air conditioning (HVAC) equipment, lighting, windows, insulation, control software, and countless other products. Providing sufficient tendering opportunities for local suppliers will be vital, as well as providing necessary business support and training to up-skill local provides to exploit the business opportunities that the scheme will generate.
Lead Body/Partner Champion	The project will be co-ordinated at a LEP-wide level, and individual councils should bring forward individual schemes for selection.

Project Brief 6: New Build "Game Changer" Sites	
Title	**New Build "Game Changer" Sites**
European Structural Investment Fund Priority	This project spans Priority 4, Supporting the shift towards a low carbon economy in all sectors, and Priority 5, Climate Change: ▪ Priority 4: Integrated low carbon strategies and sustainable energy action plans for urban areas, including public lighting systems and smart grids ▪ Priority 5: Sustainable water management, including water efficiency.
Summary Description of Project	The project will support investment in new and existing commercial and industrial sites in urban areas in order to minimise energy use and maximise resource efficiency, in order to meet BREEAM Very Good or Excellent standard. The investments will cover building and site improvements, drainage and lighting systems and, where appropriate, district heating systems. The project will be targeted at specific sites identified by respective local authorities. The investments will make extensive use of renewable energy and sustainable materials and where possible, alternative transport systems, waste reduction and recycling strategies. It should be noted that under the 2014-20 period, European funds will no longer be able to be used to support general sites/premises development.
Purpose/Objective	Investment in enhanced building design, drainage, lighting and heating systems has the potential to reduce demand for energy and energy emissions, minimise flood risk and in turn generate economic savings.
Rationale for Intervention (including market failure case)	The cost of implementation of new building standards, drainage, lighting and heating systems is falling rapidly, whilst the longer-term cost benefits are widely acknowledged. For example, in the case of LED lighting, any additional short-term costs (eg replacing existing high pressure sodium street lights with new LED lights) is more than offset by greater reliability and reduced running costs. Incorporating SUDS into new and existing developments reduces the risk of overloading the drainage system (with consequent flooding) and improves water quality, generating cost savings. Combing several (or all) of these factors into a single site offers potential multiplier effect benefits and can also act as a stimulus to other developments (ie. "Exemplar" effects).
Key Strategic Low Carbon Priority Addressed	The most recent evidence on the low carbon economy is provided in the *Socio-Economic Performance of the West Midlands in terms of the Low Carbon Economy* report[24]. The report highlights a number of priorities for the low carbon economy in the region across a range of low carbon sectors/themes, including retrofitting of public, private and domestic buildings for increased energy efficiency.
Key Activities/ Interventions	Development/enhancement of commercial/industrial schemes encompassing some or all of the following: ▪ **BREEAM Very Good or Excellence across all buildings for New Construction and In-Use developments.** All building must meet sustainability benchmarks and targets that continue to stay ahead of regulatory requirements, driving greater sustainability and innovation in the built environment.

[24] Sustainability West Midlands, *Socio-Economic Performance of the West Midlands in terms of the Low Carbon Economy* (2013).

Project Brief 6: New Build "Game Changer" Sites	
	▪ **Sustainable Urban Drainage Systems (SUDS).** Implementation of water management practices and facilities designed to drain surface water in a manner that will provide a more sustainable approach than what has been the conventional practice of routing run-off through a pipe to a watercourse. ▪ **District heating (teleheating) systems.** Distribution of heat generated in a centralised location for residential and commercial heating requirements. The heat can be obtained from a heat only boiler, or the heat from a combined heat and power (CHP) plant, including geothermal heating and central solar heating. ▪ **Light Emitting Diode (LED) lighting.** Installation of new LED street lamps and retrofit of existing street lighting lanterns; LED lighting in commercial/industrial buildings, including replacements for existing fluorescent, halogen, mercury vapour or sodium bulbs. ▪ **Sustainable transport schemes.** Travel planning to reduce car use and increase use of public transport.
Quantitative Outcomes and Outputs	Output indicators could include: ▪ Number of employment sites with environmental improvement programmes ▪ Number of sq. metres of upgraded premises achieving BREEAM standard of Very good or Excellent ▪ Number of projects incorporating sustainable drainage systems (SUDS) ▪ Number or projects installing decentralised renewable energy generation technology. Outcomes could include: ▪ Reduction in energy use and CO_2 emissions from commercial buildings and sites ▪ Reduction in water use from commercial buildings and sites.
Indicative cost (if known)	A total European funding package of around £5m may be appropriate.
Possible match funding source(s)	Possible sources are: ▪ Local Authorities ▪ Local Sustainable Transport Fund ▪ Private sector ▪ Ofgem ▪ Community Infrastructure Levy.
Local Impact and requirements (eg. on supply chains, partnership working/ linkages)	Implementation of individual schemes will require oversight by a private developer/contractor. A tendering process will be necessary to select the appropriate firm. Within the supply chain, demand will need to be met by a host of increasingly efficient products from suppliers of a range of products and services. Providing sufficient tendering opportunities for local suppliers will be vital, as well as providing necessary business support and training to up-skill local provides to exploit the business opportunities that the individual schemes will generate.
Lead Body/Partner Champion	The project will be co-ordinated at a LEP-wide level, and individual councils should bring forward individual schemes for selection.

Project Brief 7: Energy Intensive Industries	
Project Title	**Energy Intensive Industries**
European Structural Investment Fund Priority	This project supports the following aspect of Priority 4: Supporting the shift towards a low carbon economy in all sectors ▪ Energy efficiency measures and renewable energy use in SMEs.
Summary Description of Project	Highly focused programme to support the development and deployment of energy efficient technologies and processes in Energy Intensive Industries (EIIs) including ceramics in Stoke area; focus on SMEs.
Purpose/Objective	To reduce the use of energy and also reduce manufacturing costs which will make the companies more competitive. Through this to reduce impact on the environment.
Rationale for Intervention (including market failure case)	Electricity represents up to 30% of the manufacturing cost in ceramics processing and changes in the cost of energy have an immediate impact on profit. The introduction of the Climate Change Levy has already increased the cost of electricity for ceramics processors and this is unlikely to be the last rise in the cost of energy. Much good work has been done to reduce energy use in the ceramics industry such as improved energy efficiency of kilns, improved production processes, but much remains to be done. Most ceramics processors could easily reduce energy costs (without major investment) and increase profits through good energy management practice. In addition Energy companies have an obligation and have put funds on one side which could be accessed by the manufacturers – but there is little or no uptake in the Staffordshire/Stoke area so far. The energy companies can also raise the funds required to upgrade with a 7-10 year payback for the manufacturers; the individual manufacturers are often unable to raise this level of capital. However there is clearly an industry reluctance to 'trust' the energy companies.
Key Strategic Low Carbon Priority Addressed	The most recent evidence on the low carbon economy is provided in the *Socio-Economic Performance of the West Midlands in terms of the Low Carbon Economy* report[25]. The report highlights a number of priorities for the low carbon economy in the region across a range of low carbon sectors/themes, including: ▪ Resource efficiency and low carbon manufacturing, products and services. Specifically in the Stoke-on-Trent area there is a priority to increase energy efficiency in industry and therefore reduce consumption. This is both a cost and environmental issue.
Key Activities/ Interventions	To achieve major changes will require serious capital investment to increase efficiencies. However, changes in working practices and attitudes are also important. Key activities will therefore include: ▪ Review of the approach by Manufacturing Advisory Service (MAS) to industry around EPCs and any potential subsidies/grants ▪ Exploring potential opportunities with energy companies to co-finance and/or support investment

[25] Sustainability West Midlands, *Socio-Economic Performance of the West Midlands in terms of the Low Carbon Economy* (2013).

Project Brief 7: Energy Intensive Industries	
	▪ Review of current best practice to ensure adoption of energy efficiency and reduction measures ▪ Development of promotion/education programme to support the above.
Quantitative Outcomes and Outputs	▪ Reduction in energy use by supported companies ▪ Numbers of companies supported.
Indicative cost (if known)	£2 million of European funding per year.
Possible match funding source(s)	▪ Private sector ▪ Local authorities ▪ Green Investment Bank ▪ Central government – DECC.
Local Impact and requirements (eg. on supply chains, partnership working/ linkages	To achieve this it will require a high level of cooperation and collaboration across the local companies. If successful it will create a forum to drive innovation in the use of energy. ▪ Close links with academia will be valuable e.g. Staffordshire University: Centre for Energy Efficient Systems and Stoke-on-Trent College: The Centre for Refurbishment Excellence (CoRE) ▪ Links to energy companies both individually e.g. EON and the wider association, Energy UK; will be needed.
Lead Body/Partner Champion (funding and delivery)	Potentially Stoke and Staffordshire local authorities.

Project Brief 8: Training & Development Support	
Project Title	**Training & Development Support**
European Structural Investment Fund Priority	This project supports Priority 4: Supporting the shift towards a low carbon economy in all sectors. Any actions in this project would be counted as enablers to deliver on all priorities.
Summary Description of Project	▪ Develop Specialist Training Centres: specifically for levels 3, 4 and 5 (linked to and at existing institutions); link school/university leavers to low carbon jobs; careers advice (e.g. Green jobs fair etc) ▪ Specialist skills training/support would be add-ons to existing FE/HE offer, expanding and enhancing current offer ▪ Green advice to young people – many young people are interested in a "green" career, but don't know what this means in reality. Green Jobs Fair's (like the ones run by Worcester University) could help to address this. ▪ Link school leavers to jobs – vital that businesses are engaged. This can also be via apprenticeship programmes developed jointly between education institutions and industry/employers.
Purpose/ Objective	This project would have 3 objectives: 1. **Awareness:** Raise awareness of career opportunities in green industries and the low carbon sector for young people 2. **Education & Training:** Provide access to and specialised training in core skills focusing on the mid-range skills 3 – 5 not covered by HE linked to the low carbon careers. Note: many of the skills needed are around maintenance and repair 3. **Apprenticeships:** Develop links between schools and colleges to create opportunities for apprenticeships linked to low carbon industries.
Rationale for Intervention (including market failure case)	Current education tends to focus on high end qualifications or basic skills. This leaves a gap in the middle with no specific support. Tailored support and careers advice also is lacking. With a growing demand for skilled staff to work in and support the low carbon economy it is important that tailored solutions are developed and opportunities are promoted.
Key Strategic Low Carbon Priority Addressed	These projects are fundamental enablers aimed at making this into a sustainable industry with a secured supply chain of skilled labour.
Key Activities/ Interventions	▪ Map all current support and needs of local industry and complete gap analysis ▪ Work with key partners to develop training packages - FE will be strong partners in this and HE is likely to act as an accrediting body ▪ Develop awareness campaigns working in partnership with industry/employers ▪ Develop pathways for apprenticeships in partnership between FE and industry/employers – linked to guaranteed jobs if they successfully complete training.

Project Brief 8: Training & Development Support	
Quantitative Outcomes and Outputs	This will need a detailed assessment. Outcome and Outputs are likely to be in numbers of completing training, gaining qualifications and going on into employment. A key outcome should be a higher skilled workforce able to respond to the needs of the industry
Indicative cost (if known)	£1 million of European funding per year
Possible match funding source(s)	▪ Local authorities ▪ Central government – BIS ▪ Partnership funding with major employers, education establishments and training organisations in the region.
Local Impact and requirements (eg. on supply chains, partnership working/ linkages	This will only succeed through strong local partnerships. It will link together some of the existing initiatives as well e.g. SBEN. Close working with FE in each area will be essential.
Lead Body/Partner Champion (funding and delivery)	Not sure who the lead/champion would be but key partners will need to include: ▪ Improvement and Efficiency West Midlands (http://www.westmidlandsiep.gov.uk/ ▪ http://www.sben.co.uk/Meet-The-Team : Staffordshire Business & Environment Network (SBEN) ▪ Stoke on Trent College: The Centre for Refurbishment Excellence (CoRE).

Project Brief 9: Water Supply and Flood Defences	
Title	**Water Supply and Flood Defences**
European Structural Investment Fund Priority	This project supports the following aspect of Priority 5: Climate Change ▪ Increased investment in adaptation to climate change and risk prevention and management.
Summary Description of Project	The project will involve the construction of new flood defences, implementation of other measures such as sustainable urban drainage systems (SUDS) and use of land management techniques to prevent flooding. It will also aim to raise awareness of flooding in vulnerable communities and enable them to recover quickly should a flood occur.
Purpose/Objective	The purpose of the project is to implement flood defence schemes to protect public infrastructure, business and residential premises from the damages suffered by previous flooding. The scheme would achieve a 1 in 100 year flood defence standard (this means protection against the scale of flooding which might be expected to occur once per century or a 1% chance in any year). This exceeds the current standard requirement of 1 in 75 years by the Association of British Insurers (ABI).
Rationale for Intervention (including market failure case)	Flood defence is a key factor in giving existing and potential new investors confidence in the security of their future plans where sites are identified within an existing flood catchment area. The loss of key businesses and new investment would have a disastrous effect on local economies. Unless flood risk can be addresses the risk of loss of existing commercial uses and the risk of failure to deliver new mixed use developments in town centres will be compromised. The proposed solution is a comprehensive programme of works which would meet Environment Agency standards and would thus give existing enterprises confidence to remain in the area and expand, as well as reassuring potential new investors. The loss of key businesses and new investment would have a disastrous effect on local economies. A 'do nothing' option for the respective councils is not viable as it would ignore the new statutory responsibilities placed on them to manage flood risk, and so delivery would depend on the private sector leading and coordinating activity and investment.
Key Strategic Low Carbon Priority Addressed	The most recent evidence on the low carbon economy is provided in the *Socio-Economic Performance of the West Midlands in terms of the Low Carbon Economy* report[26]. The report highlights a number of priorities for the low carbon economy in the region across a range of low carbon sectors/themes, including: tackling flooding (local climate change risk) through flood defence strategies/investments and SUDS.
Key Activities/ Interventions	The project will involve the following activities: ▪ Strengthening flood defences which protect residential and commercial premises ▪ Creating storage capacity in up-stream 'compensation reservoirs' and new flood channels to provide better control of floodwater, diverting it away from residential/business areas

[26] Sustainability West Midlands, *Socio-Economic Performance of the West Midlands in terms of the Low Carbon Economy* (2013).

Project Brief 9: Water Supply and Flood Defences	
	▪ River channel clearance work to prevent the build-up of silt, trees and detritus which can result in blockages and raised water levels over defences. The project will make allowance for maintenance over a five year period, which will include a combination of channel clearance, litter collection, as well as inspection and maintenance of the flood structures themselves. A Business Improvement District (BID) is proposed as the mechanism to secure contributions from private sector beneficiaries.
Quantitative Outcomes and Outputs	Output indicators could include: ▪ Volume of additional flood storage capacity (m^3) ▪ Watercourse restored (km) ▪ Number of businesses and properties with reduced flood risk. Outcomes could include: ▪ A reduction in the percentage of businesses in that are at risk of flooding ▪ An increase in new inward investment to redevelop previously vacant sites in high flood risk locations for new business and employment.
Indicative cost (if known)	A total European funding package of around £5m may be appropriate.
Possible match funding source(s)	Possible sources are: ▪ Flood & Coastal Risk Management Grant-in-Aid (administered by the Environment Agency) ▪ Partnership Funding (public and private – private sector businesses are among the beneficiaries of the flood defence project through reduced risk of damages, and as such it is right that they contribute; the preferred option is to secure this investment by means of a Business Improvement District (BID), and this type of partnership approach is being encouraged by Defra) ▪ Regional Flood & Coastal Risk Levy (ie. recycled Council Tax).
Local Impact and requirements (eg. on supply chains, partnership working/ linkages)	This project will mean that hundreds of businesses will benefit from a reduced risk of flood, which could also translate into reduced insurance premiums to reflect this. It will give those businesses greater confidence to progress plans for growth and expansion, whilst other business owners may be attracted to relocate into the area. The project will also improve job security for local residents as well as creating new job opportunities with a particular focus on high skill advanced manufacturing and related supplier and service businesses.
Lead Body/Partner Champion	The project will be co-ordinated at a LEP-wide level, and individual councils should bring forward individual schemes for selection Sites included (eg. Bewdley, Tenbury).

APPENDICES

Appendix I - Work Undertaken

The work has involved the following tasks.

Phase One – Definition of the Low Carbon Economy

Definition of the Low Carbon Economy

A comprehensive definition of the low carbon economy and the sector was drawn up for discussion with the steering group to ensure agreement on the definition which will be the focus of the study. This drew on existing definitions and those used by the UK government.

Phase Two – Desk Based Research

Desk based review of available research including the reports/studies previously done in the West Midlands and highlighted in the tender brief. As a first stage a review of the available and relevant research was carried out in order to establish the key points emerging and also to identify any gaps. A summary mapping of the low carbon sector for each of the three LEP areas was conducted. Additional desk-based research was carried out as required to ensure as comprehensive a review as possible detailing not just hard market intelligence but also softer intelligence aspects such as new and emerging technologies which might be important in the future.

The research also covered the general economy, academic, research and skills/training strengths and provision in each of the LEPs, as well as UK/regional funding and support programmes. This will inform the development of project briefs, action plans. A summary of the findings and conclusions were incorporated into a reference document (this report) for use and amplification throughout the project.

Phase Three – SWOT Analysis of the Low Carbon Economy

SWOT Analysis

A SWOT analysis was conducted based on the desk research which identified the strengths and gaps in each LEP. This analysis included the academic, research and skills/training establishments as well as the low carbon economy/sector and general business strengths in each LEP. This analysis will identify the areas where low carbon economy intervention would be beneficial.

Phase Four – Project Brief Development

One-to-one consultation was undertaken with key partners across the LEP area and a series of LEP workshops were carried out in order to identify, discuss and confirm strategic low carbon priorities across the LEP areas and agree potential project investments.

Phase Five/Six - Action Planning/Finalisation

Further development of the Project Briefs was undertaken, including confirmation of roles, responsibilities and timescales, for implementation planning.

Appendix II – Key Points from Partner Workshops

Purpose of Workshops

The initial phase of the work involved a desk-based review of available and relevant research at local, regional, national and European level. The subsequent consultation phase involved a series of workshops taking place with key stakeholders in each LEP. The purpose of these workshops is to present the findings to date, and to hear partners' views on potential opportunities and discuss potential project ideas which could be developed into more detailed action plans to support future European funding bids. The workshops provide an important opportunity for partners to become involved in the strategic prioritisation and project development process and to influence the final suite of projects. The workshops included a plenary presentation of key findings, followed by smaller group discussions covering:

- LEP area low carbon economy strengths, weaknesses, opportunities and threats
- LEP area low carbon economy strategic priorities
- Potential low carbon economy investments/projects which partners would like to be considered for European funding[27]
- Design/delivery considerations.

Purpose of this Note

This note summarises the key points as recorded during the smaller group discussions. It is intended to be a compendium of comments made, rather than an analysis or endorsement of them by Innovas Consulting or any other party. All comments recorded anonymously and which are non-attributable. The ideas below are not listed in any order of importance. Any errors and omissions are entirely the responsibility of the note authors.

Innovas Consulting will meet with the client group in early June to discuss and agree the next steps for the study and we will be in touch again in due course.

Marches LEP Workshop – Tuesday 7th May, 2013

Key ideas put forward were:

- Exploit potential opportunities in woodfuel, biomass - production is a big regional economy (there are 350 acres of miscanthus in Telford and Wrekin, but there is no local outlet so it goes to Cambridgeshire)
- Invest in systems to sort waste (eg Walsall conveyor belt system)

[27] Any issues in relation to eligibility of activities for European funding would need to be examined at a later stage.

- Exploit potential opportunities in forestry, using agricultural residues and food waste to generate energy; wind resources (although lack of political support at present and high investor costs); develop a woodland enterprise zone.
- Start-up/feasibility capital and needs assessment for large renewables projects; tackling grid capacity constraints
- Invest in hydro-electric schemes – Staffordshire Leader funding offers a potential model; may need risk capital funding
- Retrofitting – domestic (private owned/rented and Housing Association) and commercial premises; community-wide schemes
- Develop a pilot internal wall insulation project – this will be a challenge due to the building stock, but could be done (eg wood fibre products), and would require specific training schemes
- Improve mobile and broadband networks/connectivity
- Micro Anaerobic digestion: farming and food; business parks; factories and food waste facilities; strong AD technology base in the Marches
- Ensure all Enterprise Zone construction is compliant with highest BREEAM rating
- District heating for new developments (eg Bridgenorth in Shropshire) and retrofit (requires a sea change for developers to leave the development with a lasting energy business)
- LED lighting – LED as a "transformational" technology, including in buildings as well as street lighting
- Advice/support to businesses – diagnostics/advice audits; resource efficiency business planning workshops; manufacture of biomass/boilers/renewables; courses/awards; grant support; support business clubs (eg BESST) and networks (eg Metnet); addressing skills gaps; more R&D support, linking to colleges/universities; identify low carbon mentors (Birmingham Science Park has a low carbon mentoring scheme)
- Address resource security as a business threat (this includes energy) - Telford BESST advocate this approach, which needs to be filtered down into the mainstream.
- Reinvigorate the Rethink Energy initiative
- R&D facilities to disseminate learning to farmers on a "one-to-many" basis
- Research advice/support (eg use ESF/skills Priority money to fund low carbon PhDs)
- Develop partnership working (eg housing partnerships, local nature partnerships)
- Work with Regional Food Academy at Harper Adams University to develop supply chain initiatives
- Low carbon vehicles – eg for community uses (Mayfair Community Centre approach); minimum LCV standards for taxis/fleets; expand emerging electric charging network and H_2 fuelling points
- Improvements to road network

- Develop hubs for solar panels/arrays - work with University of Wolverhampton Priorslee Campus as a hub for solar tech
- Support biotech cluster and cluster to support upkeep/refurbishment of buildings; microfinance for cleantech businesses
- Development of "green business parks"; attach consistent conditions to planning approvals; "top-up new developments so highest BREEAM ratings reached
- Demonstrate long-term commitment to low carbon energy investment
- Use robotics to reduce carbon emission from agriculture (eg Smart tractors)
- Improve linkages between policy development, communities and SMEs; awareness raising (residents and businesses) about all aspects of the low carbon economy and opportunities, including technologies/services available, efficiency assessments/support available
- Behavioural change monitoring project (eg Scotland project focussed on students renting from Housing Association); could use to demonstrate Green Deal savings; behaviour change/peer support (eg. "Green youth enterprise")
- Work with educational establishments to map out "low carbon" career opportunities; look at the Innovation Birmingham Pioneers into Practice scheme, which provides student placements in low carbon companies/organisations – could do this across sectors in the Marches
- Run a "Young Green Entrepreneurs" project – Dragon's Den type approach for low carbon business ideas
- Marches low carbon version of the Zopa (marketplace where people meet to lend and borrow money)
- Encourage community-based initiatives (eg Shropshire Green Exchange); local community share offers for investment in grid upgrades – community Energy Service Companies (ESCOs); Community Councils – provide route to market and support to households in fuel poverty; may require "pre-feasibility" funds
- Local incentive (financial) schemes for increased resource efficiency (eg reduced Council Tax, local "credit card")
- Food co-ops – covering distribution systems; local production and purchase
- Carbon capture/sequestration
- Invest in water capture (eg reservoirs) and management – will result in energy savings
- Creating markets for low carbon economy
- Green Deal – although this needs to be simplified and access to eco-funding should be allowed
- Tacking flooding (local climate change risk) - work around water management and sustainability (SUDS) needs to continue to prevent flooding of the gorge for example.
- Ammonia (NH_3) heat exchange systems – use to create "dry litter"

- Promote sustainable tourism – eg leisure cycle (Sustrans) routes to support tourism; shuttle buses/Park & Ride as examples of sustainable tourism.
- Develop locality plans
- Develop a project covering energy and health together
- Create a directory of low carbon resources.

Worcestershire LEP – Tuesday 7th May, 2013

Key ideas put forward were:

- Agriculture – focussing on water use and developing high value, quality product; tacking vulnerability of agriculture and knock-on effect on food prices and wider poverty
- Improve building efficiency – need to increase efficiency of domestic dwellings and commercial premises - use of EPCs; Code for Sustainable Homes (CSH) minimum standards; retrofitting; linking with skills/training (eg Bosch as a partner); historic buildings; working with commercial landlords; work with Encraft to develop the technology evidence base for building related projects; capital fund for new homes.
- Fund infrastructure for house building, and work more closely with Hosing Associations
- Given the range of EU targets, there is a need for cross-CSF Priority projects if regulations allow and also to work with the Greater Birmingham & Solihull LEP, which part of Worcestershire is in (eg they have a low carbon energy group).
- Biomass/woodfuel supply chain development (based on Cumulus research) – eg Wyre Forest, and development of integrated landscapes
- Look at potential to deliver low carbon/green economy initiatives through identification of two or three "Game Changer" sties/areas – eg. linking to key strategic sites, which could include South Kidderminster "Boson" site, Throckmorton Technology Park (solar panels/arrays)
- Town centre redevelopment
- District heating schemes – vital to take forward a high-profile scheme
- Anaerobic digestion – a double edged sword and requires effective regulation; questions about viability of small-scale schemes; need to overcome nimbyism.
- Support for flood defence strategies and investments (eg Bewdley, Tenbury)
- Implement the Tenbury/Teme Action Plan
- Rainwater storage/conservation and use within agriculture and food processing
- Resource efficiency support for businesses (eg grants) – integrated with skills support; engaging with local colleges/university; link to Green Deal (although may be a challenge to evidence outputs for payment of European funds)

- Skills-based Priorities – work with colleges/university to develop future leaders across all sectors, focussing on behaviour and leadership; low carbon/resource efficiency as integral part – potential for student leadership project
- Addressing fuel poverty
- Transport – development/use of biofuels and other alternative fuels; ELVs, although need critical mass of charging point; Smart Grids/Areas; improvements to road network; sustainable transport infrastructure (eg Redditch scheme); develop "green corridor" projects
- Develop Centres of Excellence, linking training to skills gaps.
- Reducing energy use by the public sector
- Developing markets for good to drive environmental management
- Sustainable tourism opportunities – Offgrid Festival; opportunities linked to health and well-being
- Winter storage – habitat creation (including wetlands), major landscaping
- Awareness raising across all aspects of the low carbon and green economy and funding opportunities

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Key ideas put forward were:

- EPC (Energy Performance Contracts): ceramic Industry really needs to take this up but it requires investment. EON can raise the capital, but companies are wary of the energy companies. If this investment is made it has a 7 – 10 year recovery period
- Educating Bankers and the Treasury: at a local level, bankers do not understand the opportunities and how to capitalise on them and therefore don't support them – this is also often true in the Treasury.
- Public Sector to invest, then sell or lease back to the private sector - this relates to a district heat network scheme, which is an important infrastructure project that probably needs public leadership and funding to make happen, as has happened previously in the Blackburn Meadows biomass power scheme in Sheffield
- Energy company obligations means there are funds available for investment, but currently there is little or no up take in Staff and Stoke. This needs an urgent response to grab the opportunity – or it will be lost to other regions
- Retrofitting : public and private
- Support the existing resource efficiency grant scheme to extend this – it has been very successful
- Supporting Sector companies: i.e. support the development of resources to exploit technologies. Also support a consortium approach with links to real projects
- LED lighting, although this is also supported through PFI schemes in Staffordshire and Stoke. Note that LED lighting has a 4 year payback period and little/no maintenance costs

- Specialist Training Centres: need to focus on Levels 4 and 5 as these are not covered at present.

Appendix III – Bibliography

The following documents/sources have been reviewed to inform this report:

European/European Programmes

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