



City Profile

Sunderland

Introduction

General information

The City of Sunderland is a local government district of Tyne and Wear in North East England. It is a metropolitan borough named after its largest settlement, Sunderland, but covers a far larger area. Sunderland had a population of 281,000 in 2001 (last census).

Organization of energy and climate policies

The main responsibility for local energy policies in the City Council is located in

- the Office of the Chief Executive: Strategy, Policy and Performance (Economy and Place), Land and Property (Energy Conservation),
- the City Services: Environmental Services, Transportation Strategy
- and Health, Housing and Adult Services: Housing services (Home Energy Conservation).

Currently there are approximately 15 people involved within the organization in delivering policies relating to climate change and energy. This includes officers working in the following areas:

- Policy and Strategy (Transport, Housing, Sustainability and Planning)
- Financial Resources
- Energy efficiency in Civic Buildings
- Transportation and Electric Vehicles
- Business and Investment

Relevant stakeholders

In addition to this, Sunderland City Council works and cooperates with a wide range of organizations at a local level for concrete projects, including:

- Utility companies and energy suppliers
- CE Electric - Distribution Network Operator for the North East
- Tyne and Wear Fire and Rescue Service
- NHS, private businesses and other major employers such as Nissan
- Gentoo (the main social landlord) and other Registered Social Landlords
- The University of Sunderland, schools and community groups
- Nexus - Tyne and Wear Passenger Transport Executive



In the past, the City Council has conducted a range of communication campaigns relating to energy and sustainability policies. These have been aimed at

- residents to raise awareness of climate change (www.sunderland.gov.uk/climatechange),
- large employers to encourage them to commit to carbon reduction

targets (the Low Carbon Champions initiatives) - currently being developed further,

- launching the City Centre Hybrid / Electric Shuttle Bus service (September 2011),
- bringing emissions home to Sunderland and Low Carbon City Campaign (awareness-raising),
- promoting the Eco-Schools initiative in local primary and secondary schools,
- consulting with the community during the formulation of the Local Development Framework (including Core Strategy),
- ensuring that all stakeholders can contribute to the Local Transport Plan 3 consultation

The City Council is currently looking at how it best coordinates, shares and advocates sustainable energy policies, practices and procedures.

Sunderland's Economic Masterplan, launched in October 2010, sets the economic vision for the city, with - as is it defined in "Aim 2" - aspiring to make Sunderland "a national hub of the low carbon economy". Both the Sunderland Partnership (a city-wide community partnership) and the Economic Leadership Board (business leaders), operating at a strategic level, support the Masterplan's objectives.

In terms of practice, a number of pilot projects and studies are underway to ensure that sustainable development and energy policies are translated into actions and real projects on the ground, such as the measures regarding urban transport. Progresses on these activities are reported to the Economic Leadership Board and the City Council's Regeneration Programmes Board on a regular basis.

In addition, two policy reviews (overseen by local politicians) relate directly to local energy policies and sustainability. The first policy review on the low carbon economy was conducted in 2010/11, by the Prosperity and Economic Development Scrutiny Committee, and produced a series of recommendations to be taken forward. A further Policy Review on Sustainable Modes of Transport will take place in 2011/12 and will be overseen by the Environment and Attractive City Scrutiny Committee.

The City of Sunderland has signed the Covenant of Mayors in 2009 and submitted its SEAP in 2010. Besides the SEAP and the two Policy Reviews mentioned above Sunderland developed two more strategic documents addressing all three CASCADE main themes about buildings, renewable energies and transport.

1. The Carbon Plan from 2007-2012 is an internal Council document, which is currently being refreshed to establish activities and targets for the period 2012-2020. Buildings are the primary focus here but renewables and transport are addressed, too.

Targets and programmes



2. The Climate Change Action Plan was elaborated in 2008 and refreshed in 2010. This revision aligns Sunderland's carbon emissions target both with the UK Low Carbon Transition Plan and the EU Covenant of Mayors initiative. Sunderland's emission reduction target is a 34 % reduction of CO₂ by 2020 compared to 2005 and a 80 % reduction by 2050 compared to 1990.

More documents, having indirect effects on the level of CO₂ emissions, include the Sunderland Economic Masterplan, the Local Development Framework & Core Strategy, the Local Transport Plan and the Regional Spatial Strategy. These strategic plans include some more general information on indicators and outcomes, rather than specific carbon reduction targets.

Context

European, national and regional framework

Sunderland has legal obligations and responsibilities with regard to emission reduction and energy savings arising from European and national legislation. The main requirements are:

- The UK's Climate Change Act 2008: A legally binding act to cut at least 80% of greenhouse gas emissions by 2050, to be achieved through action in the UK and abroad. Also a reduction in emissions of at least 34% by 2020. Both targets are against a 1990 baseline.
- Energy Act 2008: This Act provides key financial incentives for cities regarding Feed-in-Tariff (FITs), Renewable Heat Incentive (RHI) and revised Renewables Obligation.
- Planning Act 2008 (on national level): Cities have a legal commitment in planning terms to promote sustainable development (e.g. a building code for energy savings, which is still voluntary)
- UK Renewable Energy Strategy 2009: Sets out how the UK will deliver the 2009 EU Climate and Energy Directive in order that it can supply 15% of all energy from renewable sources by 2020.
- Local Transport Plan 3: Each local authority must ensure that sustainability is a core objective of their LTPs. In addition, major employers and developers must produce Green Travel Plans to promote the wider take-up of sustainable modes of transport as well as other low carbon initiatives.

Main measures

- Covenant of Mayors (signed by Sunderland in February 2009)

Following these developments, the UK Government increased the country’s carbon reduction target, from 26 - 32%, to 34%. This is set out in the UK’s Low Carbon Transition Plan, published in July 2009 to replace the previous Climate Change Programme.

The most supporting aspects for the implementation of climate policies in Sunderland are the rising energy prices. The current upward trend in energy prices, combined with current economic conditions, forces organisations and individuals to look at alternative sources of energy supply (and revenue stream), while also reducing their usage through behavioural change. The local government efficiency drive gives local authorities no option but to make savings while promoting the wider uptake of low carbon technologies. Other supporting factors are national legislation and policies to incentivise investment in low carbon technologies, including initiatives such as the Feed-in-Tariff and Renewable Heat Incentive (RHI). In general social and technological attitudes towards sustainability have changed particularly where financial savings can be made.

Hindering aspects, however, are the availability of capital and the risk of investing in major energy infrastructure. The returns on investment for individuals and companies are still to be fully tested before wider market uptake (for example, purchase and effective deployment of electric vehicles). Sources of public funding to invest in major infrastructure are severely limited and other sources of financing (for example, Tax incremental financing, RHI) are still to be fully investigated. Furthermore, investment in low carbon technologies and infrastructure is still at an early stage and there is a shortage of skills and knowledge in key areas. The need to make savings has impacted on the ability of local authorities to make large investments in regeneration infrastructure.



Energy Efficient Buildings and Districts

The main measures in “Energy Efficient Buildings and Districts” address public buildings and housing developers. Sunderland is currently replacing boilers, other heat systems and BMS in several schools and public buildings. They also replace T12 Switch Start fluorescent lighting with T5/T8 High Frequency lighting or LED lighting in schools, museums and other civic buildings. The upgrade of lofts and cavity insulation in civic buildings where this is appropriate is another on-going measure while the installation of Combined Heat and Power (CHP) Systems in swimming pools is already completed. Furthermore housing developers will be encouraged to achieve code level 4 (Code for Sustainable Homes) through the emerging Local Development Framework. The main supporting factor for all these measures are rising energy costs. Factors that hinder implementation, however, are financing, the uncertainty of the future building use due to property rationalisation and - with regard to CHP - the limited availability

Main measures

of technical applications.

The Code for Sustainable Homes aims to assist local authorities to deliver better, more sustainable buildings to the communities they serve. It is a voluntary planning tool to promote improved energy efficiency in housing. However, it is currently optional, and, in some areas, there is little incentive for house builders to invest significantly more in achieving higher levels of sustainability. Only from 2016 the construction of 'Zero Carbon Homes' will be a mandatory obligation. Current market conditions generate issues of development viability when negotiating on code levels, especially when taking into account other priority obligations that the developer might be asked to contribute to.

The Building Research Establishment Environmental Assessment Method (BREEAM) sets the standard for best practice in sustainable building design, construction and operation. The City Council aims wherever possible to ensure that new buildings are developed to the highest BREEAM rating. Where public funding is used, ERDF for example, there is an obligation to ensure capital projects achieve a BREEAM rating of excellent or higher. Finance is usually the main hindering factor in achieving high BREEAM ratings.

Self assessment

The cities expertise in "Energy Efficient Buildings and Districts is considered to be intermediate. Sunderland would like to learn from other cities but sees itself able to share the expertise it has.

Renewable Energy Sources and Distributed Generation

Main measures

Sunderland's main measures to increase renewable energy and distributed generation range from policies to specific measures.

The Sunderland Core Strategy involves the developing of policies to embed on-site renewable targets and to identify strategic sites for renewable energy schemes. The Climate Change Action Plan (CCAP) is an overall action plan to reduce citywide CO₂-emissions. A large proportion of the reduction target will be met through national greening of the grid through renewable energy projects. The Carbon Plan is a strategic plan for Sunderland City Council to reduce CO₂-emissions from their own operations, including renewable energy measures, which has so far concentrated on solar PV, wind and biomass.

The Feed-in-Tariff (FIT) supports the installation of Solar PV and other renewables although the availability of capital and funding programmes is still seen as a hindering aspect. The Renewable Heat Incentive (RHI), launched in November 2011, is targeted at non-domestic generators - the industrial, business and public sector - and will support a range of technologies and fuel uses including solid and gaseous biomass, solar thermal, ground and water source heat-pumps, on-site biogas, deep

geothermal, energy from waste and injection of biomethane into the grid.

The cities expertise in renewable energy sources and distributed energy generation is considered as “still learning” and Sunderland would like to learn more in this field from others.

Self assessment

Energy in Urban Transport

The Local Transport Plan 3 (2011-2021) is one of the main measures in the field “Energy in Urban Transport”. Its aim is to show how transport can address some of the key challenges of the area, including economic regeneration, climate change, equality of opportunity, safety, security, health and quality of life. Sustainability is one of three core objectives of the plan.

Main measures

The CCAP and SEAP acknowledge the energy efficiencies that need to be made through UK and EU programmes, for example, increasing vehicle efficiency of motor vehicle fleet by 1% per year. Linked to UK transport policy it aims to provide 10% of road fuels from renewable sources by 2020. The Carbon Plan recognised the need to improve the efficiency of council fleet, including procurement of EV fleet cars. In addition, the document stated the need to encourage behavioural change through installation of tracking devices to increase driving efficiency. The Sunderland Economic Masterplan is the city’s economic strategy, of which one of the four key aims is to develop the city as ‘a national hub of the low carbon economy’. Within this there is a focus on low carbon place and business, including the development of an Ultra Low Carbon Vehicles strategy.

Linked to these strategic documents, Sunderland has participated in a range of pilot programmes such as Plugged in Places, Switch EV, electric bus deployment and commercial vehicle procurement. These measures include the development of a regional purchasing approach to low carbon vehicles, an introduction of a hybrid electric bus route (Sept 2011) and piloting the deployment of electric cars (2 Nissan Leaf electric vehicles procured April 2011). Various projects are underway, all at different stages of implementation, to develop skills and experience.

In August 2011, the Government announced the location of eleven new Enterprise Zones (EZ), designed to boost local growth and create 30,000 jobs by 2015. The EZ for the North Eastern Local Enterprise Partnership includes a number of strategic sites located close to the Nissan manufacturing plant within Sunderland (the A19 Corridor). The sectoral focus for the EZ is ‘low carbon’ industries. It is estimated that nearly 1,000 jobs will be created by 2015 as existing and new businesses take advantage of the financial incentives on offer for locating within the zone (i.e. business rate discounts and enhanced capital allowances).

In order to implement strategic and policy objectives it is important to ensure that political and senior level support are in place through the Economic Leadership Board and Regeneration Programmes Board. Both

forums recognise the importance of the City’s Low Carbon Place and Business agendas. It is also vital to improve information transfer between the public and private sectors.

Factors that help to promote the development of low carbon and urban transport projects is the strong local base for R & D and manufacture that exists in the city, clustering around the Nissan site. Other factors that will support the wider uptake of electric vehicles include robust evaluations of operational evidence and the Fleet Transport Review. Hindering factors include lack of funding and resources to design, test and implement new infrastructure and policies, tangible higher capital costs versus less tangible environmental benefits and the lack of appropriate knowledge of capabilities of equipment and market offer.

Sels assessment

In the field of “Energy in Urban Transport”, Sunderland’s expertise is considered to be intermediate. The city would like to learn more from others and can also share some expertise.

Financing

The financing of energy policies in Sunderland involves a combination of City Council resources and specific funding opportunities, which primarily fund pilot projects and demonstration activities. The following table summarises the budgets of the programmes mentioned above:

Funds / Loans - Programme / Project name	Amount	Commentary / Notes
Salix fund	£480K - including £240,000	One-off loan for small-scale energy projects
Sustainable city projects	£655,000 (2008-2012)	Budget for the development of small-scale sustainable development projects.
Plugged in Places (Phase 1)	£190,000	Total cost of works £190,000 of which £113,000 is to be met from the Local Transport Plan 2011/2012 with the remaining budget via the “Plugged in Places” Infrastructure Framework Grant. Phase 1 completed March 2011 (30 electric vehicle charging points).

Plugged in Places (Phase 2)		For Phase 2 of the programme of works the overall capital cost is estimated to be £102,500 of which £57,000 is to be met from the Local Transport Plan 2011/2012 with the remaining budget via the “Plugged in Places” Infrastructure Framework Grant.
Procurement of 2 Nissan Leaf electric vehicles	£29,000	Funded from the Council’s Sustainability budget.
Procurement of two Hybrid electric buses	£400,000	Funded from the Council’s Sustainability budget and the Government’s Green Bus fund.
Low Carbon Social Housing Pilot	Approx £2.2m (over 3 years)	Funded from ERDF, Registered Social Landlord and Low Carbon Networks Fund



Emission Inventories and Monitoring

Sunderland generates CO₂-inventories every year the latest one from 2008. The baseline year against which future carbon emissions will be monitored is 2005. Because of uncertainties in 1990 emissions estimates, and emission estimates prior to 2005, guidance for UK national indicator NI186 recommended that 2005 was used as the baseline year for carbon emissions target setting. Sunderland retained its data for years prior to 2005, as indicative estimates of past progress, but not base targets on these data.

2009 was the year in which the baseline figures were set for Sunderland’s Climate Change Action Plan. The Department of Environment, Food and Rural Affairs (DEFRA) released local authority area carbon emission data for 2007 in October 2009, and also revised carbon emission data for 2005 and 2006.

In 2007, Sunderland’s carbon emissions were 1,864,300 tonnes CO₂. This was 4.5% lower than the previous year (2006) and 5.6% below the baseline year of 2005. Of these emissions, 34% were produced by housing, 40% from employers (public and commercial) and 26% from road transport.

CO₂ inventory

Sector	CO ₂ -emissions in 2005
Housing	671,860 t
Employers	814,710 t
Road transport	487,620 t
Total	1,974,190 t
	CO ₂ -emissions in 2007
Housing	635,910 t
Employers	746,800 t
Road transport	481,590 t
Total	1,864,300 t

Considering the targets mentioned above (34% by 2020 and 80% by 2050) in absolute terms, this will require a drop in carbon emissions of 670.000 tonnes by 2020, and 1.580.000 tonnes by 2050.

The city has not developed its own monitoring tools for the implementation of measures and for measuring carbon emissions reductions. It relies on data generated at a national level by Government (Department of Energy and Climate Change). This data is then used to update Sunderland’s Sustainable Energy Action Plan, progress on which is reported to the Covenant of Mayors every 2 years.

Regarding single measures the city has experience of estimating CO₂ reductions and energy savings relating to housing actions - insulation improvements; installation of condensing boiler replacements; retrofit programmes; take-up of energy efficient products etc. employer actions - Low Carbon City Campaign; supporting wind and other renewable energy investments; implementation of Code for Sustainable Buildings etc. transport actions - Local Transport Plan interventions; increased vehicle efficiency; Take-up of biofuels and new electric vehicles etc.

Future Visions and Expectations

In the near future a decision on funding mechanism for PV and other renewable technologies can be expected. The Energy Conservation Team Leader for SCC is currently preparing a paper for the Executive Management Team (EMT) in Spring 2012. The timing of this decision depends on the outcome of the judicial review at a national level into Feed-in-Tariffs.

A number of pilot projects are currently underway or in the pipeline, all of which will contribute positively to CO₂ reductions and energy savings. These projects will highlight the challenges that have been addressed during the design and implementation stages, and will seek to make recommendations to inform future investment activities. Sunderland is also undertaking a Policy Review on Low Carbon Vehicles and their deployment within the city.

The first Policy Review on the Low Carbon Economy was conducted in 2010/11, by the Prosperity and Economic Development Scrutiny Committee, and produced a series of recommendations. A further Policy Review on Sustainable Modes of Transport will take place in 2011/12 and will be overseen by the Environment and Attractive City Scrutiny Committee. This work should be concluded in April 2012.





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CASCADE

Cities exchanging on
local energy leadership



CASCADE is a EU-funded project coordinated by EUROCIITIES which aims to design and deliver large-scale networking and mutual learning actions on local energy leadership among members of the EUROCIITIES network. The CASCADE consortium is composed of: EUROCIITIES, Wuppertal Institut, Koucky & Partners and the following cities: Amaroussion, Amsterdam, Birmingham, Burgas, Edinburgh, Eindhoven, Gateshead, Genoa, Gijon, Malmo, Mannheim, Milan, Nantes, Stockholm, Sunderland, Tampere, Terrassa, Venice and Warsaw.

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