

**LOW CARBON ECONOMY - POLICY  
REVIEW 2010/11: BASELINE POSITION**

**REPORT OF THE DEPUTY CHIEF EXECUTIVE**

**STRATEGIC PRIORITIES: SP: PROSPEROUS CITY**

**CORPORATE PRIORITIES: C101: Delivering Customer Focussed Services, C102: Being 'One Council', C103: Efficient and Effective Council, C104: Improving partnership working to deliver 'One City'.**

**1. Purpose of Report**

- 1.1 The purpose of this report is to set out the baseline position in relation to the Committee's policy review on the development of the low carbon economy in Sunderland.

**2. Background**

- 2.1 On 18 June 2009, the Committee agreed to undertake a policy review into the development of a Low Carbon Economy in Sunderland.
- 2.2 At its meeting on 14 July, the Committee agreed the following terms of reference:-
- (a) To gain an understanding of what we mean by the term 'low carbon economy';
  - (b) To consider the difference between the concepts of low carbon *business* and a low carbon *place*;
  - (b) To investigate the land and infrastructure requirements of a low carbon city;
  - (c) To consider the potential skills requirements of a low carbon economy and the measures that can be taken to ensure that the City's working population are equipped to meet the demand;
  - (e) To consider the role of the Council in providing community leadership and championing the low carbon economy;
  - (f) To consider how best to market the City in order to attract new low carbon industries and consider the promotion of flagship schemes;

(g) To consider how best to involve individuals in making low carbon choices, for example, through energy conservation or generation measures;

(h) To look at the action being taken by the City as a whole (businesses and residents) and the work being done to encourage businesses and residents to sign up to the low carbon agenda;

(i) To consider the role of the FE / HE sector in providing research into the development of low carbon industries and meeting the likely skills demands. How can we make courses more attractive to young people and ensure that their skills are transferable?

(j) To map those low carbon businesses already in the city to provide a benchmark for moving forward;

(k) To look at the work being done in schools and other Council buildings to reduce carbon emissions.

2.3 In order to set out the background to the review, the Committee will receive a presentation covering the main themes. This will provide the backdrop for the Committee to take further evidence from a range of sources

### **3. Definition of Low Carbon Economy**

3.1 There are two dimensions to the low carbon economy:

- reducing carbon dioxide and other emissions ('greenhouse gases') associated with climate change;
- exploiting alternative energy resources, recognising that fossil fuel reserves are finite ('energy security').

3.2 In this context, a low carbon economy is one that

- has minimal greenhouse gas emissions;
- minimises its reliance on fossil fuels;
- develops and manufactures low and zero carbon technologies;
- develops knowledge and skills to create green jobs.

3.3 In order to take forward the implementation of the Sunderland Economic Masterplan, the low carbon agenda is being pursued by initiatives relating to 'place' and 'business'.

3.4 **Low Carbon Place** encompasses physical infrastructure and local projects and initiatives aimed at reducing the City's carbon footprint, for example:

- ultra low carbon vehicle adoption - including charging points;
- super connectivity project - enhanced broadband connectivity;

- Low Carbon City Campaign - encouraging the City's residents and businesses to reduce greenhouse gas emissions;
- low carbon commercial buildings (new and existing);
- low carbon homes.

3.5 **Low Carbon Business** - three priority sectors have been identified, having greatest potential for growth and job creation, namely:

- ultra low carbon vehicles;
- offshore wind - energy generation;
- Software City.

#### 4. **National Policy Context for the Low Carbon Economy**

4.1 The **Climate Change Act** came into force on 26 November 2008. It has two key aims:

- to improve carbon management, helping the transition towards a low-carbon economy in the UK;
- to demonstrate UK leadership internationally, signalling a commitment to sharing responsibility for reducing global emissions.

4.2 A key provision of the Act is a legally binding target of at least an 80% cut in greenhouse gas emissions by 2050, to be achieved through action in the UK and abroad. It also includes a reduction in emissions of at least 34% by 2020 (both targets are set against a 1990 baseline).

4.3 Whilst this commitment was made under the last government, it has been confirmed by the Coalition Government (for example, in a press release issued by Chris Huhne, Secretary of State for Energy and Climate Change, on the 27th June 2010).

4.4 A range of legislation is in place across the public and private sectors. In particular, the **Carbon Reduction Commitment** places a cap on emissions for large, non-energy intensive organisations. Building regulations and the Climate Change Levy also apply across these sectors. Those sites with large combustion plants, such as boilers or CHP schemes, also remain subject to the EU Emissions Trading Scheme.

4.5 The **Department for Business Innovation and Skills** (BIS) states that the transition to low carbon will transform our whole economy. It will change our industrial landscape, the supply chains of our businesses and the way we all live and work. The vast majority of, if not all, economic activity in Britain will have to reduce its carbon impact significantly.

4.6 The UK aims to lead the move to a low carbon economy in a coordinated drive to tackle climate change. BIS's Low Carbon Business

Team works to help businesses overcome the challenges and grasp the opportunities. Market intelligence commissioned by BIS puts the global market value of the low carbon / environmental goods and services sector at around £3.2 trillion in 2008/9. The UK's sector is already valued at £112 billion, with almost 910,000 jobs.

4.7 The **Carbon Trust** was established by the UK Government to help all businesses reduce their emissions. It provides specialist support to business and the public sector to help cut carbon emissions, save energy and commercialise low carbon technologies.

4.8 The **Coalition Government Statement** issued shortly after the election states that it would:

- push for the EU to demonstrate leadership in tackling international climate change, including by supporting an increase in the EU emission reduction target to 30% by 2020;
- seek to increase the target for energy from renewable sources, subject to the advice of the Climate Change Committee;
- introduce measures to promote a huge increase in energy from waste through anaerobic digestion;
- encourage home energy efficiency improvements paid for by savings from energy bills and take measures to improve energy efficiency in businesses and public sector buildings and reduce central government carbon emissions by 10% within 12 months;
- deliver an offshore electricity grid in order to support the development of a new generation of offshore wind power;
- encourage community-owned renewable energy schemes where local people benefit from the power produced and also allow communities that host renewable energy projects to keep the additional business rates they generate.

4.9 Despite this commitment, many of the policies of the previous Government regarding possible subsidies and support for low carbon transition are under review as part of the Comprehensive Spending Review.

## 5. What is the Local Policy background for Low Carbon Economy

5.1 Once fully adopted, the **Sunderland Economic Masterplan** will supersede the current 'Prosperity' chapter of the Sunderland Strategy. Its analysis of the key global drivers of change identifies climate change as one of four important influences upon the City's future. For Sunderland, these issues are likely to create 'costs', in terms of limiting the impact of climate change, but also opportunities, in developing new business and employment.

5.2 There are clearly new opportunities for Sunderland in the low carbon economy, particularly given the identification of Sunderland as the focus for the North East Low Carbon Economic Area for Ultra Low

Carbon Vehicles in September 2009. This provides Sunderland with potential economic opportunities for the development and manufacture of new local carbon technologies (including electric vehicles) and low carbon building design and construction, sustainable transport choices and the development of new low carbon energy sources, particularly in terms of the national drive to develop offshore wind energy.

- 5.3 Moving to an explicitly low and zero carbon regional economy could, if allied to sufficiently attractive incentives, drive a 'clustering' of the organisations providing goods and services to meet the technical needs of such an economy. These goods and services could be exported beyond the city boundaries to meet needs elsewhere, both in the UK and beyond. However, many other cities are attempting to do this and competition is high. Sunderland should focus on those low carbon industries where it enjoys a competitive advantage and exploit their carbon-reducing potential as well as their economic benefits.
- 5.4 The Economic Masterplan identifies a number of important challenges that the City must overcome, in particular that Sunderland's economy remains too reliant on a narrow range of industries. The city has successfully moved from ships and coal to cars and contact centres, but does not have the variety of industries and career opportunities, nor the volume of well-paid jobs necessary to retain more of the younger population and to ensure a resilient economy.
- 5.5 The Economic Masterplan proposed a new economic vision that Sunderland will become 'an entrepreneurial university city at the heart of a low carbon regional economy'. Among its five Aims, it lays out the specific objective of becoming 'a national hub of the low carbon economy' (Aim 2). This focuses upon the opportunities offered by new low-carbon technologies to stimulate economic activity in Sunderland. It emphasises the city's national potential and the need to showcase projects such as electric vehicles.
- 5.6 Sunderland City Council is preparing the **Local Development Framework** (LDF). This will replace the current Unitary Development Plan (UDP) and will set out the long term policies for the development of land and buildings in the City. The LDF will be one of the key mechanisms of delivering the objectives of both the Sunderland Strategy and the Economic Masterplan.
- 5.7 The LDF will be made up of a series of documents setting out both policies and detailed guidance. At its heart lies the Core Strategy which will set out the vision and aims along with the broad policies to help deliver that vision. The emerging Core Strategy will set out a series of spatial objectives, one of which concerns Carbon emissions and energy and will aim to reduce carbon emissions by those targets set out in the Climate Change Action Plan.

- 5.8 Sunderland currently produces approximately 2.1 million tonnes of greenhouse gas emissions per year. The City has made several public commitments to tackling climate change, as signatories to:
- Nottingham Declaration (November 2001);
  - EUROCITIES Declaration in Climate Change (November 2008);
  - EU Covenant of Mayors (January 2009).
- 5.9 Sunderland's **Climate Change Action Plan** (November 2008) is the framework which aims to reduce carbon emissions, and is the first step towards meeting the Government's long term targets of reducing greenhouse gas emissions by 80% by 2050. In January 2010, the targets were revised to cut carbon emissions by at least 34% by 2020 (to align itself to the UK Low Carbon Transition Plan) with the focus upon reducing emissions from housing, public and commercial organisations and transport. Emissions arising from waste are also identified, although this is now under the control of national and local waste management strategies.
- 5.10 The **Regional Economic Strategy** (RES) 2006-16 sets out how the region aims to deliver greater and sustainable prosperity. Several key challenges face the region that need to be addressed in order to improve its competitiveness through increased productivity and economic participation and inclusion. The RES recognises the need for the region to create more 'high value' businesses, in particular those that can make a significant contribution to regional GVA.
- 5.11 Within the context of the Regional Economic Strategy, Sunderland Software City is identified as an 'innovation connector', with the purpose of providing a particular geographical focus for innovation related activities to support regional growth. Another area of major investment has been in new and renewable energy sources, focussed particularly upon NaREC - a centre of international repute for the development of such technologies.
- 5.12 Whilst the Regional Development Agencies, including One North East, are being abolished, the RES continues to influence current contractual investments and European funding eligibility.

## 6. Low Carbon Place

- 6.1 Sunderland has had a commitment to tackling climate change since 2001, when Sunderland Partnership and Sunderland City Council signed the Nottingham Declaration on Climate Change. Since then, the Council has adopted a 5 year Carbon Plan that aims to reduce its CO<sub>2</sub> emissions by 10% by 2012. In January 2010, Cabinet agreed a further carbon reduction target of 30% by 2020. An action plan setting out how this is to be achieved will be developed during 2011 and a subsequent Carbon Plan for 2012-17 will be adopted.

- 6.2 Following the successful application to Defra's Climate Change Challenge Fund, the City Council launched its 'Bringing emissions home to Sunderland' campaign in May 2007. The nine month campaign used a range of communication methods to raise awareness of climate change amongst the City's residents. Pre- and post-campaign surveys indicated that the number of people believing climate change is caused by human behaviour increased by 22%.
- 6.3 In November 2008, the City Council and Sunderland Partnership adopted the Climate Change Action Plan. This was revised in January 2010 and sets out the aim of reducing the City's carbon emissions by 80% by 2050, with an interim target of 34% by 2020. The revised Climate Change Action Plan aligns Sunderland's carbon emission target with the UK Low Carbon Transition Plan.
- 6.4 In February 2009, Sunderland City Council, along with all other North East Local Authorities, signed the EU Covenant of Mayors. This European initiative requires all signatories to develop a Sustainable Energy Action Plan (SEAP) to reduce CO2 emissions by at least 20% by 2020. Sunderland City Council was the first UK local authority to submit its SEAP (in January 2010), with a target reduction of 34% by 2020.
- 6.5 The Low Carbon City Campaign was launched in March 2009. This 12 month campaign engaged public and private employers to establish carbon reduction targets of at least 10% within 10 years. Twenty employers signed up to the programme, representing a committed reduction of 28,500 tonnes of CO2.
- 6.6 The Low Carbon City campaign highlighted the best practice from the twelve 'carbon champion' organisations, including:
- Gentoo - aims to reduce its carbon emissions by 10% by 2018. It has developed a three year Environmental Strategy and has a network of environmental champions.
  - EDF Energy - aims by 2012 to reduce carbon emissions from its offices by 30%, and from its transport by 20%, through improvements to energy efficiency in the work place, and through use of renewable energy and a more efficient fleet.
  - Tyne and Wear Fire and Rescue Service - aims to reduce its carbon emissions by 10% by 2018. It has recently developed a Carbon Plan through the Carbon Trust's Carbon Management Programme, highlighting innovative ways to reduce carbon emissions from its properties and from accidental fires.
- 6.7 Through the Low Carbon Economy Aim of the Economic Masterplan, the Low Carbon City campaign will be further developed to engage even more of Sunderland's businesses.

- 6.8 To further enhance the City's 'Low Carbon Place' offering, feasibility work needs to be carried out to identify new and existing low carbon commercial opportunities.

## **7. Low Carbon Business**

- 7.1 Sunderland is well placed to take advantage of the move towards a low carbon economy, being located at the heart of the North East Low Carbon Economic Area for Ultra Low Carbon Vehicles. This initiative is focussed upon facilitating the transformation of the region's automotive manufacturing sector, including support for innovation and skills development. It has already seen the City positioned as the national hub for the production of electric vehicles.
- 7.2 In July 2009 it was announced that Nissan's Sunderland plant had been selected as the location for the company's European Centre of Excellence for Battery Manufacturing. Nissan is investing £200 million in the 267,000 sq.ft. (24,825 sq.m.) plant, where it will employ 350 people and produce 60,000 lithium-ion batteries annually, starting in 2012. The facility will utilise 'clean room' environments and necessitate very high skills. It will be one of just four Nissan battery plants globally (the others being in Japan, the USA and in Portugal), and will also produce batteries for Renault.
- 7.3 Nissan's Sunderland plant has also beaten off competition from rivals across Europe to secure production of the Leaf electric vehicle. This will begin in 2013, with 50,000 cars being built each year. Through a partnership with NAREC (National Renewable Energy Centre), there are now plans to produce hydrogen on site for testing fuel cell technology, using electricity generated by Nissan's eight wind turbines. These already provide 6% of the company's power requirements.
- 7.4 Through the Low Carbon Economic Area, a 20 year lease has been secured on Nissan's test track to provide an open-access facility for testing and evaluating low emissions vehicles. This will open in 2011 as part of the National Low Carbon Vehicle R&D Centre, and will be operated by Gateshead College. At the same time, Gateshead College is developing a new £8.4 million, 61,000 sq.ft. (5,658 sq.m.) Skills Academy for Sustainable Manufacturing, Productivity & Innovation on a 2.8 acre site at the Nissan plant. When it is completed in 2011, this will be the UK's first dedicated low carbon training centre.
- 7.5 The challenge is to consolidate the progress that has been made in terms of the automotive manufacturing sector, maintaining the City's leading position (for example, through exploring other technologies such as fuel cells). There is also scope for further localising the component supplier base to ensure that the production of cars - in particular electric vehicles - is itself sustainable. This in turn will help to support the development of local businesses.



- 7.6 As well as continuing to facilitate the transformation of the automotive manufacturing sector, other sectors with links to the low carbon economy will be exploited, including business software and offshore wind. In each case, the approach being pursued is to adapt and enhance the City's existing business base, workforce skills and support infrastructure to the needs and opportunities associated with this area of the economy.
- 7.7 Offshore wind will be a major growth sector, with scope for every part of the region to enjoy the benefits. This highlights the proximity of the region to the largest of the Round Three License areas at Dogger Bank, and the fact that we are therefore well placed to benefit from work on survey (which is currently getting underway), production, installation (which will take place from 2014) and maintenance. The priority for Sunderland is to examine the City's assets and determine which aspects of this emerging sector offer the best fit (for example, since we lack very large sites, it is unlikely that we will be able to attract large scale assembly work).
- 7.8 The following sector working groups have been established to take forward the business aspects of developing the low carbon economy:
- Ultra Low Carbon Vehicles (Sunderland City Council, Nissan, University of Sunderland, Gateshead College and One NorthEast).
  - Offshore Wind (Sunderland City Council [including the Port of Sunderland], University of Sunderland, Mick Thurlbeck and One NorthEast).
  - The software strand is being progressed through the activities of Sunderland Software City and its Board.
- 7.9 The sector working groups are preparing marketing strategies based upon developing the City's relevant assets to maximise the scope for attracting job-creating investment. This will include addressing issues such as sites and premises availability, while ensuring that all of the necessary skills are available within the local workforce. The groups began their work during August / September 2010, so the business aspect of the low carbon agenda should be ready to start reporting by the end of the year.

## **8 Recommendations**

- 8.1 That the information provided and the comments of members be included as part of the Committees policy review.

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