

Sheffield City Region Draft Renergy Implementation Plan

1. Regional Implementation Plan Framework

1.1 Renergy context

The purpose of this Implementation Plan is to provide a clear framework for improving energy efficiency and the optimal utilisation of renewable energy sources across Sheffield City Region against the aims of the Renergy project.

Tackling climate change and assuring a sustainable, secure and competitive energy supply are high community priorities. In fact, inefficient energy production and use lead to emissions of increasing air pollutants, contributing heavily to climate change, health damage and ultimately worsened quality of urban life. Moreover, dependence upon primary energy sources leads to exorbitant energy prices, which is a major obstacle to reducing energy costs, an absolute must in the present and also foreseeable economic situation.

Community energy contributes to energy security and empowers communities to support themselves and tackles rising energy costs by enabling them to be more proactive about both their energy demands and use. There are opportunities for communities to financially benefit from installing and managing renewable energy schemes in their localities.

Renergy is funded through the European Interreg programme and aims to contribute to economic growth through the development of a green economy at the local level that will encourage job creation contributing to modernisation and increased competitiveness at a European scale.

The overall objective is to develop more efficient energy policies at a local/regional level, transforming urban communities from consumers to producers of energy, with particular reference to the objectives of the Covenant of Mayors.

The project builds on three thematic pillars:

1. Policy and Governance
2. Market Uptake
3. Community Involvement

1.2 Regional motivations for developing this Plan.

Sheffield City Region (SCR) is a large area centred upon the city of Sheffield, but encompassing nine local government districts and three English counties (*see figure 1 below*). The SCR covers an area of 3488.94 km², with a population of 1,819,500. For comparison, the city of Sheffield has a population of 555,500 and an area of 367.95 km².

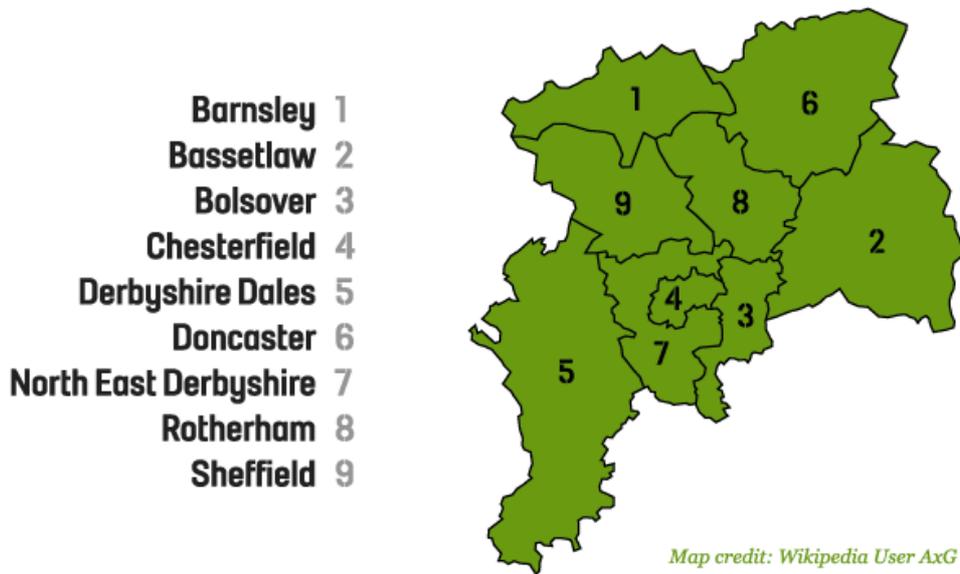


Figure 1: Sheffield City Region by local authority.

The City Region's strategic location at the heart of the UK, strong transport links, its diversity of offer, two Universities and a number of higher education colleges, competitive house prices, high quality of life and sense of place, including the Peak District National Park, and diverse cultural offer, make it an attractive place in which to live and work. The Sheffield City Region aspires to maintain and develop this unique profile by implementing a sustainable energy program that promotes greater energy independence.

Sheffield City aspires to become the UK's first 'DECENTRALISED ENERGY CITY'. This is a proposition led by the City Council in partnership with E.ON and Veolia, bringing together a strong public/private partnership approach and requiring large-scale deployment of embedded renewables across sectors. The aspiration is visionary and sets a visible goal for the City, its partners and communities. The scale of the task and therefore the challenge being set is clear from Renergy's Self Assessment Report (SAR) which points out that currently over 70% of energy resources are from fossil fuels distributed through the central grid.

In response to this, as pointed out in the Sheffield SAR, the potential for cost effective utilisation of renewable energy technologies has been assessed. Wind energy and solar PV are considered the most suitable technologies for expansion but work is being undertaken to ensure a strong overall energy mix. Community ownership of embedded renewables is also recognised as an important factor in bringing about the culture change needed for the achievement of long-term aims. Work had been undertaken on a Solar City plan for the Council but this was put on hold following changes to the Government's Feed-In Tariff.

There is a history of strong community action stemming from the region's rich mining heritage that could support the development of community energy schemes. There are already a number of community initiatives, such as the Dearne Valley Eco-Vision, which is looking to establish a new community enterprise to develop community-owned renewable energy schemes, supported by Sheffield Renewables, a well-established community energy organisation.

Over the last 3 years two of the city region's local authorities, Barnsley and Doncaster, alongside the University of Sheffield were part of a European Regional Development Project tackling energy efficiency in deprived communities. The Big Energy Upgrade produced a number of significant findings relating to the effects of energy efficiency projects on these communities, results that will be of great use in driving forward the aims and objectives of the Renergy project. It has also provided a blueprint to deliver energy efficiency upgrades that can be adapted and rolled out across the wider city region.

The importance of the low carbon agenda can be demonstrated through the creation of a Low Carbon Advisory Group within the City Region's Local Enterprise Partnership structures. This group brings together the private, public and community sectors and aims to embed the importance of sustainable development and low carbon across the work of the Local Enterprise Partnership. However, discussions are currently as to the future role of this group.

In addition to this group, Sheffield launched a Green Commission on the 8th April 2014. The Green Commission will follow on from the success of the city's Fairness Commission, which looked at how Sheffield can be a fairer more equitable place to live and work. Employing a similar approach, the Green Commission will explore how Sheffield can be more sustainable and establish the benefits that this will bring across the City. The Green Commission will create a vision and blueprint for the future of Sheffield as a whole and not just for the city council. It will involve members of the public, businesses and organisations from across the city to help shape its vision.

An important note here is that, although this is an Implementation Framework for Sheffield City Region, many of the actions focus on Sheffield as a city. The City Region is still a relatively new region and so some city region-wide strategies are still in their infancy.

1.3 Framework of this Regional Implementation Plan

This remainder of this report is structured as follows:

Section 2 will examine the regional development dynamics and provide analysis of the local resources, potentialities, constraints and fragilities. It will also identify regional trends and challenges that will drive the strategy and consider the barriers and obstacles to its implementation

Section 3 introduces the regional strategy and begins with an outline of the vision for what the SCR is striving to achieve. This is supported by the main objectives to identify the results that the SCR wants to achieve and by when. This is followed by a strategy overview, explaining the starting point for the strategy. Section 3 concludes with a summary table/strategic matrix.

Section 4 outlines the implementation plan that will support the delivery of the strategy. It will address the main measures/strategic lines to be implemented, associated actions and quantitative objectives and. In addition estimations of the strategy's required financial required along with potential sources can be found at the end of this section.

The report concludes with Section 5 in which monitoring mechanisms will be identified along with by who and how they will be monitored.

2. Regional Development Dynamics

A self-assessment has been undertaken of the Sheffield City Region in relation to the Renergy project. This was based upon findings obtained from accessing multiple sources of information: national and regional official statistics, reports, previous studies, a public questionnaire and the results of a community workshop/Energy Lab (details of these sources are available in the full Self Assessment Report). This was split into three categories; policy involvement, market uptake of renewable energy and community involvement in the energy sector. A SWOT (strengths, weaknesses and opportunities and threats) analysis performed for each. Section 2.1 details the key findings from this research. These three categories also form the three strategic lines and intervention fields that the strategy will look to prioritise its work as per section 3.

2.1 Regional Resources, Potentialities, Constraints and Fragilities

2.1.1 Policy involvement

<p>Strengths</p> <ul style="list-style-type: none">• There are a number of key policies and strategic priorities for the SCR that demonstrate the focus of political leadership related to the Renergy aims. These are outlined in Appendix A• Strong network of community groups and cooperatives that could be used to engage the public• Many of the schools in the area are interested in renewable energy and are linking this into the curriculum; for instance all 45 schools in the Dearne Valley are part of the national Eco-Schools Programme, which is unique, particularly with the geographical area spanning 3 local authority boundaries	<p>Weaknesses</p> <ul style="list-style-type: none">• Each district council sets its own targets with no apparent overlap with each other and it is not clear how available information is used between councils• No overarching energy strategy for the region• Lack of dissemination and public engagement
<p>Opportunities</p> <ul style="list-style-type: none">• Establishing networks of knowledge transfer across the SCR with two universities working on research projects• Using successful examples from across Europe	<p>Threats</p> <ul style="list-style-type: none">• Policy is not clearly disseminated to the public which can lead to a lack of education and misunderstanding of renewables and energy strategy• Lack of effective community involvement during the planning of energy projects• Planning and financial/procurement processes often create a barrier to using renewable technology• Short termism of local and national politics• Town planners do not prioritise energy intelligent urban planning• Difficulty in assessing outcomes of targets due to lack of data and metrics

2.1.2. Market uptake

Strengths	Weaknesses
<ul style="list-style-type: none"> • According to research by AEA Consulting in September 2011, Sheffield adopted more solar power generation per head than any other city in the UK since the introduction of the Feed-In Tariff the previous year • A number of the councils in the past have offered free cavity and loft insulation schemes which demonstrated that there is experience in delivering these services • Sheffield has a combined heat and energy network connected to many public buildings utilising waste heat energy • There are excellent recycling facilities across the region 	<ul style="list-style-type: none"> • Current UK recession • Significant number of hard to treat homes make up city region housing stock meaning more expensive measures required to achieve improved energy efficiency • Lack of education regarding renewable energy systems which leads to a lack of uptake by both households and businesses
<p>Opportunities</p> <ul style="list-style-type: none"> • Feed-In Tariff still available although subject to further reductions • Under-utilised spaces that could be used for community activities • Big Energy Upgrade project in Barnsley and Doncaster has proven success in household energy efficiency and could be replicated across the region • Strong wind resource which could potentially be used for a network of small scale suburban and rural turbines • Reduction in the cost of materials used for renewable energy • The Renewable Heat Incentive (RHI) could support the uptake of heat generating technologies both domestically and commercially 	<p>Threats</p> <ul style="list-style-type: none"> • Expansion of the EU has resulted in drop in funding for regeneration projects in SCR that could have supported renewable energy projects • Sustainable and energy efficient alternatives for companies are almost always more expensive and therefore less desirable for investing in • Poorly conceived Green Deal scheme confusing to householders and may actually cost more – potentially done more to turn public opinion against RES and EE and government commitment to making necessary changes

2.1.3 Community Involvement

<p>Strengths</p> <ul style="list-style-type: none"> • Public show general support for implementation of renewable energy and energy efficiency measures • Public show positive attitudes with respect to technologies and energy saving • Many community groups which tackle related issues are already active in the region • Region contains many research centres of excellence that focus on sustainability 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Public show little intention of adopting renewable energy or energy efficient behaviours • Lack of knowledge about renewable energy and local policies and/or subsidies hamper uptake
<p>Opportunities</p> <ul style="list-style-type: none"> • Overall satisfaction of existing renewable energy technologies could be used to communicate positive messages more extensively • Sheffield is characterised as Europe's greenest city, a profile that could be utilised to garner greater support for energy efficiency projects 	<p>Threats</p> <ul style="list-style-type: none"> • UK government cuts to Local Authority budgets have reduced the level of officer availability and expertise to commit to related projects • Negative portrayal of RES in media

2.2 Obstacles to the Implementation

2.2.1 Regional structure and governance obstacles

The Sheffield City Region plan is faced with a very different structural and governance arrangement to all other partners within the Renergy project. The Sheffield City Region is a relatively new administrative body that does not have the power or authority to bring about the recommendations that it shares with its 9 constituent local authorities. The SCR is made up of a number of separate sector groups, one of which is the Low Carbon Advisory Group. There is currently uncertainty over the group's future role and input, it has already been downgraded to an advisory board that is made up in large by people attending in their own time. The group meets bi-monthly and unfortunately has so far been unable to influence to any great extent the wider policies of the SCR, which at present and for the foreseeable future, are focussed almost exclusively on economic growth. From this baseline the Renergy report will be viewed as a guidance document for the City Region to highlight areas for it to consider. Therefore this report should be seen as important in working to develop support and change opinion on how to proceed with energy efficiency, renewable energy systems and energy strategy regionally.

The overall view of RES and EE are however positive within the Sheffield City Region: all stakeholders show support for energy efficiency and renewable technologies. However, intention to implement RES locally are limited. This is due to a wide range of factors: cost, the UK recession, lack of knowledge, NIMBYism (Not In My Back Yard syndrome), lack of suitable subsidies across all social groups etc.

The real challenge that is faced by this plan is the co-ordination of 9 separate and very different authorities. It is not a municipal region with autonomous control over the area. There are differing views around energy efficiency and renewable energy across the 9 boroughs and in some there is little interest at the present time. For example, due to the UK government funding cuts to local governments, many councils cannot implement many of their own systems. Due to job losses within councils, morale is low and motivation for new systems is low. This is a situation replicated around the country and

within the Sheffield City Region. The Renergy project can expect to achieve a starting point upon which discussion around future cohesion on the issues involved can be built.

2.2.2 National and Regional Policy obstacles

It has been highlighted above that it has been difficult to achieve policy cohesion and clarity across the various local authorities within the SCR. This can lead to a situation in which targets become blurred and are perhaps not realistic. Some targets are stated, with little procedure to attain the targets. This lack of clarity in policy can lead to a lack of direction for the region and can result in a lack of action.

2.2.3 Market Uptake Obstacles

It is very difficult to obtain and collate city- and region-wide metrics. Data is spread out across many different formats (national statistics databases, academic research papers and business reports being just a few). In order to make this data more accessible, figures regarding the City and City Region need to be published to business, policy makers and inhabitants. Regular releases of data could be useful in the future.

2.2.4 Community Involvement Obstacles

General awareness of local and national RES policy is low and must be the first area to be targeted if a significant increase in uptake is to be expected.

3. Regional Strategy

3.1. Vision and main objectives

To create a city region wide energy network powered mainly by Renewable Energy Sources with limited dependence on national fossil fuel energy supplies.

This network will comprise large, local authority level energy generation schemes as well as supporting community led small to medium scale RES. The network will be co-ordinated across the 9 local authorities to make best use of natural topography, features and resources in each authority area to provide a sufficient mix of renewable energy technologies that can adapt to changing regional demands throughout the year.

Economic growth will be the main driver for the Sheffield City Region for the foreseeable future. This vision will underpin that growth to create the conditions to support low carbon economies through innovative approaches to decentralised energy generation.

3.1.1 Objectives

Objective 1: Develop a City Region wide energy strategy that brings together all 9 Local Authorities areas

There is currently no framework for a co-ordinated energy strategy that cuts across the whole city region. A clear strategy will ensure that authorities are not in competition against each other and are instead delivering a coherent message to developers, businesses and residents about their energy intentions. It is vital to develop a clear set of indicators and metrics that apply to all authority areas against which progress can be measured.

A report will be undertaken to look at the feasibility for various types of energy with a focus on renewable energy in each individual area. A review of current renewable initiatives and investigation into the investment options for encouraging the development of renewable energy will also be included. For developers to be attracted to the city region and for the regional economy to be supported there must be confidence that there is a clear will for more renewable energy.

Objective 2: Create the right conditions to stimulate market uptake of RES and Energy Efficiency both commercially and domestically

For businesses to compete on a national and global level they need to maximise energy efficiencies within their supply chains and manufacturing processes. The present UK economic environment does not lend itself to businesses investing in energy efficiency practices or technologies. Economic growth remains the key driver for businesses but should not be considered mutually exclusive from developing a more sustainable business model where energy is concerned. Indeed, it can actually help to drive growth. Using the Energy Strategy developed in Objective 1 along with academic expertise within the city region, businesses will be supported to become more energy efficient. This will support more sustained economic growth over the long term. By becoming more energy efficient, businesses can improve their profitability. In addition, excellent business opportunities are emerging as a result of changes in the patterns of energy production, distribution and use. To help businesses to take full advantage of these, the quality and effectiveness of business support needs to be improved. Harnessing research and development and innovation skills in the region will also be an important factor here.

The UK Domestic housing stock is amongst the least energy efficient in Europe. Retrofitting this stock represents an opportunity to reduce the domestic heating energy demand in the UK whilst also reducing the overall carbon output of the country. The government has tried to stimulate the uptake of RES and EE through its Green Deal, Feed in Tariff (FiT) and Renewable Heat Incentive (RHI) with varying degrees of success. It has been identified through our SWOT analysis that the public, although supportive of EE and RES, are not sufficiently engaged or encouraged to install or maximise its benefits due to confusion and cost of the aforementioned schemes, in particular the Green Deal. In order to maximise the potential energy efficiency gains of upgrading regional housing stock (therefore reducing peoples energy bills and reducing fuel poverty), clarity, leadership and support to engage with energy efficiency programs must be developed by the SCR. A key trickle down effect of addressing the housing stock issue is the development of the regional supply chain and economy in the retrofit sector.

Objective 3: Boosting Community Involvement

To deliver 10% of the region's total energy renewably generated energy through community led energy schemes by 2025. This objective will develop community led solutions that may involve private and public partnerships to meet local needs. How the frameworks for these arrangements would be structured would be a key action. According to the UK governments Community Energy Strategy 2014 *'putting communities in control of the energy they use can help to maintain energy security and tackle climate change; help people to save money from their energy bills; and have wider social and economic benefits such as providing skills, education and work experience.'*

3.2 Strategy Overview – key drivers

Sheffield City Region's overarching political priority is to create 70,000 new jobs in the private sector and all region wide activity and funding is currently focussed on economic growth and jobs. Ensuring that all sectors understand how RES and EE can contribute to this is therefore essential in driving forward the aims of the Renergy project within the region.

3.3 Intervention fields

The Renergy project requires intervention fields to be identified. For Sheffield it has been decided that these will be the same as the three key categories identified within the Self Assessment Report, namely National and regional policy, Market uptake of RES and EE and Community involvement. The three objectives identified above each relate to one of these intervention fields.

4. Implementation Plan

4.1 Actions

Objective 1: Develop a Sheffield City Region energy strategy that brings together all 9 Local Authorities areas

Action 1: Undertake a study to identify which renewable energy generation technologies are best suited for each of the 9 local authority areas

This action will ensure that each authority area can maximise the effectiveness of the region-wide energy strategy and their own resources by concentrating their efforts on technologies relevant to their natural resources. It will ensure that there is a good mix of RES across the region to create a stable grid network throughout the year. Lastly, it will provide stability for investors to develop various technologies in the region supporting the low carbon economy by expanding new and existing supply chains.

It may also identify new RES opportunities e.g. a recent study as part of the EU Going Local 2020 project identified the potential for large scale geothermal heating systems powered by geothermally heated reservoirs in abandoned mines. The region, in particular the Dearne Valley (made up of Rotherham, Doncaster and Barnsley), is peppered with some of the deepest mines in Europe and parallels can be drawn with similar successful schemes in Holland and Germany that have utilised their mining heritage to regenerate deprived communities and provide cheap, abundant and renewable heat energy (*see EU2020 Geothermal Potential Report available via Local Government Yorkshire & Humber*).

Action 2: Create a repository of comparative data across all 9 LAs

In order to clearly assess the effect of a regional energy strategy and to be sure that targets can be easily evidenced, a uniform set of metrics must be devised and applied across the 9 authorities. The same set of indicators e.g. number of households in fuel poverty, amount of energy generated Solar PV, number of households with external wall insulation etc. must be agreed upon and the data gathered centrally to allow for clear actions (and schemes to successfully implement them) to be developed.

This data will also help to support in developing related economies, for example knowing how many homes there are that are yet to have external wall insulation (EWI) can allow for projects to be developed utilising local contactors and SMEs. The Big Energy Upgrade (BEU) provides an example of this in the region with an EWI company in Doncaster becoming the largest installer in the country based on EWI upgrades performed through the BEU Whole House Whole Community approach.

Action 3: Get the SCR and all 9 Local Authorities to sign up to a joint agreement for RES generation and to deliver EE programs across their localities

Using the information gathered in Actions 1 and 2 an agreement will be drawn up for each authority area and the SCR to ensure a co-ordinated approach to future energy provision in the region. The agreement could include delivery vehicles and methodologies for delivering large scale EE programmes in the region's communities and contribute to individual Authority's ambitions, such as Sheffield's aim to become the UK's first decentralised energy city.

Objective 2: Reduce energy demand through energy efficiency programmes and increase uptake of RES

Action 4: Support businesses to reduce their energy requirements

Utilising the regional academic expertise along with chambers of commerce, engage businesses to understand and map the energy embedded in their supply chains. Projects are already underway in the region to achieve this but at present are working with only a few tens of businesses. The LLPRES project led by the University of Sheffield and Sheffield Chamber of Commerce is applying Life Cycle Analysis software and techniques developed at the University of Sheffield's Logistics and Supply Chain Management School to help these businesses to reduce their energy consumption and carbon output. This work will also help them to maximise operational and financial efficiencies helping them to better compete and expand nationally and internationally. This project will be closely monitored and the outcomes and lessons learned potentially developed into a region wide project that will help to bring new skills and experience to SMEs and larger companies in the region.

Action 5: Support households to reduce their energy requirements

Energy consumption, particularly heating energy demand, is a growing financial burden for households across the region. With a number of deprived communities suffering levels of Fuel Poverty higher than other areas of the UK, a large number of people are at risk of a changing climate bringing colder weather at a time when they cannot afford to heat their homes. By developing a delivery vehicle and co-ordinating a single programme across the 9 authorities the issue of large-scale energy efficiency upgrades across multiple at risk communities can be addressed. In doing so economic benefits (such as those identified in Action 2) can be accessed and built upon to support the local economy across a number of sectors. There is also evidence from the BEU to show that improving energy efficiency in deprived communities creates a greater sense of wellbeing, satisfaction and pride of place in communities, something that could be further expanded upon to achieve the aims of Objective 3.

Action 6: Increase the proportion of energy generated by renewable energy technologies in the region

Following a review of the current RES generation capacity of the City Region new targets can be drawn up to stimulate further growth. With support from the Energy Strategy to provide a unique focus for each authority area this would become a more efficient process for each authority allowing them to concentrate their efforts. This could be further helped by reviewing planning regulations in each authority area to support the development of their portion of the Energy Strategy.

If each of the 9 authorities signed up to the SCR energy strategy it may be possible to consider using the collective Renewable Energy generation capacity of the region against the renewable energy generation targets set for each authority by UK government. Whilst this is a long term and perhaps unlikely possibility it may be worthwhile raising this possibility with DECC as a means of stimulating greater energy co-ordination across regions in the UK, not just the SCR.

Action 7: Engage with the Nuclear Advanced Manufacturing Research Centre

The NAMRC is a leading UK research facility located within the City Region that forms part of the University of Sheffield. There may be the potential to undertake a feasibility study on the implications of adopting modular nuclear systems in the Sheffield City Region although this idea is still in its relative infancy in the UK.

Action 8: To develop public/community/private frameworks that de-risk as far as possible Local Authority responsibilities in RES schemes in order to support wider uptake

Local Authorities in the region have traditionally been very risk averse in adopting renewable energy technologies and in making use of the governments Feed in Tariffs for projects such as large-scale solar PV installations. This risk averse culture presently hampers efforts to develop schemes that could add to the regions renewable targets. In order to reduce the risk burden on Local Authorities new partnerships and frameworks between public/private/community must be explored.

Objective 3: Boosting Community Involvement

Action 9: Establish an exemplar community energy enterprise within the Dearne Valley in partnership with the Dearne Valley Eco-Vision Team and Sheffield Renewables by the end of 2014

With the successful implementation of just one such scheme a model will be available for replication in communities across the City Region. This model should provide lessons learned and best practices to follow in order for each new scheme to be better than the last. Sheffield already has a successful community owned solar PV scheme in operation led by Sheffield Renewables which is providing guidance to the Dearne Valley in creating its own scheme.

Action 10: Schools to play a central role in community led RES schemes utilising the region's extensive school estates for generation e.g. Solar PV and GSHP, to spearhead community campaigns as a starting point

The city region has an extensive network of schools with many hundreds of acres of estate and roof space. This space should be considered for community RES schemes using technologies such as ground source heat pumps under school fields to take advantage of the governments Renewable Heat Incentive scheme. Schools play a central role in many communities and are good conduits to feed energy efficiency information back into local communities and many thousands of households. In 2011, a South Yorkshire Schools Climate Change Education strategy was drawn up that examined the value of climate change education (with a focus on energy and renewables). It suggested that each of the four South Yorkshire authorities (Rotherham, Doncaster, Barnsley and Sheffield) adopt the Eco-Schools accreditation scheme supported by knowledge in each Local Authority. Currently in the Dearne Valley all 45 schools are signed up to this program and are working to reduce their energy consumption as a result whilst teaching the regions future generations the value of energy conservation. Emissions from schools estates make up roughly a third of a local authorities total carbon emissions therefore an work to address consumption within this estate is vital to ensuring reduced demand across the City Region.

Action 11: Create the highest concentration of community led renewable energy generation schemes in the UK

Using the model developed in Action 9 Local Authorities will be lobbied to support the creation of community energy schemes that take advantage of the governments various Feed In Tariffs and Renewable Heat Incentives. The money that is generated by these schemes can be fed back into the communities that have developed them and potentially spent on further RES development or to support the community in other ways. This will generate greater energy independence and autonomy in communities with new funding streams helping them to support their residents in new ways.

The UK government's recent Community Energy strategy sets out a vision for communities to take a greater role in Generating energy, Reducing Energy use,

Managing Energy and Purchasing Energy. Action 11 will be vital to support the government in achieving this.

4.2 Strategic Matrix

Summary table		
Intervention field / strategic line	Objective	Action
Policy involvement and governance	Develop a City Region wide energy strategy that brings together all 9 Local Authorities areas	Undertake a study to identify which renewable energy generation technologies are best suited for each of the 9 local authority areas
		Create a repository of comparative data across all 9 LAs
		Get the SCR and all 9 Local Authorities to sign up to a joint agreement for RES generation and to deliver EE programs across their localities
Market uptake of renewable energy and energy efficiency	Create the right conditions to stimulate market uptake of RES and Energy Efficiency both commercially and domestically	Support businesses to reduce their energy requirements
		Support households to reduce their energy requirements
		Increase the proportion of energy generated by renewable energy technologies in the region
		Engage with the Nuclear Advanced Manufacturing Research Centre
		To develop public/community/private frameworks that de-risk as far as possible Local Authority responsibilities in RES schemes in order to support wider uptake
Community involvement in the energy sector	Boosting Community Involvement	Establish an exemplar community energy enterprise within the Dearne Valley in partnership with the Dearne Valley Eco-Vision Team and Sheffield Renewables by the end of 2014
		Schools to play a central role in community led RES schemes utilising the region's extensive school estates for generation e.g. Solar PV and GSHP, to spearhead community campaigns as a starting point
		Create the highest concentration of community led renewable energy generation schemes in the UK

4.3 Financing Issues

At present the core focus of this report is the need to establish an Energy Strategy for the Region that is agreed by all 9 authorities. Until this is in place it is difficult to conclusively suggest financing mechanisms to support the delivery of programs beyond agreeing the strategy. What financing there is available will come from National sources

and schemes and from each individual authorities own allocated budget. There is no central source of funding that the Sheffield City Region can currently provide.

4.2.1 Required resources

Energy Strategy

This has already been estimated at a cost of £25,000

Regional Renewable Generation Capabilities Report

This is estimated to cost £100,000 and is roughly based on a similar report being conducted in Sheffield that cost £20,000. Economies of scale have been applied in making this assumption however this cost may well be far from accurate.

Data and metrics collation

Potentially could be carried out in house by each authority with one authority leading in kind to bring a short report together.

Business Support to reduce energy demand

Cannot presently be calculated but would require a dedicated team with LCA knowledge and access to software to support them. Similar projects have in the past been funded through ERDF which is something that could potentially be explored in this case.

Household energy efficiency support

Dependent on a number of factors including delivery vehicle chosen, type of energy efficiency upgrades made etc. this cost could vary. Economies of scale would certainly play a role in this provided that such a scheme could be agreed on a region wide basis. This would be a challenging but rewarding process for the city region as it would need to avoid EU procurement hazards that have plagued such schemes in the UK over recent years in a manner that brought economic benefit to the region.

Increasing market uptake of RES

It is predicted that there would be little cost attached to this as it would mainly focus on adjusting policies within each local authority and educating them to support RES schemes in within their areas. At City Region level there would need to be co-ordination of this activity in the form of managing reports from each authority and respective chamber of commerce however this would most likely be able to be absorbed by current capacity.

Boosting community involvement

Setting up a new community enterprise has already been funded through the UK Government Cabinet Office to the tune of £13,000 which covers everything from website design to learning materials and mentoring schemes. The scheme will need further funding to install the technologies it intends to on local schools with an average price tag of £50 -70,000 for a 30 - 50kW Solar PV array. This money would be raised through a mixture of community share offers and local business sponsorship. Other costs related to community engagement would vary according to the type of technology being considered, the size of the scheme, the size of the community and the viability of the sites in question.

4.2.2 Financial Sources

A range of funding sources will be required to realise the vision in this Plan, from both the public and private sectors. To date, funding for green measures has mainly been focussed on large infrastructure projects with little coordination across the City Region regarding more general actions. The successful delivery of the actions laid out in this Plan will hopefully increase understanding of the requirements of RES and energy efficiency in the City Region and thereby demonstrate the need for more coordinated investment and identification of funding sources.

What follows is a list of potential funding, which through the implementation of this plan, will be explored further:

JESSICA (Joint European Support for Sustainable Investment in City Areas)

This Fund, an initial loan pot of £23million, supports sustainable urban development and regeneration, with a focus on office and industrial developments which meet the ERDF's targets on employment, remediation and floor space outputs. The City Region is investigating using this Fund to invest in energy projects to support a low carbon and decentralised energy policy.

SCRIF (Sheffield City Region Investment Fund)

This is a framework of funding streams to deliver essential strategic infrastructure to increase economic growth and jobs in Sheffield City Region and is aligned to Jessica Funding. A prioritised list of schemes has already been identified but these schemes could encompass green measures. For instance, support provided to business through the SCRIF related to business and planning advice, skills development, etc. could include support in identifying energy efficiency measures.

RGF (Regional Growth Fund)

As above, part of the fund allocated to Growth Hub (£16.52m) could be used to provide targeted support for businesses regarding energy efficiency.

Horizon 2020

This new fund could be investigated collaboratively with all Renergy partners.

Other financial sources include community shares and business sponsorship for the community projects.

Ways of reducing costs rather than raising finance should also be investigated e.g. through competitive energy supply and joint procurement.

5. Monitoring mechanisms

At this stage the Sheffield Implementation Plan is being presented to the City Region and its 9 Local Authorities as a guidance document to stimulate discussion and gather support for co-ordinated action. At present there is no accountable body that could perform the monitoring functions to support this report in the level of detail that is required. Over the coming months and with the dissemination of this report amongst the relevant partners it is hoped that the framework for monitoring progress will be established and agreed upon. Once in place it will be able to chart the progress of the Sheffield City Region's action.

Appendix 1: Key policies and strategic priorities for Sheffield City Region

Sheffield City Region European Investment Strategy

This Strategy aims to create a city region with a stronger and bigger private sector that can compete in global and national markets. This is not intended to have a green focus but, as it is the key strategy for the city region that will influence European funding, it has been included here. The primary goal for this strategy is higher employment, focussing primarily on the private sector, and faster economic growth. The Low Carbon Economy has been identified as central to this ambition for sustainable growth alongside ICT and social inclusion, however this needs to be demonstrated further. Climate change adaptation, mitigation, environmental protection and sustainable transport are also considered to be important.

A cross-cutting theme has been included which aims *“to respect the environmental limits of the City Region, breaking the link between economic growth and environmental degradation and securing opportunities within a low carbon agenda”*.

Alongside this, a **Growth Plan** has been developed as part of the **Strategic Economic Plan**, which will compliment the aims of the European Investment Strategy. The main purpose of the plan is to set out a compelling and ambitious strategy that will grow GVA, create jobs and close the £4.7bn productivity gap between the SCR and UK economy. It is a critical document for both the private and public sectors and does note the importance of the low carbon sector. This sector is forecast to experience lower levels of growth than some others, but does generate high levels of GVA per job. Low carbon is not yet truly embedded into the plan. For instance, energy efficiency and green measures do not feature within the housing section.

A **Low Carbon Sector Group** has been established to identify low carbon projects and embed the low carbon agenda within the Strategic Economic Plan. The group is developing a number of projects that feature within this RIP.

Standing Up For Sheffield

This is Sheffield City Council’s Corporate Plan for 2011-2014. “An Environmentally Responsible City” features as one of 8 areas that efforts will be focused upon. This includes reducing carbon emissions; improving energy security and affordability; resilience to climate change; and reducing waste. Underneath this sits a **Carbon Reduction Framework**, which sets out how everyone in Sheffield can take action to reduce their carbon emissions, whether as individuals, businesses or public sector and voluntary partners. Sheffield City Leaders believe that if everything within this framework is put into action, the target of a 30% reduction on 2005 levels by 2020 (equivalent to 1,200,000 tonnes of carbon) is achievable. The Council has commissioned an **Environmental Resilience** strategy report, which will be published shortly. The results of this report will be used to update the targets in the Carbon Reduction Framework.

Climate Change Adaptation Strategy

This strategy explains the importance of climate change adaptation for the city of Sheffield and aims to identify the primary challenges presented by a changing climate to the city and to the delivery of services.

Sheffield Housing Strategy 2013-23

Reducing carbon emissions from domestic stock are considered within this Strategy. This is an underpinning **Environmentally Sustainable Housing** Strategy, which aims

to increase the sustainability of new housing and renovated property within area renewal schemes.

The main features of this strategy are:

- Establishing high baseline environmental sustainability standards
- Showcasing renewable/low carbon energy and high environmental standards in mainstream housing
- Support for innovation, profile-raising and 'exemplar' initiatives
- Promotion and awareness raising
- Strengthening local expertise/resources and strategic partnerships.
- Setting strong planning framework policies.

Green and Open Space Strategy 2010-2030

This twenty-year plan aims to ensure that every area of the city has green and open spaces of exceptional quality for all current and future generations to enjoy. The focus is on the wide range of benefits and opportunities that green and open spaces provide. Volunteering to assist in maintaining and developing these green spaces is well established through various routes including the city run 'Friends of Green Spaces' scheme. This encourages engagement and inclusion across social groups.

Dearne Valley Eco-Vision and Eco-Schools Programme

The Dearne Valley Eco-Vision is a joint Barnsley, Rotherham and Doncaster local authority project that is designed to transform the Dearne Valley into one of lowest carbon communities in the UK and across Europe within twenty years. Established in 2008, the Eco Vision is supported by local, regional and national partners including Job Centre Plus, Dearne Valley College, Groundwork Dearne Valley, the Homes and Communities Agency, Natural England and the Royal Society for the Protection of Birds (RSPB). One of the key priorities for the Eco-Visions is Eco-Schools, with every school within the Dearne Valley being signed up. This is an international award programme that guides schools on their sustainable journey, providing a framework to help embed these principles into the heart of school life. Sheffield City also used to be heavily involved in the Eco-Schools project, but due to financial cutbacks, the dedicated Eco-Schools team within the Council has been disbanded.

Fuel Poverty

A new multi agency Fuel Poverty Knowledge Group has recently been set up in Sheffield to write a new Fuel Poverty Strategy, based around the key issues of housing condition, household income, fuel cost and personal capabilities. The 2011 Sheffield City Region energy bill is £3.41 billion per year and this is forecast to grow to £4.59 billion by 2022.

Sustainable Transport

Sheffield's Local Transport Plan (LTP) has clear aims which are closely aligned with the RE-GREEN recommendations. The LTP is given direction and focus by the **Sheffield City Region Transport Strategy (2011-2026)**, which has four goals:

- Support economic growth
- Enhance social inclusion and health
- Reduce vehicle emissions
- Make transport increasingly safe and secure.

The LTP sets out to encourage cycling, walking and the implementation of work place travel planning.

South Yorkshire has been successful in securing £30m from the **Local Sustainable Transport Fund (LSTF)**. The funding will support integrated investment along 4

geographical corridors in South Yorkshire. These 4 corridors were selected based on a combination of genuine local need and a high potential for carbon-friendly economic growth. This growth would be achieved through widening labour markets, increasing business productivity and facilitating sustainable commuting. Investments include bus priority; “Jobconnector” bus services; cycle routes; upgrade of tram stops; rail-based Park and Ride; promotion of electric vehicle use; infrastructure to unlock urban regeneration; training, marketing and travel planning.

Electric Vehicle infrastructure schemes are also being developed in conjunction with the Government’s **‘Plugged in Places’** initiative.

Private bus operators are important actors in encouraging citizens to change their mode of transport and recently South Yorkshire’s biggest operator invested in a new generation of cleaner, smarter vehicles. The Company has committed to replacing half its 200-strong Sheffield fleet by 2017. The buses are lighter-weight, featuring the latest engines, which are 50 per cent more fuel-efficient than many vehicles currently in operation.

Plans are taking place related to ensuring a green legacy from this year’s Tour de France which passes through Sheffield.

Sheffield Local Plan

The Local Plan is the statutory development plan and work is being undertaken on a new plan. The current policies relevant to RE-GREEN are:

- Responses to Climate Change
- Climate Change, Resources and Sustainable Design of Developments
- Renewable Energy and Carbon Reduction
- Air quality
- The Strategic Green Network

Sheffield Is My Planet campaign

RE-GREEN recommendations emphasise the need for increased public awareness of the benefits of integrating green development policies. Sheffield has put in place an overarching campaign providing web-based information, social media access and encouraging community pledges. The campaign links together sustainability themes including lifestyle, transport and energy use.