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MEETING:	Overview and Scrutiny Committee -		
	Strong & Resilient Communities		
	Workstream		
DATE:	Tuesday, 16 July 2019		
TIME:	2.00 pm		
VENUE:	Meeting Room 11 - Barnsley Town Hall		

AGENDA

Strong & Resilient Communities Workstream - Councillors Bowler, Carr, Ennis, Fielding, Gollick, Higginbottom, W Johnson, Leech, McCarthy, Phillips, Wilson and Wraith

Administrative and Governance Issues for the Committee

1 Apologies for Absence - Parent Governor Representatives

To receive apologies for absence in accordance with Regulation 7 (6) of the Parent Governor Representatives (England) Regulations 2001.

2 Declarations of Pecuniary and Non-Pecuniary Interest

To invite Members of the Committee to make any declarations of pecuniary and non-pecuniary interest in connection with the items on this agenda.

3 Minutes of the Previous Meeting (Pages 3 - 6)

To note the minutes of the previous meeting of the Committee held on 18th June 2019 (Item 3 attached).

Overview and Scrutiny Issues for the Committee

4 Energy Efficiency and Pollution Reduction (Pages 7 - 48)

To consider a report of the Executive Director Core Services and the Executive Director Place (Item 4a attached) in respect of Barnsley Council's Energy Strategy 2015-2025 (Item 4b attached)

Enquiries to Anna Marshall, Scrutiny Officer

Email scrutiny@barnsley.gov.uk

To: Chair and Members of Overview and Scrutiny Committee:-

Councillors Ennis OBE (Chair), Bowler, Carr, T. Cave, Clarke, Felton, Fielding, Frost, Gollick, Green, Daniel Griffin, Hand-Davis, Hayward, Higginbottom, Hunt, W. Johnson, Leech, Lodge, Lofts, Makinson, McCarthy, Mitchell, Newing, Noble, Phillips, Richardson, Smith, Stowe, Sumner, Tattersall, Williams, Wilson, Wraith MBE and Wright together with co-opted Members and Statutory Co-opted Member Ms K. Morritt (Parent Governor Representative)

Electronic Copies Circulated for Information

Sarah Norman, Chief Executive
Andrew Frosdick, Executive Director Core Services
Rob Winter, Head of Internal Audit and Risk Management
Michael Potter, Service Director, Business Improvement and Communications
Martin McCarthy, Service Director, Governance, Members and Business Support
Press

Witnesses

Item 4 (2.00 p.m.)

- Councillor Tim Cheetham, Cabinet Spokesperson for Place (Regeneration & Culture)
- David Shepherd, Service Director Regeneration & Culture
- David Malsom, Group Leader Housing & Energy
- George Lee, Project Manager Housing & Energy





MEETING: Overview and Scrutiny Committee - People			
	Achieving their Potential Workstream		
DATE:	Tuesday, 18 June 2019		
TIME:	2.00 pm		
VENUE:	Meeting Room 11 - Barnsley Town Hall		

MINUTES

Present Councillors Ennis OBE (Chair), Carr, Felton, Frost,

Gollick, Daniel Griffin, Higginbottom, W. Johnson, Lodge, Makinson, Mitchell, Newing, Phillips, Richardson, Smith, Stowe, Sumner, Tattersall,

Williams and Wilson.

6 Apologies for Absence - Parent Governor Representatives

Apologies for absence were received from Ms K. Morritt in accordance with Regulation 7(6) of the Parent Governor Representatives (England) Regulations 2001.

7 Declarations of Pecuniary and Non-Pecuniary Interest

Cllr Newing declared a non-pecuniary interest in Minute No. 9 as she is employed by CAMHS.

8 Minutes of the Previous Meeting

The minutes of the meeting held on 4th June 2019 were approved as a true and accurate record.

9 Barnsley Carers' Strategy 2017-20

The following witnesses were welcomed to the meeting:

- Wendy Lowder, Executive Director Communities, BMBC
- Jayne Hellowell, Head of Commissioning Healthier Communities, BMBC
- Jo Ekin, Commissioning Manager Healthier Communities, BMBC
- Steph Johansen, Regional Head of Operations for Barnsley Carers' Service, Making Space
- Julia Goddard, Carer Support Worker, Making Space
- Barnsley Carer Representative
- Sarah Sinclair, Interim Head of Service Commissioning, Governance and Partnerships, People Directorate, BMBC
- Kate Hensby, Manager for Young Carers' Service, Barnardo's
- Lennie Sahota, Service Director, Adult Social Care and Health

The Executive Director introduced this item, informing the Overview and Scrutiny Committee of the progress of the Carers' Strategy 2017-2020 and Action Plan, also highlighting that the report also includes details and progress of the local commissioning and social care responses to supporting unpaid carers in Barnsley.

The Head of Commissioning then went on to explain that lots of partnership work has been done and that Barnsley now has an integrated carers' service for adults plus a young carers' service, which is a statutory service delivered through Barnardo's. The issue of carers now has a much higher profile, a rearranged governance structure and investment from the Better Care Fund to fund the service. The service is currently being evaluated as there is a desire to continue funding the service as it provides invaluable support to carers.

The Manager for the Young Carers' Service (Barnardo's) gave a brief outline of the services they deliver; a young carer's case study and reported developments and achievements for the benefit of Members.

In the ensuing discussion, and in response to detailed questioning and challenge, the following matters were highlighted:

Barnsley Carers' Service operates under a hub and spoke model, with the central hub based at Priory Campus with information, advice and support delivered at a number of community venues, including Family Centres and GP surgeries, with plans to expand further in the near future, possibly aligned to Area Councils. The contract is not a year old yet and there is still work to be done in terms of raising the profile of the service. Some GP surgeries host carer clinics and there is an aim (working in partnership with Barnsley Clinical Commissioning Group (CCG) colleagues) to have a carer presence in every GP surgery, with a facility to produce 'information prescriptions' about the carers' service which can be printed off and given to patients.

In Barnsley 108 young carers accessed the carers' service provided by Barnardo's, but the number of young carers may be significantly more as many are 'hidden' carers. Referrals from adult services are low. There are many reasons why this is the case, including fears around Social Services' involvement, the perceived stigma of parents whose children care for them and the way adult services are currently set up. This is one of the reasons why a 3rd sector provider delivers the service as it is viewed as being separate from statutory services. Referrals tend to come in following a family crisis, such as concerns around school attendance, and time and effort is then taken to deal with individual families, capacity building around the family and signposting to other services where necessary. It was acknowledged that there is a need to improve referral rates and ensure that the needs of the most vulnerable children, young people and families are met whilst working with other services such as Substance Misuse, Mental Health etc.

A Member enquired about respite for young carers at crucial times such as when taking GCSEs. It was explained that respite is not provided, but rather young people are supported to do appropriate levels of care. This could mean increasing one-to-one support either at home or in school; involving other agencies to reduce levels of caring; offering support via mobile phone and text messages (for example, prompts to get ready for school) and organising activities. Young carers are never expected to take on a caring role which would impact on their education. All young people are made aware of the different organisations which are there to help them, such as Childline, Mindspace, I Know I Can (IKIC) and Chilypep and can be contacted via mobile phone apps and social media.

Barnsley has a larger percentage of young carers than other Local Authorities. This has been the case for many years, but nowadays there are integrated structures to support them and lots of awareness raising is done in schools. There is a current campaign to raise awareness by giving a credit card size information card to every child in schools to remove discrimination and raise awareness. 400 children and young people in Horizon were each given a card with contact details and this initiative was shortlisted for a Northern Housing Award. Teachers are also more aware of what to look out for. The youngest referral to date for a young carer has been for a 4 year old. The exact number of young carers is difficult to establish, and many come through when the family is known to Adult Services such as Substance Misuse and Mental Health. Young carers who are supported report a positive impact on their mental wellbeing and emotional resilience.

There is a need to remove the stigma of being a carer and to raise awareness of the support available. A number of mechanisms are used, including leaflets, newspaper articles, social media and work with other organisations, pulling all services together and removing duplication to make the journey simpler and stress free.

Julia Goddard (Making Space) gave an overview of services to support carers, explaining that these depend very much on the individual and their needs, starting with a 1:1 meeting with a support worker which then leads on to other things such as help with finances, housing, wellbeing, psychological therapies, debt management, benefits and carers assessment. Making Space try to meet any needs that are brought up in the conversation and the Support Workers are almost walking directories. They also intend to recruit Black and Minority Ethnic (BME) workers in areas where there is a need to support specific communities.

It was highlighted that it is only possible to claim Carers Allowance until the age of 65. This is a problem in Barnsley, as many carers who are in their 70s and 80s care for family members, which has an associated financial impact (unless they have private pensions) and could adversely affect their quality of life.

The Barnsley Carer Representative spoke about the positive impact Making Space had on her life as a carer, highlighting the benefits of services to support carers when they don't know who to approach for help and may be isolated in terms of a family and friends support network.

It was felt that there was a gap in provision for ex-service personnel and their carers who may be suffering from Post Traumatic Stress Disorder (PTSD) and other conditions relating to their armed forces service. It was reported that the Armed Forces Champion is Cllr Joe Hayward and the Armed Forces Lead Officer is Jayne Hellowell, who is leading on bringing forward Barnsley's Armed Forces Plan to address this. A lik to both Barnardos and Making Space will be included within the plan which is currently being developed.

When social care assessments are undertaken the views and wishes of the carer are always taken into account. If carer needs are identified early support can be provided in a timely manner, including signposting to other avenues of support. Work is underway with communities to identify the best way to offer support and to identify

'hidden' carers, as early identification could prevent a crisis situation later, bringing the hospital and other organisations on board to raise the profile of carers, as many do not recognise that they are 'carers'.

It was felt that Councillors had a valuable role to play in spreading the message and raising the profile of carers within their communities. Councillors were happy to be involved and offered to distribute information leaflets etc., within their community and at community events such as galas.

RESOLVED that:

- (i) A letter will be sent to MPs requesting the Carer's Allowance should not be stopped at pensionable age
- (ii) Contact information regarding the Adult Carers' Service (Making Space) and Young People's Carers' Service (Barnardo's) will be circulated to Elected Members
- (iii) Carers' services should be linked to the Armed Forces Covenant Group and included within the Armed Forces Plan, and
- (iv) Witnesses be thanked for their attendance and contribution.

	 Chair

Report of the Executive Director Core Services and the Executive Director Place, to the Overview and Scrutiny Committee (OSC) on 16 July 2019

Energy Efficiency and Pollution Reduction

1.0 Introduction

- 1.1 The purpose of this report is to inform the Overview and Scrutiny Committee (OSC) of Barnsley Council's current Energy Strategy 2015-2025 (Item 4b attached) and progress toward its targets, including wider but linked activity around the themes of affordable warmth, air quality and moving toward a zero carbon borough by 2050.
- 1.2 This report identifies the successes of the existing Energy Strategy 2015-2025 in reducing the Council emissions of Carbon dioxide (CO₂). However, it also identifies the need to refresh its targets and delivery plans in line with the Intergovernmental Panel on Climate Change (IPCC) recommendations and new national legislation to net zero carbon by 2050.
- 1.3 In moving to a zero carbon borough, residents will be able to live in a cleaner environment, be more active and live in homes that are warmer and cheaper to heat. There will be opportunities for the borough's residents to work in new industries with opportunities that are highly skilled and it will be an ambition that the borough welcomes many of the new small and medium enterprises who specialise in low carbon technologies.
- 1.4 Barnsley Council's role initially is to be an exemplar of how to transition to a zero carbon borough, but its main challenge is supporting the borough in the much more difficult challenge of its journey and to ensure that the benefits of, and access to, the opportunities of decarbonisation are retained by its residents.

2.0 Background

What is Carbon and Why is it Important?

- 2.1 Carbon dioxide (CO₂) is one of a group of gases known as 'greenhouse gases'. Greenhouse gases (GHG) also include gases such as methane, nitrous oxide, ozone, and hydrofluorocarbons. The main source of greenhouse gas emissions is the combustion of fossil fuels such as coal, petrol, diesel, or natural gas. Coal (higher CO₂) emits more carbon than petrol or gas (lower CO₂).
- 2.2 These gases persist in the atmosphere, and an increase in the concentrations of these gases in the atmosphere is proven to cause an increase in global average temperatures, commonly referred to as global warming.
- 2.3 Global warming is an incorrect term in describing the impact of CO₂, more accurately it should be known as climate change. As the planet warms, existing weather patterns will change, the UK will have warmer, wetter weather; in other parts of the world it will create drought and the melting of the ice packs will mean rising sea levels.
- 2.4 To prevent these wide scale impacts, efforts are being made nationally and internationally to reduce the level of CO₂ which is emitted in our daily lives, which will require a wholesale shift in how we live.

International, National and Local Response

- 2.5 Published in October 2017, the Government's 'Clean Growth Strategy: Leading the Way to a Low Carbon Future' report, focusses on the three key areas of: reducing CO₂; keeping supplies secure (keeping the lights on); and ensuring energy remains affordable.
- 2.6 The IPCC (the United Nations body for assessing the science related to climate change), published a report in October 2018 recommending that the growth in global temperatures should be limited to

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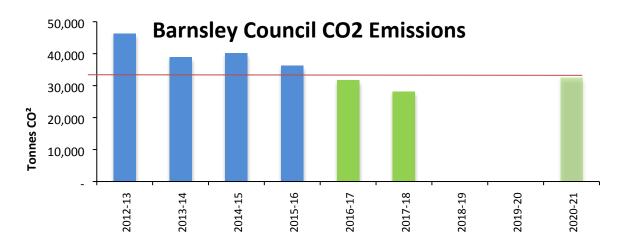
- 1.5°C, and that this would require rapid, far-reaching and unprecedented changes in all aspects of society.
- 2.7 The IPPC recommends that to keep the rise in the global temperatures within the 1.5°C upper limit, global emissions of CO₂ need to be reduced by 45% of 2010 emissions by 2030 and to be net zero by 2050. Net zero emissions (or carbon neutrality), refers to a reduction in emissions and that any CO₂ that is emitted is offset through programmes such as planting trees. This differs from zero carbon, which means no CO₂ is released. The UK's Committee on Climate Change (CCC) has also advised the Government to legislate to be net zero carbon by 2050.
- 2.8 Since November 2018, and following the IPCC report and the actions of climate activists, over 70 UK local authorities have declared climate emergencies as a means of galvanising the support for the climate change agenda at a local level. They mostly have promoted the idea of being zero carbon within specified time periods.
- 2.9 Barnsley Council's Energy Strategy (2015-25) has an existing commitment to be zero carbon in its operations by 2040. Being zero carbon rather than net zero carbon is a significant positive commitment. In relation to the borough's overall emissions, the Council is a relatively small emitter of CO₂ (2%). However, it can facilitate and enable the aspirational transition to a zero carbon borough by 2050.
- 2.10 In June 2019, the UK became the first major industrialised economy to legislate to become net carbon zero by 2050.

3.0 Barnsley Council's Energy Strategy 2015-2025

- 3.1 The Council's existing Energy Strategy has three broad targets:
 - to be zero carbon by 2040
 - to reduce the carbon emissions from its operations
 - to generate more of its power from renewable sources

Reducing the Council's Carbon Emissions

3.2 The Council's Energy Strategy sets a target for the Council to reduce the carbon emissions from its operations by 30% from a 2012/13 baseline by 2020/21. As the table below shows, the current target was achieved in 2016-17, and the current decrease is closer to 40%, which is very positive news.



3.3 The decrease in emissions has been largely driven by two factors; rationalisation of the asset base and also the greening of the electricity supply grid. Under the current method calculation, significant assets such as Barnsley Premier Leisure managed sites are not included in overall carbon emissions.

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3.4 Decarbonisation of the electricity supply network has had a significant effect on our carbon emissions (estimated to be approximately 20% of total CO₂). This is delivered by national infrastructure such as offshore wind farms.

Energy Efficiency

- 3.5 Energy efficiency covers any action taken to: reduce the consumption of energy; the reduction of energy via insulation; and better equipment. This should be considered before the installation of renewable technologies.
- 3.6 Some actions are behavioural or operational, such as reducing the temperature setting for a heated space, or using stairs instead of a lift. Other measures involve replacing energy consuming equipment with a more efficient version. Research shows that implementing energy conservation measures can reduce total energy consumption by up to 15%.
- 3.7 In order to improve energy efficiency and reduce carbon emissions, the Council has joint funded a Recycling Fund with SALIX to the value of £405,000, which is ring-fenced for use on energy efficiency projects. Capital can be borrowed to fund projects which result in an annual saving on energy costs. This saving is then used to repay the amount borrowed until the project cost is repaid; becoming available for further projects. Once the borrowed amount is paid, any further savings are reflected in annual running costs.
- 3.8 Notable projects that have taken advantage of the Recycling Fund include:
 - In 2010 £170,000 was spent improving lighting and pipework insulation in the Town Hall and introducing a building management system (BMS) to control energy usage more effectively. These measures save an estimated £35,000 annually.
 - In 2017 £50,000 was spent improving lighting at a number of business centres. These projects resulted in a cost saving of £11,000 annually.
 - In 2018 £120,000 was used to replace lighting in Gateway Plaza with light-emitting diodes (LED) lighting. This project resulted in an annual cost saving of £17,500.

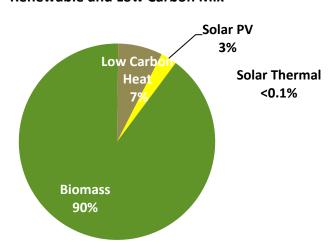
Increasing the Council's Use of Renewables & Low Carbon Technologies

- 3.9 Renewables are sources of energy that do not diminish with use, as opposed to fossil fuel sources which are finite. Examples are solar photovoltaic (PV) panels that convert sunlight into electricity, and wind turbines that use wind power to generate electricity. These sources produce significantly lower carbon emissions than fossil fuels.
- 3.10 Barnsley Council has five solar PV installations on the roofs of existing Council owned buildings which attract the feed-in tariff (FiT) (payments for generating renewable electricity). During 2018-19 these sites generated 68,000 kWh (kilowatt hours) of electricity which would have cost £10,000 if purchased from the grid as well as generated £7,000 in FiT subsidy payments. In addition, through the Energise Barnsley scheme (a community benefit energy society which aims to deliver community owned renewable energy, energy efficiency and energy supply projects), 15 Council owned buildings have benefitted from free installation of solar PV panels which resulted in lower energy costs and reduced levels of CO₂ emissions from its buildings.
- 3.11 Low carbon sources of energy are technologies with a very high efficiency and/or those which produce very low levels of carbon emissions. High efficiency technologies include heat pumps which use chemical processes to produce heat from a relatively small electricity input. Low carbon technology also includes the installation of gas powered combined heat and power plans (CHP). The Council is in the final stages of procuring a gas CHP to replace the existing coal powered boilers at the Metrodome, this will save money, significantly reduce CO₂ and improve local air quality.
- 3.12 Technologies such as biomass (burning plant matter) also count as low carbon, as the carbon they produce is largely offset by the naturally occurring capture of carbon in the fuel as it grows. 11 secondary schools have biomass boilers installed, making significant reductions in CO₂ emissions.

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- 3.13 The Energy Strategy sets out a target for the Council to generate 20% of the energy used in its operations from on-site renewable sources by 2020/21. To meet this target, the Council has installed capacity of 21,050 MWh (megawatt hours, a megawatt is 1,000 kilowatts) of renewable and low carbon generation, capable of producing up to 22% of its total energy consumption.
- 3.14 The chart below shows the current split of technologies that make up that 21,050 MWh of generation capacity. The vast majority is provided by biomass installations and low carbon heat, which includes technologies such as ground source (absorb solar energy) and air source heat pumps. Approximately half of the biomass capacity is in the modern secondary schools and the other half is in Berneslai Homes' communal heating schemes.

Renewable and Low Carbon Mix

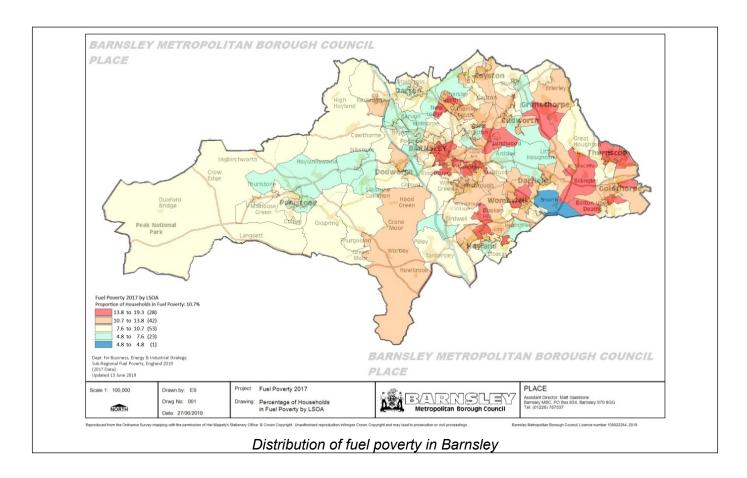


- 3.15 Final figures for the 2018-19 reporting year are still outstanding although the estimated total percentage generated from on-site renewables is expected to be 13%. This figure is lower than the 2017-18 reporting year total of 17%, despite the total energy consumption decreasing. The cause of the poor performance has been mechanical failures during the reporting year at the majority of the secondary school installations.
- 3.16 These have now been rectified and performance in the first quarter of 2019-20 is improving and performance exceptions are being carefully managed with the schools' Facilities Management Teams to ensure that installations are repaired quickly.
- 3.17 Key projects going forward will include the reduction of demand in Council sites through insulation and more efficient equipment; plus an increase in available renewables. The Glassworks development is an example where measures to reduce energy demand (via good design) and renewable generation (solar PV and thermal) have been built into the project, further schemes could also include projects to deliver solar farms; utilising battery technology; and district heat schemes.
- 3.18 Berneslai Homes has deployed a variety of renewable technologies within their social housing schemes. They have been successful and have resulted in cost savings to households and reductions in CO₂. (More details of these schemes can be found in section 4.0 of this report).

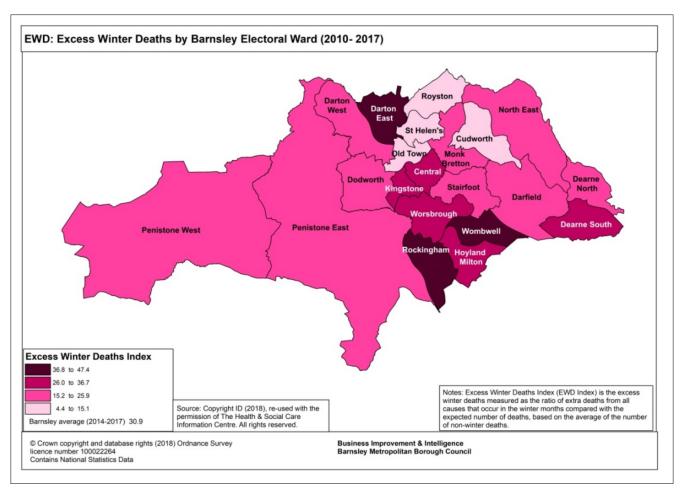
Fuel Poverty

- 3.19 Another key target for the Council in the Energy Strategy 2015-2025 is reducing the impact of fuel poverty in the Borough.
- 3.20 A household is considered to be fuel poor if they have a low income and high fuel costs this is also known as fuel poverty. An earlier definition was if they had to spend 10% of their household income on energy costs. Fuel poverty is caused by a combination of:
 - **Energy inefficient housing** due to the housing construction type and location; poor insulation; and energy inefficient heating. This can be remedied by improvements in insulation or heating.

- Low household income
- Fuel prices which are influenced by the availability of different fuels, tariffs and payment options.
 This can be remedied by offering and encouraging households to switch to cheaper energy tariffs or removing prepayment meters.
- 3.21 It is estimated that 11,141 or 10.7% of households in Barnsley were fuel poor in 2017. However, the incidence and causes of fuel poverty varies across the borough.
- 3.22 Generally fuel poverty is greatest in the private rented sector, due to a combination of older properties which are difficult to insulate, and occupiers on lower incomes. The number of households in fuel poverty in the social housing sector is generally lower because of the better quality of housing. The map below shows the distribution of fuel poverty based on the Office for National Statistics' (ONS) Local Super Output Areas (based on population figures from census data to allow comparison between consistently sized areas for statistical purposes):



- 3.23 Residents living in fuel poverty are more likely to be unable to heat their home properly. Living in a cold home has been linked to an increased risk of developing a range of health conditions including, asthma, arthritis and pneumonia, as well as unintentional injury.
- 3.24 The report 'Getting the Measure of Fuel Poverty', commissioned by the Department of Energy & Climate Change (DECC), shows that cold homes have been identified as one of the contributors towards excess winter deaths. Barnsley's excess winter deaths rate of 30.9% represents 680 excess winter deaths during August 2014 July 2017. This is the highest in the Yorkshire and Humber and some way above the average for England and Wales. The map below shows the distribution of excess winter deaths in Barnsley based on the ONS' Super Output Areas:



Distribution of excess winter deaths in Barnsley

- 3.25 Cold homes are a significant cause of demand on Nation Health Service (NHS) services. There is a proven link between cold weather and an increase in numbers of NHS referrals for heart attacks and strokes. People who are discharged from hospital into a cold home are three times more likely to be readmitted back to hospital and many residents also suffer from mental health issues and feelings of isolation. It has been estimated that every £1 spent on domestic energy efficiency measures saves the NHS £40.
- 3.26 Within Barnsley, it has been estimated that 9,700 homes are at risk of causing health conditions caused by excess cold and damp/mould. If these were improved there could be an annual saving to the local NHS of £1.2 million per year.
- 3.27 The acknowledged gold standard of energy efficiency programmes is that delivered in Oldham. This was funded via the local Clinical Commissioning Group (CCG) who recognised the cost savings which could be made to the NHS via its direct funding of energy efficiency programmes.

Affordable Warmth & Energy Efficiency Schemes

- 3.28 Affordable Warmth programmes look to intervene in all three causes of fuel poverty, often at the same time. The Council currently has a number of schemes which aim to support fuel poor homes by improving the energy efficiency of the home and increasing the household's income or reduce the costs of paying for energy.
- 3.29 Barnsley is a member of the Better Homes Yorkshire programme, established in partnership with ten other local authorities in the Leeds City Region in 2015. This scheme is available for owners of homes and tenants; through this, 332 private sector properties have received measures since 2017.
- 3.30 The Council has secured funding for 123 first time gas central heating systems over two years and £250,000 to run an affordable warmth programme which targets support at low income households with health conditions living in the least energy efficient homes. In addition, the Council offers free underfloor insulation to fuel poor households across the borough.

- 3.31 A project is underway to compare low carbon house build costs and efficiencies against current building regulations.
- 3.32 As an example, in Leeds City Region, in order to achieve its CO₂ reduction targets it will require significant capital investment (initial estimate of up to £50 billion). However, this would realise economic benefits with initial estimates showing £11billion in Gross Value Added (GVA), which is the measure of the value of goods and services produced, and the creation of 100,000 jobs. Currently, the Yorkshire and Humber has the lowest level of GVA of any region in England and Wales; therefore decarbonisation offers a great potential, if the funding can be found.
- 3.33 The Council also tries to intervene by reducing the costs of running the home. As part of this, Barnsley Energy Tariff was launched in 2018-19 in partnership with Great North Energy. As well as offering 100% renewable electricity, the tariff aims to tackle fuel poverty by fairer, competitive and more transparent energy deals and proactively encouraging customers to switch away from more expensive prepayment meters. So far, 719 households are signed up to Great North Energy in Barnsley, predominately through Berneslai Homes.
- 3.34 The service provides a single point of access to offer advice on: energy efficiency measures; energy bills and debts; and income maximisation. The service is offered to all residents in Barnsley, but with a focus on those in fuel poverty and residents leaving hospital. Funding is secured for this service for the next three years and it is envisaged that over 3,000 households will benefit.
- 3.35 The North Area Council has commissioned the disability charity DIAL to run a warm homes and social isolation service to residents in its area. The service which began in January 2019 has so far carried out 80 home visits and assisted twelve households with energy tariff switching; saving an average of £197.00 per household.

4.0 Domestic Energy Efficiency via Berneslai Homes

- 4.1 One of the key objectives for Berneslai Homes is to improve the energy efficiency of the Council's housing stock and to reduce carbon emissions. As a result, the Berneslai Homes Board introduced their 'Low Carbon Strategy' which plays a key role in the delivery of the Council's Energy Strategy.
- 4.2 Almost all of the housing stock falls in the Energy Performance Certificate (EPC) band ratings C and D, with a small percentage of the stock above and below this level. The national average in England and Wales is band D. The thermal performance of the stock is good, considering that the vast majority of it is more than 50 years old. All stock has double glazing, cavity wall insulation (where possible) and a good level of loft insulation.
- 4.3 Projects that can be implemented to raise the EPC rating of properties are outlined as below:

Continuing to Improve the Thermal Performance of Council Houses

- 4.4 This includes cavity and loft insulation upgrades to 300mm, as well as installing double glazing to windows and doors. Each year Berneslai Homes invest in the 'maintaining the home standard' and around 1,000 1,200 dwellings have these measures applied each year.
- 4.5 A challenge for Berneslai Homes is that of equity; why should one tenant receive energy efficient measures and others not? A lot of press has been raised recently via Nottingham City Homes retrofitting six properties to become carbon zero while technically brilliant; they cost £80,000 per property. The challenge locally is to find solutions that will deliver 80% of the energy improvement of the Nottingham City Homes for 20% of the cost. Improvements which cost £80,000 per property are unaffordable for the whole stock.

Using High Efficiency Condensing Boilers and Heating Systems

4.6 Replacing existing systems with high efficiency condensing gas boilers, easy to use controls and thermostatic radiator valves would save tenants residing in a semi-detached property £105 per annum

(source: Sedbuk). This will help reduce fuel poverty in the borough. More efficient boilers also emit less CO₂ because they burn less gas.

Reducing Reliance on Fossil Fuels for Domestic Heating

- 4.7 Air Source Heat Pumps (AHP) have been rolled out across larger properties in the housing stock. These are renewable sources of heat and can be used to replace gas powered heating. This is supported by government strategies which envisage an end to gas central heating by 2025 in new properties; although no date has yet been announced for replacement systems in existing dwellings.
- 4.8 Berneslai Homes are currently working jointly with the Council on the feasibility of heat pump technology using mine water and how that might provide heating to some parts of the borough.

Prepayment Meters

- 4.9 Another problem encountered by some tenants is the high cost they pay for electrical energy. Over a third (37%) of council tenants have a pre-payment electricity meter, with a good proportion of others on standard tariffs that have never switched suppliers. However, switching supplier is incredibly difficult if tenants find themselves in arrears with their existing supplier. The Barnsley Energy tariff will help with both of these issues.
- 4.10 In addition, Berneslai Homes are also considering more staff training around this issue, so the pool of advice to tenants is larger.

Replacing Fossil Fuel Burning Heat Networks

- 4.11 Berneslai Homes manage 24 heat networks schemes. When existing equipment requires renewal, they will always explore the possibility of replacing fossil fuel burning systems with renewable heat technology; either biomass or ground source heating. Removing coal as the primary fuel source will deliver significant CO₂ savings.
- 4.12 Berneslai Homes currently have nine biomass and eight ground source heating schemes. All these schemes, with the exception of two older biomass schemes, qualify for the Government's Non-Domestic Renewable Heat Incentive (RHI). This is an environmental programme that provides financial incentives to increase the uptake of renewable heat by businesses, the public sector and non-profit organisations, including those with district heating systems where one system serves multiple homes. Non-Domestic RHI is index-linked and is payable for a 20 year period. The installations have so far generated an RHI income of £1.2m for the Council's Housing Revenue Account (HRA).

Renewables and Micro Generation

4.13 Micro generation is the small scale production of electricity from renewable sources, principally on a domestic level from solar or wind energy.

The Council currently has 388 domestic properties fitted with solar PV (rooftop solar panels). To date these installations have:

- generated 3,990 Mwh of electricity; this could power 1000 homes for a year
- brought £1,834,078 of income into the Council via feed-in tariff income
- saved 2,165 carbon tonnes
- saved tenants around £250,200 from their energy bills
- 4.14 In addition to the Council owned solar PV, a 2015 scheme by Energise Barnsley has fitted 321 Barnsley Council homes with the technology. This has saved tenants around £140,000 from their electricity bills to date. The income from the feed-in tariff is retained by Energise Barnsley and the society has paid its shareholders a year one and two dividend of five per cent, per annum of investment. The society also has installations on Council owned offices and schools.
- 4.15 Following on from the project to install solar PV systems to properties across the borough, Berneslai Homes have worked closely with Energise Barnsley to pilot installations of emerging battery

technology at 37 properties in The Willows at Thurgoland. For solar PV installations the battery will charge from unused electricity generated and discharge any demand when the solar PV is not generating; thus saving customers money. Of the 37 properties, 28 of the bungalows now have solar PV systems installed and the cost of the batteries, installation and tenant liaison has all been funded by Energise Barnsley. Work is now underway to install systems at a further 50 properties. The Council's 30 year business plan for Council Housing does not currently include for further investment of solar PV at scale.

Energy Tariff for Domestic Properties

- 4.16 Berneslai Homes has been working with the Council on the introduction of its Barnsley energy tariff 'Great North Energy'; a partnership with Robin Hood Energy, a not-for-profit energy supplier. The aim of the tariff is to help to lift residents out of fuel poverty or stop them falling into it by offering fairer, transparent and consistently competitive prices. A particular aim is to support prepayment customers who are often not on the most competitive tariffs elsewhere, by helping them to find a better deal.
- 4.17 All of the Council void properties are being switched to the Barnsley Energy tariff and Berneslai Homes will be actively working with the Council to promote its use to Council tenants.

5.0 Air Quality & Sustainable Transport

Air Quality

- 5.1 The Government's Clean Air Strategy published in 2019 states that "air pollution is the top environmental risk to human health in the UK, and the fourth greatest threat to public health after cancer, heart disease and obesity". Air pollution causes more harm than passive smoking and the annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion.
- 5.2 In 2017, Public Health England estimated that 3.8% of all deaths in Barnsley in those aged 30+ were attributable to fine particulate air pollution.
- Improving the Borough's air quality is a statutory duty under the Environment Act 1995. All local authorities have to regularly review and assess air quality in their areas, and to determine whether or not the human health based air quality standards are likely to be achieved. Where a breaching of the air quality standards is considered likely, the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP), setting out the measures it intends to put in place in pursuit of meeting the standards.
- Pollution Control within Public Health is the lead section in the Council delivering local air quality management. This includes monitoring and modelling air pollution concentrations, and undertaking work to reduce harmful emissions and hence improve air quality. Pollution Control has produced an AQAP, containing actions primarily designed to reduce road transport emissions as they are the major source of the polluting gas 'nitrogen dioxide' within the borough. Raised concentrations of this gas have resulted in the declaration of several AQMAs in Barnsley, including the M1 motorway and busy arterial roads and junctions close to Barnsley town centre.
- Barnsley has not been mandated by Central Government to consider declaring a Clean Air Zone (a zone where older more polluting vehicles are charged to enter); however, the Council is aware that Greater Manchester, Leeds, Sheffield and Rotherham have been mandated to consider and potentially implement these zones. The Council will therefore watch these developments closely, to understand the impact these zones may have on the borough.
- An example of this is the declaration of an AQMA on the section of Dodworth Road between Townend Roundabout and M1 J37 in 2005, partly due to the levels of congestion at the Dodworth Road / Pogmoor Road crossroads junction. Since 2005, this AQMA has been subject to various interventions to reduce traffic emissions including the construction of the Dodworth by-pass to the west of the M1 motorway in 2006; the signalisation of the M1 Junction 37 gyratory; and the introduction of additional lanes on some of the approaches in 2015. These interventions, coupled with the penetration of newer, less polluting vehicles into the vehicle fleet have resulted in a reduction in

air pollution concentrations in the AQMA between M1 J37 and Dodworth Road / Pogmoor Crossroads in particular.

- 5.7 In addition, the proposed new A628 Dodworth Road / Broadway junction improvement scheme, which will enable the traffic to flow more freely through this area, has the potential to deliver air quality benefits to the existing residents in the immediate vicinity. This is not straight forward, however, as the results of the modelling has shown that whilst some locations, especially those nearest the crossroads would be benefitted; conditions would be worsened where the properties are located on the approach to the gyratory on Dodworth Road from the town centre. However, these increases have been assessed as "slight adverse" and in those locations predicting an increase in concentrations of nitrogen dioxide gas; the concentrations would still remain within the air quality objective.
- Elsewhere, the scheme is predicted to have "negligible" or a "slight to substantial beneficial" impact. For this reason the Air Quality Pollution Control Officer has resolved not to object to the application. Accordingly, where emissions are forecast to increase, because they will remain within the objective, the effects are not considered to be sufficient to warrant objection. Moreover, in the areas where the modelling exercise predicted concentrations to be currently above the objective, residents stand to benefit from the scheme. Accordingly, the proposal complies with Core Strategy policy CSP41, and Local Plan policy AQ1, both of which stipulate that developments impacting upon areas sensitive to air pollution in AQMAs will be expected to demonstrate that it will not have a harmful effect on the health or living conditions of any future users of the development in terms of air quality, or that any such harmful effects can be suitably mitigated against.
- 5.9 Within Barnsley's Air Quality Action Plan, there are 22 actions tackling industrial, domestic and road transport emissions. Road transport related actions within the plan include: stipulating emission standards for buses; measures to reduce congestion; encouraging walking and cycling; working with heavy goods and bus fleet operators in order to reduce emissions by improving fuel consumption; working with developers to minimise the air quality impact of new development; and encouraging the uptake of low emission vehicles and alternative fuels.
- 5.10 The Council encourages local stakeholders to "do their bit" to improve air quality and is routinely involved with various awareness raising campaigns. The latest was 'Clean Air Day' on 20 June 2019 and involved working with local schools and Barnsley Hospital to promote good air quality.
- 5.11 Each year, Pollution Control produces an air quality Annual Status Report, detailing progress with implementing actions within AQAP and reporting on air pollution trends. Current trends indicate that air pollution concentrations are reducing; however it is important to continually drive down emissions, as health effects associated with air pollution still occur below the legal limits.

Sustainable Transport

- 5.12 Sustainable transport though a separate delivery programme is linked heavily with air pollution control, through the reduction in local emissions associated with transport.
- 5.13 Sustainable transport aims to meet current transport needs without compromising the needs of future generations, creating a borough where active travel is a preferred choice and supported by a connected network of high quality, safe and inviting cycle routes and footpaths for all people to use.
- In the UK 27% (and is forecast to grow) of total greenhouse gas emissions come from the transport sector. While the electricity generation sector has made great strides in decarbonising our power stations, transport has been slow to respond. In 2018, the UK government launched their 'Road To Zero' strategy which sets out a roadmap for decarbonisation of the transport sector, including a ban on the sale of traditional diesel and petrol engine cars by 2040.
- 5.15 The two principle technologies vying to replace fossil fuels in transport are battery electric vehicles and hydrogen fuel-cell vehicles. The likelihood is that both these technologies will feature in the transport system of the near future, and both of these technologies require a low carbon electricity generation system to ensure that they are as low carbon as possible.

5.16 The challenge goes far beyond passenger vehicles, with current reliance on fossil fuels being central to our public transport systems including buses and trains, as well as our international freight and travel systems such as sea and air transport. While changing the fuels that our vehicles use will help to reduce carbon associated both with our travel and the products we use that need to be imported; we also need to ensure that we make the most possible use of low or no carbon methods of transport wherever possible, and seek to reduce the carbon embedded in our supply chains.

Electric Vehicles – Public Charging Infrastructure

- 5.17 With a wide number of electric vehicles (EV) now available there is a growing requirement for public charging infrastructure. Central Government has recognised the role of local authorities in providing this and made some grant funding available.
- 5.18 The Council is currently seeking approval for a project to install 45 dual chargers across the borough, including locations in all principal towns, leisure centres and town centre car parks to ensure that residents and visitors have access to charging to support the uptake of EVs. EV chargers will be located in Council car parks in locations where local residents will be able to use them overnight when car parks are typically under used. The project will make use of available grant funding to provide EV chargers for residents without access to off-street parking.

Electric Vehicles - Fleet

5.19 The Council has a fleet of 433 vehicles and plant and equipment; all of which currently run on diesel or petrol. The Environment & Transport Service is currently seeking approval to replace 35 conventional diesel or petrol vehicles with battery electric vehicles (BEV), which represents approximately 20% of the total fleet, between 2020 and 2025.

Eco Stars

- 5.20 Eco Stars is a fleet recognition scheme set up by Barnsley Council along with Doncaster, Rotherham and Sheffield Councils. ECO Stars encourages and helps operators of HGVs, buses, coaches, vans and taxis to run fleets in the most efficient and green way and provides recognition for best operational practices, and guidance for making improvements.
- The scheme aims to reduce fuel consumption which naturally leads to fewer vehicle emissions and has the added benefit of saving money from both fuel and maintenance. Members are awarded an ECO Star rating when they first join ranging from 1 Star to 5 Stars based on an assessment of their current operational and environmental performance.

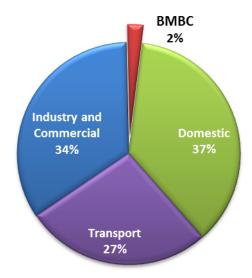
Active Travel

- 5.22 The Council is promoting active travel to increase physical activity whilst reducing the number of vehicles on the road. Recent initiatives have included:
 - The introduction of the Barnsley Active Travel Hub, located at the interchange, which offers free bike hire and electric bikes as well as changing and storage facilities and maintenance
 - Barnsley staging the 2nd day of the 2019 Tour de Yorkshire race
 - 6,633 pupils receiving Bikeability training since 2016 which is delivered by Active Barnsley, a nonprofit organisation
 - The delivery of Modeshift Stars (a national award scheme that has been established to recognise schools that have demonstrated excellence in supporting cycling, walking and other forms of sustainable travel) to 20 schools
 - 10 Day Active Travel initiative currently 14 schools have signed up to take part
 - The launch of Beat the Streets in June which is an interactive game involving all Barnsley schools, enabling pupils and their families to travel actively to their school

6.0 Barnsley Council Future Plans & Challenges

Proposals to Refresh the Council's Existing Energy Strategy (2015-2025)

- To keep within the IPCC recommendations, it is proposed that the Council reaffirms its commitment to reduce its carbon emissions from its current levels of 28,000,000 tonnes annually, by setting milestones and becoming zero carbon in 2040. This matches the Council's ambition in the existing Energy Strategy.
- 6.2 However, as can be seen in the chart below, Barnsley Council only emits 2% of the borough's CO₂ emissions; transitioning the borough to zero carbon by 2050 (the national requirement) will be much more challenging than the transition for the Council.



- 6.3 To meet the IPPC recommendations and Government legislation, the borough will need to reduce CO₂ emissions by 45% by 2030 and to be net zero carbon by 2050. However, it would be beneficial if the borough could aim to be zero carbon rather than the national target which only seeks for the UK to be net zero carbon (emissions offset).
- To ensure that a constant focus is given to the targets, it is proposed that they will be underpinned by evidence-based Sustainable Energy Action Plans (SEAPs), influenced by five themes which build on existing carbon reduction programmes for the Council and are known challenges for the borough and the Council:
 - energy efficiency and procurement of energy
 - resource efficiency
 - sustainable transport
 - renewables
 - decentralised heating
- 6.5 Each SEAP will be brought forward with estimated delivery costs for each project as well as the amount of carbon saved. Progress will be reviewed via an annual outturn report which will operate a traffic light system of red, amber and green, to monitor progress.
- 6.6 Energy efficiency is the area where the largest reduction in emissions is possible and behaviour change will be an important component of this programme. The aims of the project will be to:
 - develop a major energy retrofit programme for non and domestic buildings
 - work towards zero carbon in construction and operation targets by working with the largest employers to set targets for energy reduction
 - develop smart energy solutions by implementing new technologies for monitoring energy in buildings and retrofitting lighting

- 6.7 The resource efficiency programme will encourage resource efficiency across the town with businesses and consumers. Actions will include:
 - the introduction of zero waste projects and evaluating opportunities for capturing waste heat and power
 - the promotion of a circular economy, aimed at minimising waste and making the most of resources, by promoting resource efficiency to small and medium enterprises and engaging with organisations involved in reuse and repair activities in the town
- By supporting the Local Transport Strategy, the sustainable transport programme will aim to reduce the need to travel, encourage active travel and decarbonising travel (such as low emission vehicles) as well as improving the local charging infrastructure to support the uptake of electric vehicles.
- 6.9 The renewables programme aims to increase the use of renewables in both the domestic and non-domestic sectors and encourage innovation in adopting new technologies. Actions could include:
 - piloting the wider use of ground source heat pumps to serve existing housing
 - assessing the potential for renewables in the Council's estate
 - · providing new guidance for community groups and householders
 - assessing opportunities for a number of specific renewables projects such as biodiesel (a cleanburning diesel replacement made from animal & vegetable oils and fats) solar panel systems and microhydro systems (a type of hydroelectric power)
- 6.10 A key objective of the fifth SEAP is to increase the use of decentralised heating in the borough (switching to individual units that control the heating within a single room or location), evaluating the potential for expanding schemes, and the use of geothermal resources such as mine water that has been naturally heated by the earth.

Key Future Programmes

- 6.11 The following list highlights some of the key future pieces of work the Council will be undertaking to improve energy efficiency and air quality:
 - Improvements to newly acquired Core (DMC2) and a programme of improvements for Westgate Plaza
 - Investigation of innovative funding approaches such as Energy Performance Contracts to identify and implement energy conservation measures across our built estate
 - Research shows that behaviour change programmes can save up to 10% of annual energy costs, we need to develop a policy for energy use within our built estate and engage our Operational Estates teams to manage behaviour and energy use more efficiently
 - The Council needs to continue to invest in renewable energy; installed capacity has not increased significantly in the last two years with no new installations being commissioned apart from small solar PV and solar thermal at the new Glassworks building
 - There are significant opportunities for solar PV at secondary schools and also within the Barnsley Council estate, and we must ensure that new developments are making best use of available renewable technologies
 - Review opportunities for battery and PV farms to be installed on Council owned land
 - Review opportunities within BPL managed leisure centres especially the swimming pools
 - Review opportunities in the culture centres such as Elsecar Heritage Centre
 - Barnsley Active Travel Strategy (2019-2033) was co-produced between Transportation and Public Health and endorsed by Barnsley Cabinet on the 6 February 2019 and an implementation plan is currently under production which will contain both infrastructure measures and behavioural change/modal shift measures
 - Barnsley are looking to submit a package of measures totalling £39m to Transforming Cities Fund
 of which 40% will be spent on Active Travel routes including a contribution to the bridge and
 walking route around the town centre
 - Wider deployment of EV charging points

Challenges and Opportunities

- Barnsley sits within the Sheffield City Region (SCR) and is well placed to take advantage of the opportunities that will present themselves in efforts to eliminate CO₂. These strengths and opportunities are:
 - a long legacy of energy generation
 - a skilled energy sector
 - unique opportunities to utilise closed mine-workings
 - a higher education sector which hosts a significant level of expertise which is directly relevant to the needs of decarbonisation
 - a high level of investment by employers in apprenticeships that relate to the specific needs of the energy sector
 - a large number of manufacturing, construction and distribution businesses that have the potential to play an integral part in moving to a zero carbon economy
 - significant existing low carbon programmes such as Better Homes, Energy Accelerator and more in development
 - growth in new technologies such as batteries, especially when co-located with renewable sources
 of energy
 - the Council's current Energy Strategy 2015-2025 and its commitment to be a carbon zero authority by 2040
 - the City Regions are well positioned to support sub regional delivery of major low carbon programmes via leverage of funding and the provision of expert support.
- 6.13 There are a range of challenges that also need to be addressed, including:
 - an estimated 13% increase in energy demand over the next 20 years
 - the need to half CO2 emissions every five years to meet our targets
 - · continued significant growth in emissions from transport
 - a continued reliance on fossil fuels, especially for heating and hot water via gas
 - low uptake of low carbon and renewable energy sources (8.8% of energy consumed currently provided by renewables)
 - a high number of households (10.7% within Barnsley) which remain in fuel poverty
 - Barnsley's 2014 2017 excess winter deaths rate 30.9% is significantly higher than the England rate of 21.1%
 - the need for all homes to achieve an EPC rating of C by 2035. (The current average is a low D, with the poorest properties being in the private rented sector)
 - an oversupply of pre 1919 terraced properties which are difficult to insulate via traditional (cheaper) methods and difficult to heat with anything other than gas
 - an electricity grid which requires significant reinforcement works before large scale renewables can be connected
 - a need to ensure the SCR's and the borough's energy intensive industries (particularly in the chemicals, food and drink, and glass sectors) remain competitive on a global scale and are retained within the region
 - a difficult funding landscape, with small numbers of investable schemes by third parties and little Central Government support
 - a need to ensure energy prices are kept manageable for businesses and households
 - the national picture is evolving very quickly and the Council is positioning itself to best deliver the national targets and meet the challenges

7.0 Challenges & Recommendations for Private Sector Domestic Housing

National Challenges & Recommendations

7.1 Retrofitting energy efficiency measures to properties is expensive, especially as most of the traditional easy to install insulation measures have already been taken. What is left are the more expensive hard to treat properties which require external wall insulation or 'room in the roof' insulation which will cost circa £10,000 per property. Central Government funding is limited and initiatives such as the Green

Deal failed. The Council and SCR will continue to lobby for greater support and local delivery of projects.

- 7.2 Funding for renewable projects such as solar PV have now been stopped, as installation of these technologies is slowing down.
- 7.3 Decarbonising electricity is progressing well via the greening of the national grid via renewable technologies such as offshore wind and solar PV. However, the great challenge is how the heating of homes and provision of hot water is moved away from gas to other fuel sources. This is especially challenging in areas of pre 1919 terraced stock and will require the use of heat networks, hydrogen and heat pump technology; all of which are very expensive.

Local Challenges & Recommendations

- 7.4 Like every other authority, funding and delivery are the main concerns when it comes to improving the energy efficiency of large numbers of properties prior to 2035. It is likely that the responsibility will be passed to councils on a street-by-street basis. Energy efficiency is key to addressing affordable warmth issues and it helps to achieve the Council's overall aims to shift towards a low carbon borough.
- 7.5 Different teams are targeting the same people for similar things; there needs to be a joined up approach to make sure that the resident gets the best outcomes and the Council gets value for money for the cost of its interventions.
- 7.6 An affordable warmth strategy would help to do these things and would also help to bring in other organisations working in this area, but focus on wider affordable warmth issues. By pulling in other providers it will help in levering in funding from the NHS for retrofitting of energy efficiency measures.
- 7.7 Many of the householders who are impacted by cold homes are those who are vulnerable and hard to reach. Successful projects come through constant promotion and a dedicated communication resource is vital this aspect of delivery takes up a lot of time and needs proper focus from a full time communications officer working with the team.
- 7.8 A borough-wide funding programme which blends funding from different sources and is delivered locally would represent a significant step change in deliverability of outcomes.

8.0 Invited Witnesses

- 8.1 The following experts have been invited to today's meeting to answer questions from the committee:
 - David Shepherd, Service Director Regeneration & Culture
 - David Malsom, Group Leader Housing & Energy
 - George Lee, Project Manager Housing & Energy
 - Councillor Tim Cheetham, Cabinet Spokesperson for Place (Regeneration & Culture)

9.0 Possible Areas for Investigation

- 9.1 Members may wish to ask questions around the following areas:
 - How will you ensure that the future economic and residential growth of the borough contributes positively towards achieving the 2050 targets?
 - Now that the feed-in tariff scheme has closed to new participants, what else is available to encourage the use of renewable energy?
 - What has been achieved in the last 12 months that you are most proud of?

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- To what extent is performance in relation to emission targets being met reflective of the true picture, given that some Council buildings are ran by external organisations such as Academies, Barnsley Premier Leisure etc.?
- Given that, even when fully operational, the biomass boilers are not reaching full capacity, do you consider them fit for purpose and are they cost effective for the schools?
- As micro-hydro systems work on a relatively small scale how do you foresee these being beneficial to the borough?
- What will be the penalties if homes do not achieve an Energy Performance Certificate rating of C by 2035 and how achievable is this target?
- What are the quick wins that could have the greatest impact for a relatively small investment?
- Where does the work overlap between Council departments and how can this be rationalised?
- What can members do to assist with the work around the Energy Strategy and associated topics?

10.0 Background Papers and Useful Links

- Item 4b (attached) Barnsley Council Energy Strategy 2015-2025
- HM Government report 'The Clean Growth Strategy: Leading the Way to a Low Carbon Future': https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7
 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7
 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7
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- BMBC 'Core Strategy', Adopted September 2011: https://www.barnsley.gov.uk/media/4084/adopted-core-strategy.pdf
- BMBC 'Local Plan', Adopted 2019:
 - https://www.barnsley.gov.uk/media/9924/local-plan-adopted.pdf
- The Intergovernmental Panel on Climate Change (IPCC) special report on Global Warming: https://www.ipcc.ch/sr15/
- The Committee on Climate Change website:
 - https://www.theccc.org.uk/
- Climate Emergency website:
 - https://climateemergency.uk/
- 'Getting the Measure of Fuel Poverty' report commissioned by the Department of Energy & Climate Change, 2012:
 - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/48297/4662-getting-measure-fuel-pov-final-hills-rpt.pdf
- Better Homes Yorkshire website:
 - https://www.betterhomesyorkshire.co.uk/
- The Barnsley Energy Tariff, BMBC website:
 - https://www.barnsley.gov.uk/services/housing/energy-at-home/barnsley-energy-tariff/
- Great North Energy website:
 - https://www.greatnorthenergy.co.uk/
- SEDBUK (Seasonal Efficiency of Domestic Boilers in the UK) website:
 - https://www.homeheatingguide.co.uk/central-heating/sedbuk-seasonal-efficiency-domestic-boilers-uk-rating
- Energise Barnsley website: http://www.energisebarnsley.co.uk/
- Robin Hood Energy website: https://robinhoodenergy.co.uk/
- Salix (Solving Energy Efficiency Finance in the Public Sector) Recycling Fund: https://www.salixfinance.co.uk/recycling-fund
- Department for Environment, Food & Rural Affairs report 'Clean Air Strategy 2019': https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770715/clean-air-strategy-2019.pdf
- 'Government launches Road to Zero Strategy' news release: https://www.gov.uk/government/news/government-launches-road-to-zero-strategy-to-lead-the-world-in-zero-emission-vehicle-technology

11.0 Glossary

AHP Air Source Heat Pumps
AQAP Air Quality Action Plan
AQMA Air Quality Management Area
BEV Battery Electric Vehicles

BMBC Barnsley Metropolitan Borough Council

BMS Building Management System
CCC Committee on Climate Change
CCG Clinical Commissioning Group
CHP Combined Heat and Power

CO₂ Carbon Dioxide

DECC Department of Energy & Climate Change

EV Electric Vehicle

EPC Energy Performance Certificate

FiT Feed-in Tariff

GHG Greenhouse Gasses GVA Gross Value Added

HRA Housing Revenue Account

IPCC Intergovernmental Panel on Climate Change

LED Light-Emitting Diodes
ONS Office for National Statistics

PV Photovoltaic

RHI Renewable Heat Incentive SCR Sheffield City Region

SEAPs Sustainable Energy Action Plans

12.0 Officer Contact

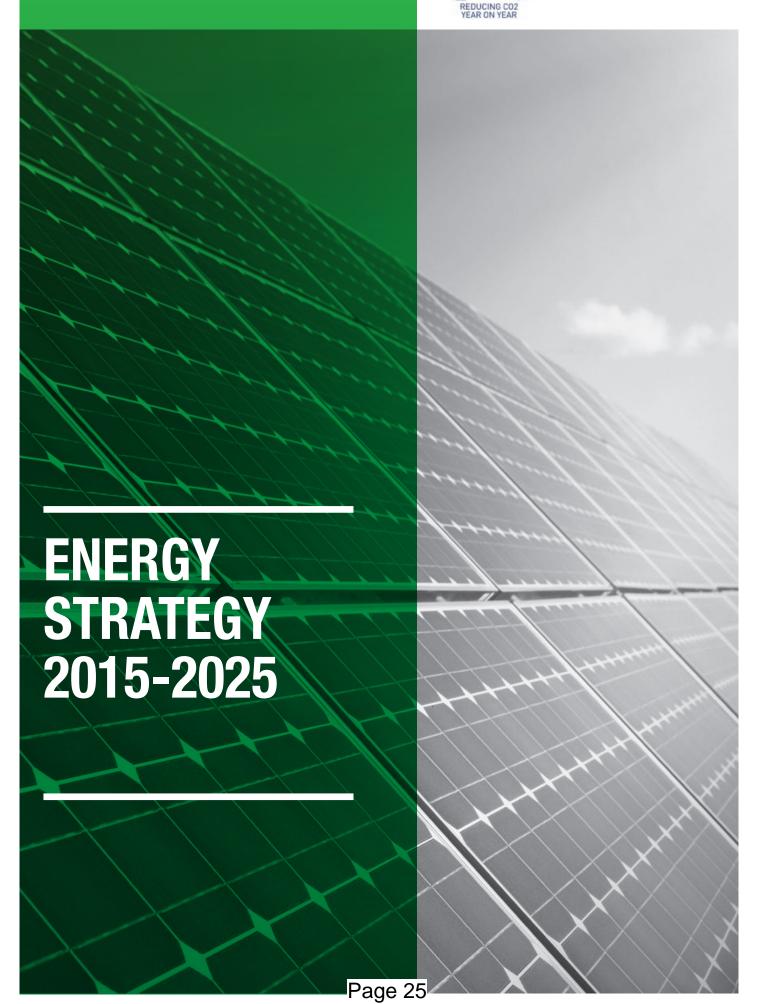
Anna Marshall, Scrutiny Officer, 8 July 2019





Item 4b







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ENERGY STRATEGY 2015–2025

FOREWORD

Barnsley, located at the centre of the Yorkshire Coalfield was built on energy. The ascendency of coal has gone but now there is a real opportunity to once again put energy back at the heart of local economic growth and community wellbeing.

How we produce and use energy at the local and city region level is of central importance to the delivery of the Council's overarching vision – Working Together for a Brighter Future, A Better Barnsley.

This Energy Strategy is one of 5 strategic documents produced by the Council:

- Energy Strategy
- Housing Strategy
- Jobs & Business Plan
- Public Health Strategy
- Transport Strategy

Taken together (and supported by our Local Planning Framework) the implementation of the strategic priorities set out in these documents will enable us to deliver the values and ambitions for a Better Barnsley

The Energy Strategy sets out the case for greater investment in energy over the next 10-years and speaks directly to the challenges posed by the energy agenda but equally identifies the opportunities to be grasped. Whilst the Strategy sets out the Council's understanding of and response to the energy agenda this document is, essentially, outward-facing and addresses energy matters of common concern to businesses and households alike across the Borough.

Accordingly, the implementation of the strategy is predicated on the development of strong partnerships and seeks to engage with the private and community/voluntary sectors to seize the opportunities for investment in local, low-carbon energy production and greater energy efficiency.

The implementation of the strategy will deliver a number of beneficial economic, social and environmental outcomes, including:

- Saving money and generating income for the Council, households and businesses
- Growing skills, jobs and businesses in the Green economy
- · Reducing greenhouse gas emissions
- · Reduction in the incidence of fuel poverty

The strategy represents an important statement of intent that can resonate beyond the boundary of the borough. Energy, as essential infrastructure underpinning economic growth, has begun to emerge as an issue of significance at the level of the City Region; it is now becoming an important component of the devolution debate with central government, aimed at delivering lasting, sustainable economic growth across the Leeds and Sheffield City Regions.

Barnsley, located at the very heart of the Yorkshire coalfield, was built on energy. Whilst the ascendency of coal has long gone, this strategy demonstrates that there is now a real opportunity to once again put energy back at the heart of local economic growth and community wellbeing.



Cllr. Sir Stephen Houghton, CBE.



PR Miller
Cllr. Roy Miller. Cabinet Spokespers

Cllr. Roy Miller. Cabinet Spokesperso Place. Barnslev Met. Bor. Council.

WHY BARNSLEY NEEDS AN ENERGY STRATEGY

This Strategy sets out the case for greater investment in energy. It speaks directly to challenges that the Council is facing but is also aimed at an external audience in the guise of other public and private sector organisations as well as community and voluntary groups who similarly are confronted by a range of energy-related issues.

Energy is a fundamental requirement of any well-functioning society. It is of crucial importance in equal measure to both economic success and domestic wellbeing whilst its use and production can have a profound impact on the natural environment.

The manner in which we currently produce and consume energy means that many households, communities and businesses across the Borough are not benefitting as they could, whether that be in regard to lower fuel bills from greater energy efficiency, or through the generation of an income and a cleaner environment as a result of local, low carbon energy production.

Barnsley Council, in common with many large organisations, is a major consumer of energy and emitter of greenhouse gases which has a significant impact on expenditure both in terms of energy bills and additional costs incurred in respect of carbon emissions. At a time of severe budgetary constraint it is imperative that these costs be reduced and this will be achieved through the Council's ongoing commitment to its Carbon Management Programme that has been developed with support from the Carbon Trust.

However, the Council's Carbon Management Programme is not simply about saving money; it is also a clear demonstration of the Council's determination to lead by example on the energy agenda, to encourage and support businesses and local communities across the Borough to recognise and grasp the opportunities and benefits of engaging and investing in greater energy efficiency and local, low carbon, energy production.

The economic case for investment in local energy efficiency and energy production is compelling and especially so for local authorities. In essence investment in energy provides excellent 'invest to save' opportunities, typically providing a healthy rate of return on investment over relatively short payback periods. At a time of continuing austerity, investment in energy has to be a key part of a sustainable financial future for local authorities, helping to protect vital services.

The production of low carbon goods and services is also recognised as one of the five primary economic growth sectors for Barnsley¹. Since 2009 the low-carbon sector in Barnsley has recorded an 11% increase. Such performance is encouraging and clearly demonstrates the potential of this sector to continue growing in Barnsley

Closely linked to the economic wellbeing of the Borough is the skills agenda; Barnsley is well-placed to develop a future workforce with the requisite levels of skills and training and to support businesses to exploit emerging markets in the low carbon sector through the Think Low Carbon Centre at Barnsley College.

Taking the domestic, commercial, industrial and transport sectors together, the total energy bill for Barnsley in 2011 was estimated to be some £418m with a forecast for this to increase to £545m by 2022². This will have a detrimental impact on local businesses and household budgets. For example over 9,000 households in Barnsley are living in fuel poverty³, often in damp and cold poor quality private sector housing, with damaging effects on health and wellbeing; a variety of programmes are in place to tackle fuel poverty many of which are predicated on improving energy efficiency and reducing the cost of energy.

In regard to annual carbon emissions, in 2012 Barnsley was placed 57th out of 64 UK cities, recording 7.2 tonnes per capita⁴.

This Strategy highlights a range of projects, at varying stages of development, that, when completed, will secure for Barnsley a range of benefits:

- ECONOMIC a reduction in energy costs, the opportunity to generate revenue through local energy production and the growth of jobs and businesses in the low carbon sector.
- SOCIAL a reduction in fuel poverty and consequent improvement in health and wellbeing; a strengthening of local community capacity flowing from the development and implementation of community energy initiatives.
- ENVIRONMENTAL a cleaner and greener environment, including reducing greenhouse gas emissions and thereby helping to improve air quality.

The outcomes of our Energy Strategy are clear:

- To generate income and save money.
- To grow the number of locally based businesses operating in the low-carbon sector.
- To grow jobs, skills and businesses in the Green Economy.
- To increase the proportion of energy consumed from locally produced low carbon sources.
- To reduce CO₂ emissions.
- To reduce fuel poverty.

To achieve these outcomes it is imperative that we engage ever more closely with the private sector and local communities, forming, as circumstances and opportunities dictate, partnerships to ensure delivery on the ground. The implementation of this Strategy is predicated on Barnsley MBC bringing together the combined knowledge, enthusiasm and expertise of a wide range of partners who, working together will deliver the outcome set out above.

³Definition: "a person is to be regarded as living 'in fuel poverty' if he is a member of a household living on a lower income in a home which cannot be kept warm at reasonable cost". Warm Homes and Energy Conservation Act





²A Mini-Stern Review for Barnsley: The Economics of Low-carbon Development

ENERGY STRATEGY 2015–2025 EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This strategy and associated action plan has been developed to provide the Council, local businesses and local communities with a firm and clear direction of travel in securing a greener and more sustainable future for the Borough.

We want Barnsley to build upon its strong track record in regard to energy efficiency and become a leader in the production of low carbon energy. The Council, through the operation of its services, is taking every opportunity to reduce the amount of energy it consumes whilst at the same time increasing the production of renewable energy from its land and property assets. This process is being managed through the Barnsley MBC Carbon Management Programme in partnership with the Carbon Trust.

- The Council has a target of generating 20% of its energy requirements from renewable energy each year, by 2020/21. In 2014/15 almost 15.4% of its energy consumption was being sourced from the Council's own renewable sources.
- During the period 2008 2013 the Council reduced its carbon emissions by 24%, with emissions falling from 61,000 tonnes CO₂e per annum to 46,000 tonnes CO₂e per annum. The Council is aiming to further reduce its greenhouse gas emissions generated by its operations by 30% by 2020/21 under phase 2 of the Carbon Management Programme.
- The Council aims to be fully carbon neutral in its operations by 2040.

In taking this lead, getting our own house in order, we aim to inspire, encourage and support others, whether they are businesses or local communities to join us in taking action to improve energy efficiency and invest in local energy production.

Delivery of the Barnsley MBC Energy Strategy will help to demonstrate the extent to which Barnsley is contributing to national and city region energy agenda.

At the national level the Climate Change Act 2008 introduced a legally binding target to reduce greenhouse gas emissions by at least 34% by 2020 and at least 80% by 2050 below the 1990 baseline. In addition, under European Union directive requirements, the UK is obliged by 2020 to obtain 15% of energy consumed from renewable sources.

At the city region level energy is fast becoming a key component of the devolution debate, and can play a major role in growing a strong northern economy.

CLIMATE CHANGE MEASURES AND TARGETS



ENERGY STRATEGY 2015—2025

At the city region level local enterprise partnerships ('LEPs') are becoming the focus for the devolution of powers and funding (through Growth Deals) from the Government. **Energy can be part of this** exciting development.

Devolution will provide the city regions with greater freedoms to determine and deliver against their own priorities, including energy and low carbon matters. The Leeds City Region has a clear ambition to become a global leader in the low carbon energy revolution. Barnsley is already an active participant in variety of energy-related initiatives within the Leeds City Region and this work will continue as a key element within the implementation of this Strategy. At the same time, engagement within the Sheffield City Region will continue to ensure that all opportunities to take forward the energy agenda are seized.

Implementing this strategy will be challenging and particularly so in regard to the ambition for the Borough to become a location renowned for the production of renewable energy. Achieving the ambitions that we have for the scale of local energy production will require the acquisition and development of greater knowledge regarding the various renewable technologies and the creation of delivery vehicles that enable the funding and investment required to turn projects from concept to reality.

To meet these challenges it is essential that we make the most of the existing pool of expertise, via our involvement in the Leeds City Region Energy Accelerator Programme and our membership of the APSE Local Energy Collaboration Group. But we shall also need to forge new delivery partnerships with the private sector and local community energy groups.

To bring shape and rigour to the development and implementation of our Energy Strategy we shall:

- Continue to work with the Carbon Trust in regard to the implementation of the Council's own Carbon Management Programme (to reduce carbon emissions linked to its own operations).
- Join the Covenant of Mayors and develop a Baseline Emissions Inventory and Sustainable Energy Action Plan.
- Create a Strategic Energy and Low-carbon Board

 comprised of a range of internal and external stakeholders, to help to steer and monitor the implementation of our Sustainable Energy Action Plan.

This Strategy does not mean that the Council is now in a position, beyond its own operations, to control energy production and consumption across the Borough. However, it does enable the Council to lead by example and strengthen its influence through reaching out to other bodies in the public and private sector as well as local communities, encouraging all to act and invest in the brighter and more sustainable future that a move to a low-carbon economy will help to bring about.

Targets

- Reduce CO₂ emissions from Barnsley MBC operations by 30% by 2020/21 from 2012/13 baseline.
- Generate 20% of energy used in Barnsley MBC operations from on-site renewable sources by 2020/21.

 $\mathbf{1}$

ENERGY STRATEGY 2015—2025

OUR VISION

Barnsley Council's overarching vision is 'working together for a brighter future, a better Barnsley', with a thriving and vibrant economy, strong, resilient communities, and citizens who achieve their potential.

In delivering this Energy Strategy Barnsley will become a better, stronger, more sustainable place in which to live, work and do business. Barnsley will become a leader in low carbon and renewable energy production, known for its innovation, and its resilience to rising energy prices. It will be a place that encourages sustainable economic growth that benefits all, producing the majority of its energy from renewable sources while reducing waste and demand through the collective efforts of our communities and businesses.

Land Use Planning

We shall, through land use planning and the application of local planning policies within the existing Core Strategy and draft Local Plan, encourage the development of low-carbon energy production (including energy infrastructure) and seek to ensure that general development, through the adoption of good design principles, minimises both energy consumption requirements and the emission of greenhouse gases and other air pollutants.

Strategic decisions concerning urban development, such as avoiding urban sprawl, influence the energy use within urban areas and reduce the energy intensity of transport. Compact urban settings may allow more cost-effective and energy efficient public transport. Barnsley's existing Core Strategy and draft Local Plan set out the challenges of climate change and how as a Council we are addressing these using existing and new planning policies for new developments including sustainable building construction and drainage systems, flood risk alleviation as well as the development of low carbon and renewable energy.

Public Procurement

Public procurement and the way procurement processes are shaped and priorities are set in procurement decisions, offer a significant opportunity for Barnsley Council and other public bodies to improve their overall energy consumption performance. The Council's Procurement Strategy 2013–16 takes into account the three pillars of sustainable development (i.e. environmental, social and economic) in the procurement of goods, services or works.

STRATEGIC ENERGY OBJECTIVES

CREATE A GREEN ECONOMY
IMPROVE ENERGY EFFICIENCY
PRODUCE MORE LOW CARBON ENERGY
CLEANER, LOWER CARBON ENVIRONMENT
STRENGTHEN THE RESILIENCE AND
SUSTAINABILITY OF COMMUNITIES

KEY AMBITIONS AND OUTCOMES

GENERATE INCOME AND SAVE MONEY
GROW JOBS, SKILLS AND LOCALLY
BASED BUSINESSES OPERATING IN
THE LOW-CARBON SECTOR
INCREASE THE PROPORTION OF ENERGY
CONSUMED FROM LOCALLY PRODUCED

LOW CARBON SOURCES
REDUCE CO₂ EMISSIONS
REDUCE FUEL POVERTY

KEY STEPS TO SUCCESS

DELIVER PHASE 2 OF THE BARNSLEY MBC CARBON MANAGEMENT PROGRAMME 2013/14–2020/21

DEVELOP A SUSTAINABLE ENERGY ACTION PLAN (SEAP)

IMPLEMENT THE SUSTAINABLE ENERGY PROJECTS FOR BARNSLEY

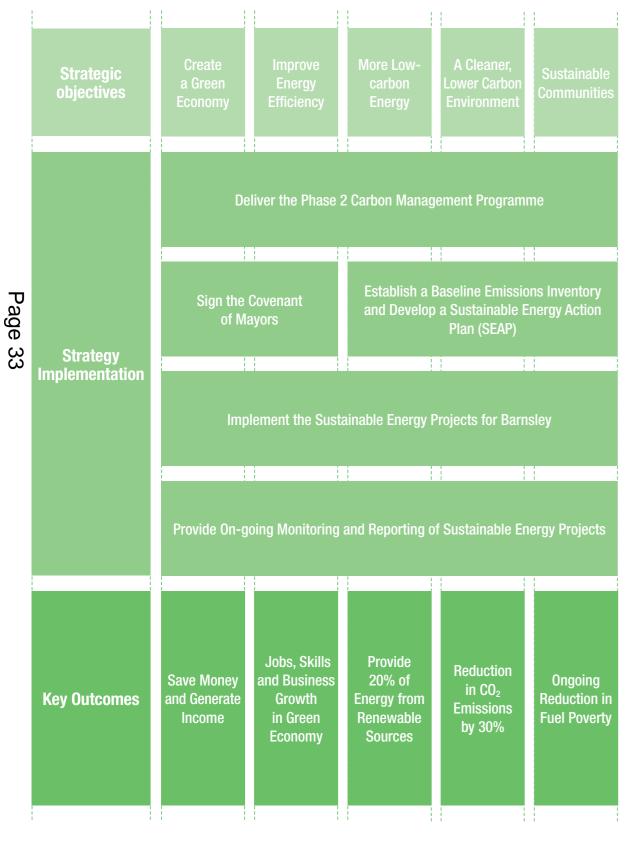
MONITOR AND REPORT PROGRESS

THESE STEPS WILL RUN CONCURRENTLY.

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STRATEGY OVERVIEW

The diagram below provides an overview of the Strategy's objectives, intended outcomes and the key steps that we shall need to take to implement the strategy.



THE BUSINESS CASE FOR INVESTMENT IN ENERGY

The growth of the low-carbon sector can play a major role in strengthening Barnsley's economy. Since 2009 the sector has grown by 11% and this expansion can continue with further investment in energy efficiency and local energy production.

THE BUSINESS CASE FOR INVESTMENT IN ENERGY **ENERGY STRATEGY 2015-2025**

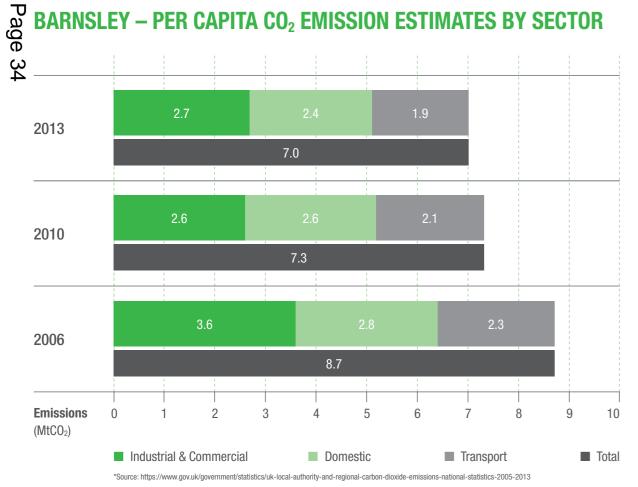
Within Barnsley there exists considerable potential to reduce energy demand and the size of the Borough's carbon footprint whilst at the same time increasing the amount of energy used from local, renewable sources through cost effective and cost neutral investments on commercial terms. This will have wider economic benefits on both employment and economic growth in the Borough. Whilst each energy generation project will be subject to full feasibility assessments it can be stated, in general terms, that investment in energy can provide good 'invest to save' opportunities over relatively short payback periods; such investment opportunities could well be of interest to a range of investment partners.

Improving the energy efficiency of local business operations will reduce overheads, thereby helping to increase profitability and/or enable greater investment in enterprises.

Taking the domestic, commercial, industrial and transport sectors together, the total energy bill for Barnsley in 2011 was estimated to be some £418 million with a forecast to grow to £545 million by 20225, an increase of some 30%. Clearly there is significant potential to reduce expenditure on fuel with the resultant savings being available for investment in the local economy.

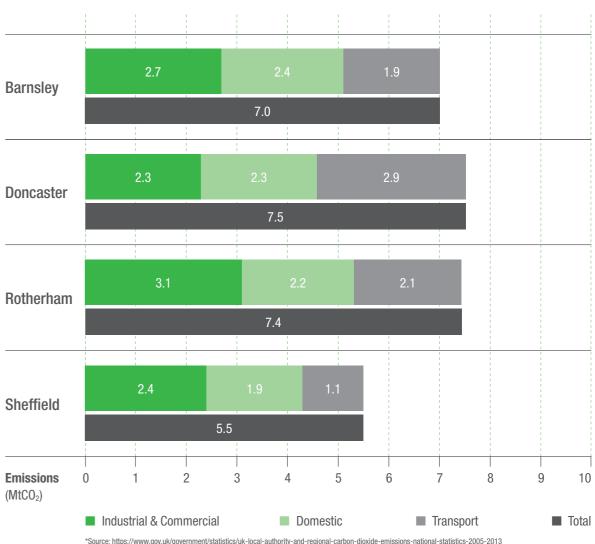
Investing in local energy production and energy efficiency also makes sense in regard to Barnsley MBC's operations. In 2012/13 some £5.2 million was spent by the Council on procuring energy whilst, under the Department of Environment & Climate Change Carbon Reduction Commitment (CRC) Scheme the Council incurred charges of £300,000 in 2012/13.

BARNSLEY - PER CAPITA CO₂ EMISSION ESTIMATES BY SECTOR



⁵A 2010 Mini-Stern Review for Barnsley; The Economics of Low-carbon Development

SOUTH YORKSHIRE – PER CAPITA CO₂ EMISSION ESTIMATES 2013 BY SECTOR



*Source: https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-2013

A number of projects will take place under Phase 2 of the Council's Carbon Management Programme to ensure that the Council continues to reduce its consumption of energy, grasps opportunities for investment in low carbon energy production and reduces its emissions of greenhouse gases. If no action were taken to reduce emissions it is estimated that the cost of CRC scheme by 2020/21 would be approximately £400,000, whereas, under Phase 2 of the Carbon Management Programme it is estimated that resultant reductions in the emissions of greenhouse gases will reduce the CRC charge to some £280,000.

On the domestic front over 9% of households in Barnsley live in fuel poverty. However, the incidence of fuel poverty is greater in some areas of the Borough than others with approximately 25% of the Borough recording more than 13% of households as being fuel poor. Money saved on domestic fuel bills is money that will then be spent in the local economy, supporting local businesses and jobs.

INCIDENCE OF FUEL POVERTY

	NUMBER OF FUEL-POOR HOUSEHOLDS	PROPORTION OF FUEL-POOR HOUSEHOLDS
BARNSLEY	9,421	9.2%
Page 35 DONCASTER	12,676	9.8%
ROTHERHAM	9,984	9.0%
SHEFFIELD	25,509	10.9%

Source: DECC – Sub-regional Fuel Poverty, England 2013, (Low Income High Costs (LIHC) Definition)

A significant proportion of the older (i.e. pre-1919) housing stock in the Borough has low levels of energy efficiency. Poorly insulated homes leak heat, increasing the risk of households living in cold and damp housing conditions; this, in turn can lead to poor health outcomes caused by respiratory and cardio-vascular conditions commonly associated with excess winter deaths.

A health impact assessment of private sector housing conditions in Barnsley⁶ has set out how a range of preventative measures to tackle cold and damp housing conditions would save the National Health Service significant expenditure, (through interventions to improve thermal efficiency), by not having to treat those who fall ill as a result of occupying sub-standard housing.



ENERGY STRATEGY 2015–2025

THE BUSINESS CASE FOR INVESTMENT IN ENERGY

RENEWABLE ENERGY TECHNOLOGIES

Local, low carbon energy production in Barnsley can be achieved through a number of technologies:

- **ONSHORE WIND** to produce electricity.
- BIOMASS to generate heat, electricity or both, with the potential to power local heat networks.
- ANAEROBIC DIGESTION to produce biogas to generate heat, electricity and provide fuel for vehicles, with the potential to power local heat networks.
- SOLAR THERMAL to provide heat and hot water.
- **SOLAR PHOTOVOLTAIC** to generate electricity.

- GROUND SOURCE HEAT PUMPS to provide space heating.
- AIR SOURCE HEAT PUMPS to provide space heating.
- WATER SOURCE HEAT PUMPS to provide space heating.
- GEO-THERMAL to provide heat and/or generation of electricity.
- HYDROELECTRICITY to generate electricity.

BARNSLEY HAS MADE A GOOD START IN THE USE OF RENEWABLE ENERGY TECHNOLOGIES:

RENEWABLE ENERGY INSTALLATIONS FOR PRODUCTION OF ELECTRICITY AS AT SEPTEMBER 2015



Source: https://www.gov.uk/government/statistical-data-sets/sub-regional-feed-in-tariffs-confirmed-on-the-cfr-statistics

RENEWABLE ENERGY INSTALLATIONS FOR PRODUCTION OF HEAT

Local Authority	Barnsley	Doncaster	Rotherham	Sheffield
Non-domestic	22	22	10	14
Installed Capacity (MW)	6.4	5.0	2.2	1.3
Domestic	28	54	21	92

Source: https://www.gov.uk/government/statistics/rhi-deployment-data-february-2015

...BUT WE CAN ACHIEVE FAR MORE

Electricity produced via renewable energy can be used in situ and/or exported to the grid for use elsewhere. The capacity of the electricity grid to accommodate significant increases in the amount of renewable energy is a challenge which has been recognised at the national level.

At the local level the Council will work closely with Northern Powergrid to ensure that proposals for local energy production take into account grid connection and capacity issues.

In the west of the Borough, in areas close to the Peak District National Park, historic development of turbines has left little scope for further wind energy development.

The generation of electricity of through wind power is already established in Barnsley:

No. of Wind Turbines: Output Capacity (MW):
Operational: 51 27.3
Pipeline: 7 6.8

Source: BMBC Planning Database

However, in the eastern half of the Borough there may be locations where new wind energy schemes could be accommodated⁷.

The selection of which technologies to use in Barnsley will be determined by local geography, commercial and planning considerations and will be established on a project by project basis.

Consideration will also be given to the opportunities to the extraction of all forms of lower carbon fuel sources to help in the transition to a zero carbon economy.

Within Barnsley there exists considerable potential to reduce energy demand and the size of the Borough's carbon footprint whilst at the same time increasing the about of energy used from local, renewable sources through cost effective and cost neutral investments on commercial terms. This will have wider economic benefits on both employment and economic growth in the Borough. In addition, increasing the amount of energy produced locally would increase the security of the energy supply.

Recent advances in battery technology will shortly mean that every last drop of low-carbon energy can be used to greatest effect, whether that be to reduce energy costs or generate income.

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⁷South Pennines Wind Energy Landscape Study; Julie Martin Associates; July 2014

WHAT MUST WE FOCUS ON?

All energy projects will support and encourage:

Greater energy efficiency and corresponding reductions in carbon emissions and demand for energy

An increased use of renewable energy and/or reduction in energy demand

An increase in the local production of low-carbon energy.

Sectoral Focus

Using the framework provided by the Covenant of Mayors, we will focus on the buildings and equipment/facilities in the domestic, commercial and industrial sectors and the transport sector in the delivery of our Sustainable Energy Action Plan; these sectors account for the majority of energy consumption and greenhouse gas emissions.



ENERGY STRATEGY 2015-2025 WHAT MUST WE FOCUS ON?

BUILDINGS AND EQUIPMENT/FACILITIES (DOMESTIC, COMMERCIAL, INDUSTRIAL)

Housing

Housing activity accounts for around 27% of UK carbon emissions. Successive improvements in Building Regulations have ensured that more recently built homes are reasonably energy efficient and consequently it is within the older housing stock that the highest incidence of poor thermal performance occurs.

There are currently some 108,000 homes within the Borough. The Council has ambitions to facilitate the building of some 20,000 homes by 2033. The Council will work with housing developers to encourage compliance with the Code for Sustainable Homes, the Code to be replaced by the next revision of the Building Regulations (part L) in Autumn 2016.

BUILDINGS ARE RESPONSIBLE FOR 40% OF THE TOTAL **ENERGY CONSUMPTION IN** THE EUROPEAN UNION AND **ARE OFTEN THE LARGEST ENERGY CONSUMER AND CO₂ EMITTER IN URBAN AREAS.**

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ENERGY STRATEGY 2015—2025
WHAT MUST WE FOCUS ON?

Council Housing

Consistent investment in stock maintenance and improvement means that the vast majority of the Council's 18,500 properties are energy efficient. In 2014 the average SAP rating for Council housing had risen to 83, well above the threshold score of 65 which is often used as a proxy measure for the absence of fuel poverty in the home, whilst the average Energy Performance Certificate (EPC) rating is C.

Berneslai Homes with the Council's full support is taking a comprehensive approach to improving further the energy performance of Council housing; their ongoing capital programme encompasses energy efficiency measures and the application of renewable technologies and to date has included:

INSTALLATION OF HIGH EFFICIENCY CONDENSING GAS BOILERS;

REMOVAL OF ALL COAL-BURNING APPLIANCES FROM THE HOUSING STOCK; REDUCING RELIANCE ON FOSSIL FUEL FOR DOMESTIC HEATING

 e.g. over 200 air-sourced heat pumps have been installed, making use of the Renewal Heat Incentive (RHI) scheme;

USE OF BIOMASS BOILERS (WITH GAS BACK-UP) FOR HEAT NETWORK SCHEMES SOLAR PHOTOVOLTAIC

Over 300 properties fitted to date with the following outcomes:

- 1.4 GWh of electricity generated.
- 758 tonnes CO₂ saved.
- · Energy bill savings for tenants.

The Council has recently entered into a partnership with Gen Community to install solar PV panels on council houses across the Borough under the Energise Barnsley programme.

Private Sector Housing

The real challenge lies in the stock of older private sector housing – some 22,500 homes in this sector were built pre-1919 and were constructed in such a manner as to render them "hard to treat". The average SAP rating for private sector housing is 57. But more tellingly some 7,000 of the oldest properties have an average SAP rating of less than 35. Homes that leak heat also end up leaking money (through higher energy bills) from household budgets and by extension from the local economy.

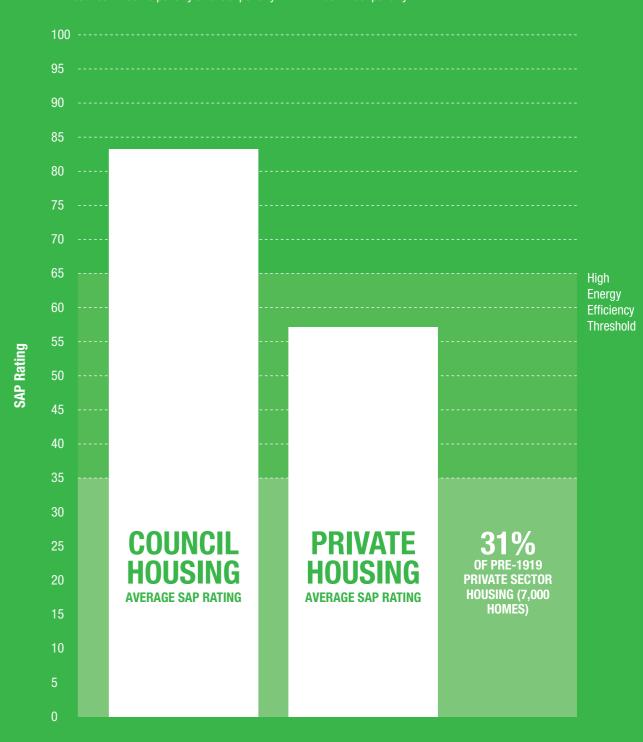
Over the last decade the Council has supported a variety of projects that have seen over 2,300 private sector homes, (in the main occupied by vulnerable, low-income households) benefit from the installation of measures to improve energy efficiency. Over the last three years funding restrictions have severely curtailed the scale of activity in regard to private sector housing. The council is supporting the Better Homes Barnsley Home Energy Efficiency Scheme to encourage and assist households and property owners to improve the energy efficiency of their homes. During the first three years of the scheme the target is for over 1,100 households across the Borough to benefit from the scheme, with a particular emphasis on low income, vulnerable households.

Improving the energy efficiency of older, private sector housing is a significant challenge

HOUSING SAP RATINGS – 2014

SAP ratings can be used as a proxy for fuel poverty in households occupied by people claiming income based benefits, given the link between income poverty and fuel poverty.

A SAP rating of 65 and above denotes high energy efficiency and a reduced likelihood that households living in such properties will be in fuel poverty.



ENERGY STRATEGY 2015-2025 WHAT MUST WE FOCUS ON?

NON-DOMESTIC BUILDINGS

Whilst activity in regard to domestic energy efficiency is progressing reasonably well, there remains, in contrast a significant amount to do in the commercial and industrial sectors. Commentators estimate that the potential for savings in this sector from energy efficiency measures is as much as four times greater than the remaining opportunity in the domestic sector.

There are also significant potential gains to be made in regard to local energy production and particularly so when aligned to the demands for heat and power from industrial users and the opportunity for the installation of local energy production technologies as part of or adjacent to new and existing employment and business parks across the Borough. It is arguably in this area that some of the greatest rewards can be obtained with significant cost savings to industry going hand-in-hand with real opportunities for long-term income generation.

Page Barnsley Council, in common with all public sector bodies has a significant carbon footprint. Under its bodies has a significant carbon footprint. Under its ongoing Carbon Management Programme the Council has already made substantive progress in reducing carbon emissions from its own operations and is finalising the content of Phase 2 of the programme.

More information is provided on the Carbon Management Programme below, under the "How will we Put our Strategy into Action" section.

The Energise Barnsley programme (referred to on pages 30, 42-45) also extends to the installation of solar PV panels on non-domestic buildings owned by the Council.



ENERGY STRATEGY 2015–2025
WHAT MUST WE FOCUS ON?

3 TRANSPORT

The transport sector represents approximately 30% of the final energy consumption in the UK. Cars, trucks and light vehicles are responsible for 80% of the energy consumed in the transport sector. Emissions from transport are a major cause of poor air quality in the Borough and in consequence the Council's 7 Air Quality Management Areas (AQMAs) are located adjacent to busy roads.

There remains a lot to do before we can say with confidence that we are fully embarked on a journey to a low carbon transport network in Barnsley but a good start has been made by the Council. For example, the piloting of the use of electric vehicles, the use of bio-fuels in the Council and Berneslai Homes' fleet of vehicles, coordinating the national ECO Stars (Fleet Recognition Scheme) and the installation of low energy LED street lighting.

Within the context of the South Yorkshire sub-region

Within the context of the South Yorkshire sub-region
Barnsley is involved in the EVInmotion scheme, through
which businesses are supported to expand their use of
electric vehicles.



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HOW WILL WE PUT OUR STRATEGY INTO ACTION?

HOW WILL WE PUT OUR STRATEGY INTO ACTION?

Our Sustainable Energy Action Plan will set out the projects and actions that we need to carry out to realise our energy ambitions. The four key steps for achieving our strategic aims and ambitions are:

Deliver Phase 2 of the Barnsley MBC Carbon Management Programme

Develop a Sustainable Energy Action Plan (SEAP)

Implement the Sustainable Energy Projects for Barnsley

Monitor and Report Progress

These steps will run concurrently.

1. Barnsley MBC Carbon Management Programme – Phase 2

Barnsley Council, in common with all public sector bodies has a significant carbon footprint. In 2008 the Council, through Phase 1 of its Carbon Management Programme, set out to reduce its operational carbon emissions from usage of gas, electricity, coal and other fuels over a five year period. These emissions are associated with the operation of buildings, street lighting, fleet and business travel.

Phase 1 of the Carbon Management Plan ended in 2013 by which time the Council had reduced its carbon emissions by 24% from 61,000 to 46,000 tonnes CO_2e per annum, securing annual energy cost savings of £338,000. The Council is currently working with the Carbon Trust to finalise the content of its Phase 2 Carbon Management Programme, (with the Council's leisure centres likely to form the core of the Programme). Under the Programme the following targets are proposed:

- Reduction of 30% in carbon emissions by 2020/21 from a 2012/13 baseline.
- Generating 20% of energy used from renewable sources by 2020/21.

Whilst it is important in its own right that the Council does all it can to be ever more energy efficient in its operations the bigger prize lies in the opportunity for us to use the Carbon Management Programme as a platform, to demonstrate that we have "got our own house in order" and to inspire others to join us in a greater awareness of and investment in the energy agenda so as to make Barnsley a better place in which to live and do business. In summary we shall:

- Continue to work with partners to develop and deliver the Phase 2 Carbon Management Programme to achieve the stated ambitions of significantly reducing the Council's carbon emissions, providing more on-site renewable energy, reducing energy consumption and lowering energy bills.
- Set a benchmark and demonstrate to local businesses how they can improve and grow through implementing low carbon programmes.

2. Develop a Sustainable Energy Action Plan (SEAP)

Although the strategy will be delivered over 10 years, the SEAP will set out a real-time [four] year plan for what needs to be delivered now in order to start on the path to creating a greener and more sustainable future for the Borough.

The SEAP will also reflect the current state of Barnsley's energy and low carbon achievements and comparable position in terms of energy usage, carbon emissions and fuel poverty, whilst not forgetting the long-term ambitions to improve performance by being more energy efficient, reducing carbon emissions and by producing more low carbon energy within Barnsley.

Barnsley's SEAP will focus on those areas where the Council has a role to play as a planner, motivator, consumer, producer and investment partner.

All energy actions will support and encourage reduction in carbon emissions, and an increased use of sustainable energy and/or reduction in energy demand, and will be targeted at key sectors e.g. commercial buildings, transport, domestic properties.

In order to measure the success of the SEAP, a Baseline Emissions Inventory ("BEI") for the Borough will be created based on current emissions and energy consumption levels. This will enable us to gauge the impact of projects contained in the SEAP in regard to reducing energy consumption and emissions of greenhouse gases.

The key metrics that the Baseline Emissions Inventory will enable us to monitor and report against are:

BASELINE GREENHOUSE GAS EMISSIONS (TONNES CO₂E)

REDUCTION IN GREENHOUSE GAS EMISSIONS (TONNES CO₂E)

REDUCTION IN GREENHOUSE GAS EMISSIONS (%)

BASELINE ENERGY CONSUMPTION (MWH)
REDUCTION IN ENERGY CONSUMPTION (MWH)
REDUCTION IN ENERGY CONSUMPTION (%)
INSTALLED RENEWABLE ENERGY
CAPACITY (MW)

A number of sustainable energy projects are already underway, some are at early feasibility stage with others aspirational in nature at this point. These projects are

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set out in the following section, Achieving our Strategic Energy Objectives.

The SEAP is a living document that will be updated at regular intervals. It will enable the ongoing monitoring of progress made in the implementation of the Strategy. Additional actions will be required to meet the ambitious targets set in the SEAP. These will be informed by ongoing monitoring and stakeholder engagement which will help identify the areas needing focus.

Our priorities:

- Establish a Baseline Emissions Inventory for the Borough in order to measure success of the SEAP.
 This will show us where we are currently in terms of greenhouse gases (GHG) and emissions CO₂e.
- Council to become a signatory to the Covenant of Mayors.
- Agree and approve measurable energy actions to achieve targets as part of the SEAP with stakeholders.
- Submit SEAP to Covenant of Mayors within one year of official signature.

3. Implement the Sustainable Energy Projects for Barnsley

Effective project management and partnership working is absolutely central to the successful implementation of this strategy. A number of projects are highlighted in the following pages; these are at various stages of delivery, ranging from initial concept through to delivery in progress.

The larger projects, especially those concerning the development of larger scale renewable energy facilities will be characterised by 4 keys stages:

- PROJECT DEVELOPMENT site selection, site acquisition, grid requirements, feasibility studies, planning permissions / permit requirements.
- PROJECT STRUCTURING procurement, financing.
- **CONSTRUCTION** building / plant construction, grid connection, commissioning.
- MANAGEMENT operations & maintenance.

The Strategy's successful implementation requires sufficient financial resources. The potential to attract substantial levels of private sector investment in energy and low carbon management in Barnsley will be vigorously pursued. This will include exploring innovative financing mechanisms, based on new forms of cost recovery and benefit sharing and new ways of managing risk.

We will consider a wide range of financing and funding options, with both short and longer term repayment periods. Financing mechanisms used for renewable energy schemes and energy efficiency measures are widespread. Potential sources of finance include:

- Public Loans Works Board direct investment by the Council.
- Salix funding via DECC⁸.
- · Green Investment Bank.
- · City Region Local Growth Deal Funding.
- European Structural and Investment Funds (ESIF).
- Crowd Funding.
- · Community Share Offers.
- · Urban & Rural Community Energy Funds (DECC).
- · Energy Company Obligation (ECO).
- Energy Producer Incentives Renewable Heat Incentive, Feed in Tariff, Contracts for Difference.
- Periodic funding opportunities through DECC.

The formation of partnership arrangements to develop, finance and deliver projects will be essential. Potential delivery vehicles include:

- · Joint Ventures.
- · Community Benefit Societies.
- · Cooperatives.
- Energy Service Companies ('ESCos').

Barnsley's existing Core Strategy and draft Local Plan are supportive of development opportunities to produce locally sourced, low carbon energy. Both documents include planning policies on climate change, sustainable construction, low carbon and renewable energy production aimed at facilitating the growth of locally produced energy across the Borough.



4. Monitor and Report Progress

To gauge the impact that projects will have on reducing the baseline carbon emissions, it is important they are measured consistently. All projects will be subject to ongoing monitoring and reviews and the SEAP will be revised and updated as part of an iterative process.

Achievement towards SEAP targets will be monitored on an annual basis. All identified, measurable activities will be required to report progress towards individual targets on a frequency appropriate to the activity. This will enable appropriate action to be identified and implemented where measures are falling short of expected outcomes.

How will progress be scrutinised?

A Strategic Energy and Low-carbon Board comprised of a range of public and private sector experts from the low-carbon energy field will be established. The role of this board shall be to monitor and provide a steer to the implementation of the Energy Strategy. The Council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of this board will be drawn for the council membership of the council membership o membership of this board will be drawn from the membership of the BMBC Carbon Management Board (which oversees the implementation of the Council's Carbon Management Programme).

A dedicated energy team led by the Council, supported by advisors, will support the Strategic Energy and Low-carbon Board to provide specialist input into each project.

Key actions

The following regular reports will be submitted to the Strategic Energy and Low-carbon Board and Covenant

MONITORING EMISSIONS INVENTORY

• CO₂ emissions report, on similar lines to the original baseline submission.

IMPLEMENTATION REPORT

• Quantitative information on measures implemented, their impacts on energy consumption and CO₂ emissions

ACTION REPORT

· Qualitative information about the implementation of the SEAP.

Communicating the Strategy and Raising Awareness

The communication associated with the Strategy is of paramount importance. There are several strands to the communication, including:

- · Council this includes intranet, email, green energy champions, workshops and management reports.
- · Community community groups, area councils, ward alliances, parish councils, local media, social media, email and website.
- Economy local enterprise partnerships (LEPs), Barnsley Economic Partnership (BEP), Barnsley Chamber of Commerce, Barnsley Development Agency.



ENERGY STRATEGY 2015-2025

ACHIEVING OUR STRATEGIC ENERGY OBJECTIVES

ACHIEVING OUR STRATEGIC ENERGY OBJECTIVES

1. Create a Green Economy

The production of low carbon goods and services is recognised as one of the five primary economic growth sectors for Barnsley⁹. Since 2009 the low-carbon sector in Barnsley has recorded an 11% increase. Such performance is encouraging and clearly demonstrates the potential of this sector to continue growing in Barnsley.

Working with the LEPs, local businesses and service providers we will enable the infrastructure, investment and requisite skills to create the conditions for a measurable transformation towards a green economy.

We want to become a market leader in innovative businesses and low carbon technologies, a destination where businesses want to come and invest. We will enhance and build a robust network of small and medium sized businesses in the low carbon sector to help secure Barnsley's economic future.

We will take advantage of our unique geography and mining heritage, utilising our natural resources to build a sustainable Borough and create economic gain.

Key Projects

age

- Use of low-carbon building materials in construction of new-build affordable housing development, in conjunction with manufacturer of low-carbon building components, basing operations in Barnsley.
- Installation of solar PV arrays on underused BMBC land / industrial unit roofs to provide energy infrastructure required to service business parks potential scheme at Rockingham Business Park, Dearne Valley Parkway.

Key Measures

- Increase in no. of local businesses operating in the low-carbon sector.
- Increase in no. of jobs in the low-carbon sector.
- Increase in GVA attributed to the low-carbon sector.

2. Improve Energy Efficiency

We will aim to reduce energy demand so that we do not need to consume as much energy from conventional (dirty) high-carbon sources.

Energy reduction and efficiency measures are often 'quick wins' and inexpensive to implement, and can improve the health and wellbeing of those in fuel poverty.

Barnsley will aim to insulate itself against projected energy price increases through investments in energy efficiency and low carbon technologies.

The merits of using energy more efficiently will be promoted through engaging with young people in the school setting (for example as part of proposals to install solar PV at school sites) and with households and businesses, with a particular focus on small and medium sized enterprises (SMEs).

Key Projects

- Better Homes Barnsley (Green Deal/ECO): a private sector home energy efficiency scheme – ongoing.
- Barnsley Homes Standard capital investment programme (and other schemes) for 18,500 Council owned homes – ongoing.
- Promotion of Carbon Trust's SME Carbon Network – planned.
- Development of energy advice service for SMEs – aspirational.
- Green Doctor Service (to provide energy advice to vulnerable households and carry out installations of low-level efficiency measures) – ongoing.
- Energise Barnsley in partnership with Gen Community and British Gas – implementation ongoing.

Key Measures

- Number of properties that have received measures under Better Homes Barnsley home energy efficiency scheme.
- Number of council homes that have received energy efficiency measures under the Barnsley Homes Standard programme (and other schemes).

The guiding principle of the energy hierarchy is to reduce energy use before meeting the remaining energy demand by the cleanest means possible.

Leaner

ENERGY SAVING

Switch off - Eliminate waste

Keener ENERGY EFFICIENCY

Better appliances - Lower energy losses

Greener RENEWABLES

Sustainable energy production

Cleaner LOW EMISSION

Sustainable energy production

Meaner CONVENTIONAL

Sustainable energy production

Jobs and Business Plan 2014–2017

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ACHIEVING OUR STRATEGIC ENERGY OBJECTIVES

3. More Low-carbon Energy

Acting as an investor and enabler the Council along with other public, private and community organisations will actively promote and increase the production and use of more low carbon/renewable energy in Barnsley. This will help to increase the security of the local energy supply, ensuring that the lights remain on in Barnsley.

The Council will support the increase in the generation of renewable energy production to meet and exceed the European Union target of 20% by 2020.

Key Projects

- Hydro-power scheme at Worsbrough Reservoir

 initial feasibility study undertaken.
- Energise Barnsley in partnership Gen Community and British Gas – implementation ongoing.
- Solar PV farms on under-used BMBC land to provide power to meet local demand for power from commercial and residential customers

 audit of BMBC land assets completed.
- Wind turbines to provide power to meet local demand for power from commercial and residential customers – landscape capacity study completed.
- Installation of solar PV canopies to BMBC car parks – audit of BMBC carparks underway.
- Creation of a partnership with private sector delivery partner to boost no. of solar PV roof installations in private sector housing – aspirational.
- Combined heat and power district heating network for Barnsley Town centre – master planning ongoing.
- Bio-fuel production from crops/anaerobic digestion – aspirational.
- Installation of gas CHP boilers at Metrodome Leisure Centre – final business case in preparation.

Key Measures

- Wind turbine power generation in Borough (MW).
- · Solar power generation in Borough (MW).
- Other renewable energy power generation in Borough (MW).

4. Reduce Carbon Emissions

The Council has committed to reducing its own carbon emissions by 30% by 2021 and its ambition is to exceed this figure. The implementation of this Strategy will also encompass Phase 2 of the Council's Carbon Management Programme through which the Council will continue to reduce it's carbon emissions and reduce its financial liability under the Carbon Reduction Commitment Scheme.

Key Projects

- Carbon Management Programme (Phase 2)
 final planning.
- Street lighting ongoing.
- Continuation of Eco Stars Recognition Scheme – ongoing.
- Expansion in use of electric vehicles by Barnsley MBC and Berneslai Homes – aspirational.
- Increase the number of electric vehicle charging points – aspirational.
- Promote electric bike leasing scheme within BMBC and encourage widespread adoption by local businesses – aspirational.
- Increase use of biofuel in Barnsley MBC/ Berneslai Homes vehicle fleet – planned.
- Energise Barnsley in partnership with Gen Community and British Gas – implementation ongoing.

5. Resilient and Sustainable Communities

The Council recognises the importance of community engagement and will support community groups and voluntary groups in their efforts to establish smaller scale local energy projects. In particular we shall work with local communities to help them to identify projects and to apply for funding. The Dearne Valley Eco-vision will continue to help local communities to maximise the benefits of local energy initiatives and projects.

Our aim will be to promote and facilitate the formation of groups of like-minded, driven and innovative individuals focussed on leading community action on sustainable energy and climate change issues. Community groups, in an attempt to alleviate these difficulties, are looking at energy efficiency measures, awareness raising and greater use of renewable energy. They play an important role in engaging more people on the ground and in achieving national targets for energy and carbon reduction.

In addition, engaging local communities with the energy agenda is central to reducing the cost of energy and winning support for renewable energy development proposals – the greater the amount of community buy-in the less chance of fundamental objections being raised and sustained.

Key Projects

- Creation of Dearne Valley Community Energy Company (an Industrial & Provident Society) under the auspices of the Dearne Eco-vision – completed.
- Hydro-power at Worsbrough Reservoir

 initial feasibility study completed

 summer 2013.
- Creation of Barnsley Energy Tariff initial planning.
- Community energy scheme as part of programme of ground-mounted solar PV – feasibility study ongoing.
- Energise Barnsley in partnership with Gen Community and British Gas – implementation ongoing.

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CONTACT US

Nëse j'u nevojitet ndihmë për të kuptuar këtë dokument, j'u lutemi n'a kontaktoni.

若您需要幫助來理解本檔,請與我們聯繫。

यदि आप को इस दस्तावेज़ को समझने के लिए सहायता की आवश्यकता है तो कृपया हम से संपर्क करें

Jeżeli potrzebujesz pomocy w zrozumieniu tego dokumentu skontaktuj się z nami

ਜੇਕਰ ਇਸ ਦਸਤਾਵੇਜ਼ ਨੂੰ ਸਮਝਣ ਲਈ ਤੁਹਾਨੂੰ ਮਦਦ ਦੀ ਲੋੜ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਡੇ ਨਾਲ ਸੰਪਰਕ

Обратитесь к нам, если для того, чтобы понять этот документ, вам нужна помощь

If you need help understanding this document:

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