

# North Tyneside Council

## Low Carbon Plan

2016 -2027



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# North Tyneside Council Low Carbon Plan 2016-2027

## Foreword

I am delighted to present North Tyneside Council's Low Carbon Plan. This important plan sets out how the Council, working with partners, intends to meet the national target of reducing carbon dioxide emissions by 50% by 2027. It builds on the Council's achievements through the delivery of its carbon management programme and increases our focus on the generation and use of low carbon energy.

Rising energy costs, fuel poverty, environmental protection and long term sustainability are important to our residents and we believe that the Low Carbon Plan will provide a means to address these issues in a positive and practical way which will benefit everyone.

The Low Carbon Plan includes key actions that will be delivered through a range of services and support the Council Plan and our Creating a Brighter Future programme.

By the end of 2015/16 the Council's carbon footprint will be approximately 25% lower than it was five years ago which demonstrates that efforts from all service areas including a whole Council behaviour change programme, as well as investing in low carbon products and technologies, has made significant impacts on our energy consumption and costs.

**Norma Redfearn**  
**Elected Mayor**  
**North Tyneside Council**



# 1. Introduction

This Low Carbon Plan builds on the Council's success in reducing carbon dioxide emissions and places an increased focus on the emerging range opportunities available to the Council, including the establishment of Energy Services Companies (ESCOs) and the generation of low carbon energy.

This plan sets a target for the Council to reduce carbon dioxide emissions by 50% by 2027 and includes a delivery plan to achieve this. It is clear that whilst energy prices are currently relatively stable, rising energy and carbon costs over the coming years will create significant risks, and significant opportunities in the Borough and for North Tyneside Council. Rising fuel costs whilst naturally impacting on the Council's, businesses' and households' energy bills, also have impacts on the cost of food, goods and services, inflation, and potentially local economic activity.

This plan continues to prioritise a reduction in energy consumption to mitigate against the risk of rising costs but also gives an increased focus to the generation of low carbon / renewable energy.

Rising energy costs in the long term, and a move towards cleaner, low carbon energy presents a number of potential opportunities for the Council to generate revenue, inward investment and employment in the low carbon sector.

The decision to set a target of 50% reduction in carbon emissions and the 2016 - 2027 timescale of the Plan aligns North Tyneside Council to national government's legally binding commitment to reduce carbon emissions as set out in the Climate Change Act 2008 and also reflects the national five-yearly 'carbon budgets'.

The recent Paris Agreement under the United Nations Framework Convention on Climate Change (2016) sets out a series of voluntary commitments and pledges by 190 countries including the UK towards a long-term goal of net zero emissions by the end of the century. Progress against this goal will be independently assessed in 2018 and every five years thereafter. The objectives of the agreement are:-

- To peak greenhouse gas emissions as soon as possible and achieve a balance between sources and sinks of greenhouse gases in the second half of this century
- To keep global temperature increase "well below" 2C (3.6F) and to pursue efforts to limit it to 1.5C
- To review progress every five years

- Provide \$100 billion a year in climate finance for developing countries by 2020, with a commitment to further finance in the future.

Although the impact of this ambitious long term goal has not yet been seen within British Government policy and statutory legislation, it is likely to add increased impetus and opportunity to the reduction of carbon emissions and the development of a low carbon economy.

To date the Council has built its success in carbon reduction by following the energy hierarchy; reduction, efficiency, low carbon energy generation. A greater focus can now be given to energy generation opportunities because the Council has been so successful at putting in place rigorous and sustainable processes, systems and technologies at the earlier stages of the adopted hierarchy.

This Plan is an opportunity to build upon previous successful undertakings and create a low carbon approach to energy which supports key service delivery, our local economy and households from the impacts of declining energy security, rising costs and changes to our climate.

This plan aims to;

- Build the business case for a range of energy generation opportunities
- Reduce the carbon footprint of Council operations and the Borough
- Reduce Council operating costs
- Support residents in addressing fuel poverty.

This Plan and its objectives will be reviewed on an annual basis to consider relevant changes in national policy, key achievements and emerging opportunities.

## **2. Why do we need a Low Carbon Plan?**

North Tyneside Council has developed key strategies and plans to ensure a positive and holistic approach to carbon management in our operations, services and also across the Borough (Figure 1 below). Two key documents come to an end in 2015/16:-

- Carbon Management Strategy
- Climate Change Strategy.

These documents have been successful in guiding the Council towards its current 34% carbon reduction target and this is an opportunity to consolidate North Tyneside's approach to managing carbon emissions, energy reduction and generation.

The transition to a low carbon energy future will require a series of steps to plan and implement new solutions. This requires strategic management and a phased approach to practical implementation. The Low Carbon Plan will assist the development of energy supply options; help achieve efficiencies; reduce costs, and help to meet carbon reduction targets.

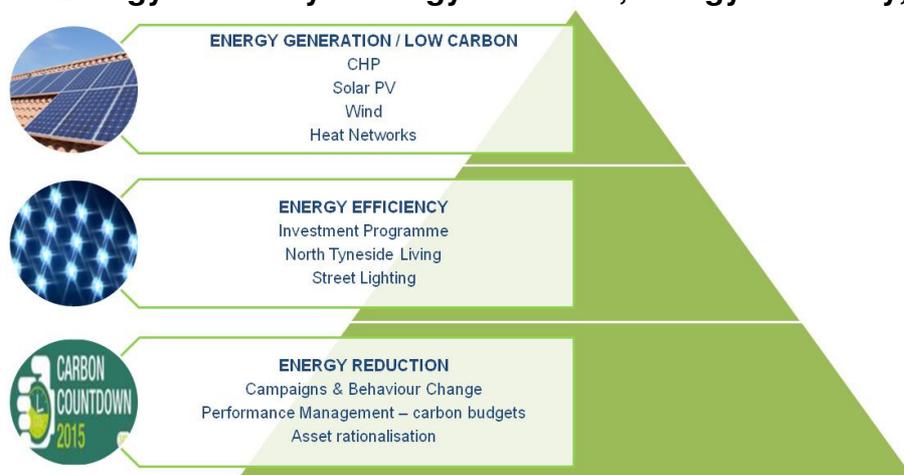
### 3. Council and Borough Energy Consumption; what have we done?

#### 3.1 The Energy Hierarchy

The Council has followed the Energy Hierarchy to manage its strategic approach to reducing carbon emissions. The Energy Hierarchy approach has enabled the Council to assess energy options and prioritised actions to assist progress towards the 34% target. It is a similar approach to the waste hierarchy for minimising resource depletion, and adopts a similar sequence.

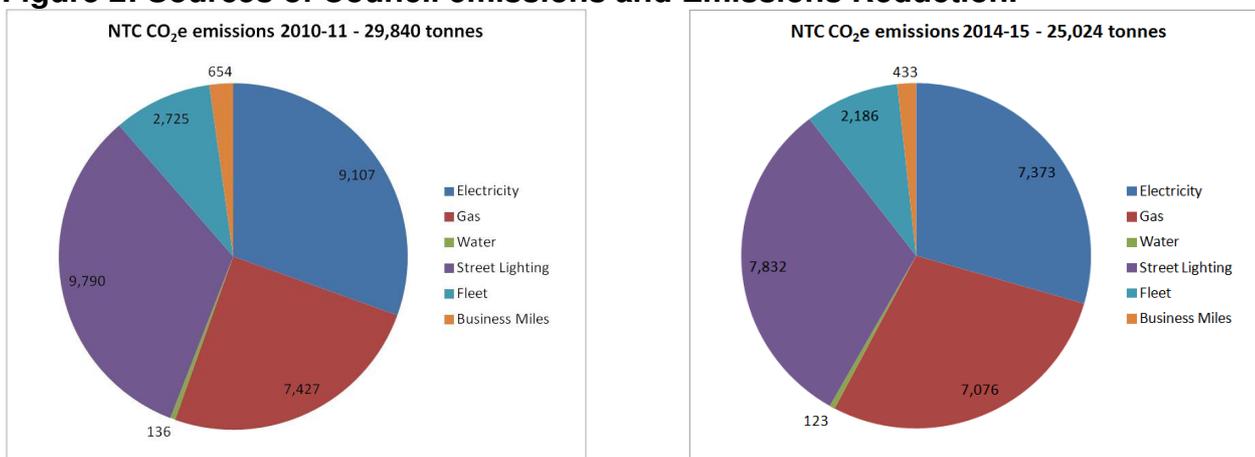
The Council has been rigorous in managing its carbon footprint and by following the Energy Hierarchy (Figure 1) annual reporting shows significant improvement in reducing carbon emissions. Figure 2 illustrates how the carbon footprint has changed since 2010/11.

**Figure 1: Energy Hierarchy – energy reduction, energy efficiency, energy generation.**



The role of North Tyneside’s Low Carbon Plan is to draw together a range of activities in an integrated way under the governance and management of the Council’s Environment Board. This will provide a coordinated approach to reducing energy consumption, using energy more efficiently and developing business cases for the generation of low carbon energy.

**Figure 2: Sources of Council emissions and Emissions Reduction.**



### 3.2 The Energy Hierarchy in practical action

At the **energy reduction stage**, the Council recognises the importance of effective energy management of its buildings and vehicles. This includes the training of key staff in managing the consumption of energy, setting performance targets for reducing energy consumption and reducing the number of buildings and vehicles it runs.

The Council has:

- Introduced 'carbon budgets' for almost 100 buildings, nominated a responsible team member to manage the budget and trained key staff in the principles and practical application of energy management. This innovative approach recently featured as a best practice case study in the Association of Public Sector Excellence (APSE)
- Ran environmental related behaviour change campaigns across the Council. The Watch Your Step and Carbon Countdown behaviour change campaigns and projects were delivered across teams and services to promote energy efficiency. The Watch Your Step campaign was 'Highly Commended' for the Best Energy Efficiency Project at the national Public Sector Sustainability Awards
- Introduced a hub and spoke service delivery model which has enabled the closure of 50 buildings. A strategic property review is ongoing and considers the carbon footprint of buildings
- Reduced its vehicle fleet by 25% and improved fuel efficiency through route optimisation, zoned working and vehicle tracking.

At the **energy efficiency stage** the Council recognises the importance of using modern technology to reduce the energy it uses in the delivery of services.

The Council has:

- Delivered a number of LED lighting projects through the Capita Energy Delivery Plan.
- Agreed a street lighting energy reduction programme that:-
  - Replaced 10,700 150w lamps across our residential estates with 100w lamps.
  - Fitted 10,200 street lights with 'Mayflower' control equipment, allowing;
    - 'Dimming' - 75% power level from switch on to midnight, dropping to 65% between midnight and 5.30am and back to 75% power level until switch off
    - Trimming - the burning hours of each lamp has been reduced so it switches on a few minutes later at dusk and switches off a few minutes earlier at dawn

- Delivering a programme to turn off 3,100 lamps between midnight and 5.30am on selected roads and paths and in non-residential areas
  - Replaced 400 lanterns along the coast road, reducing energy consumption from 400w to 288w per lantern, representing a 25%+ saving
  - These initiatives save the Council approximately £350k per year on electricity charges and reduce the Council's carbon footprint by approximately 3,000 tonnes
- Commenced the North Tyneside Living Sheltered Accommodation PFI that will rebuild and refurbish 26 schemes, reducing their carbon footprint by a third.
  - Installed voltage optimisation units in a number of energy intensive Council buildings.

At the **energy generation stage** the Council recognises the potential to build on good energy reduction and energy efficiency practices through generating zero or low carbon energy.

The Council has:

- Installed 4 Combined Heat and Power Units in leisure facilities to improve energy efficiency and generate electricity for use on site. Recently the operating hours of these units has been extended to further improve efficiency
- Secured central government funding and matched funding from Capita to carry out a district heating feasibility study
- Begun to develop outline business cases for energy generation projects
- Worked in partnership with E.On to install solar panels on over 1,500 Council homes. Although this doesn't have a direct impact on the carbon footprint of the Council's services, it has generated income that can be used to reinvest in energy efficiency projects.

## 4. How are we doing?

### 4.1 Council Emissions

Overall, North Tyneside Council's absolute CO<sub>2</sub> equivalent emissions have decreased by 16% between 2010/11 and 2014/15.

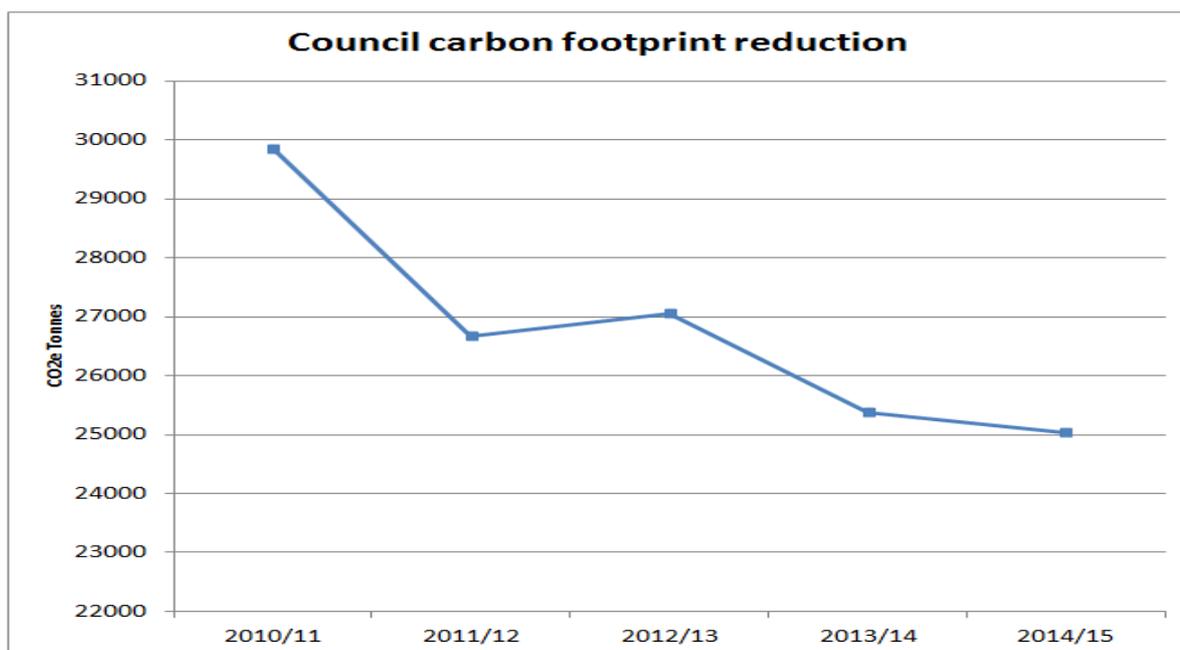
2014/15 saw a large increase in the carbon content of grid supplied electricity and this restricted the reduction in the Council's carbon emissions. In particular, this reduced the impact of a large reduction in electricity consumption from the street lighting portfolio of 4 million kilowatt hours. Had the carbon content of electricity been the same in 2014/15 as it was in 2013/14 then the Council's carbon footprint would have decreased by 21%.

In Summary:

- Natural gas consumption in our buildings has reduced by 5% since the baseline year 2010/11
- Electricity consumption in our buildings has reduced by 21% since the baseline year of 2010/11
- Electricity consumption in our street lighting has reduced by 22% since the baseline year of 2010/11
- Consumption of fuel (diesel, red diesel, petrol) in operational vehicles has reduced by 22%
- Business miles travelled by staff have reduced by 32% since the baseline.

Figure 3 below shows these improvements.

**Figure 3: North Tyneside Carbon Footprint**



## 4.2 Borough Wide Emissions

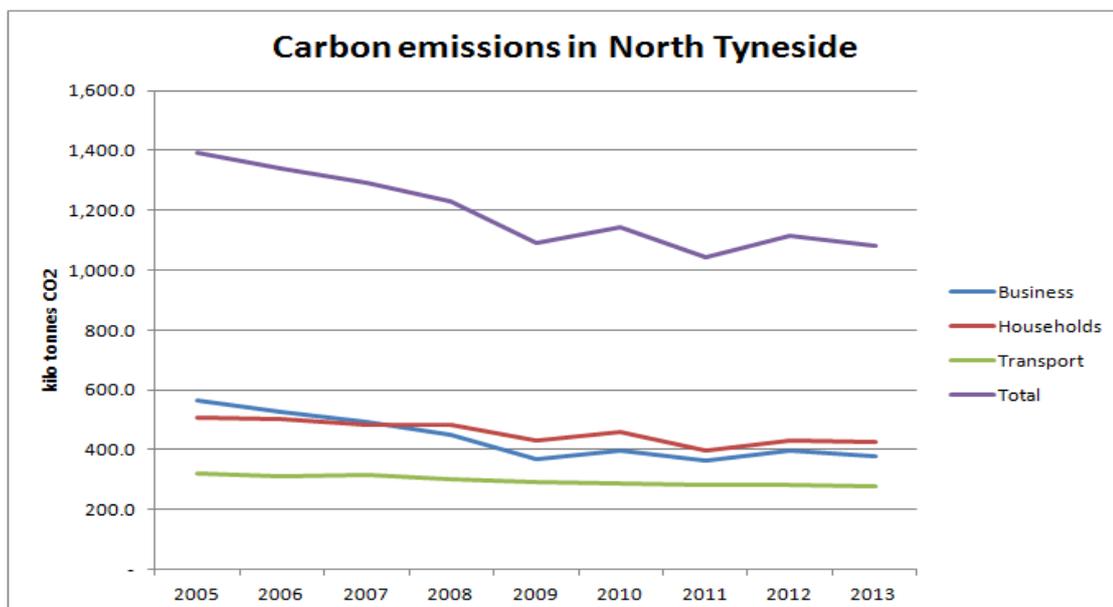
Nationally, a number of greenhouse gases and energy datasets are produced under the National Atmospheric Emissions Inventory (NAEI), which is used by Local Authorities and public users interested in their local areas. These datasets include Local and Regional CO<sub>2</sub> emissions; Road transport fuel consumption and non-gas, non-electricity and non-road transport fuel consumption. The statistics are produced approximately 1.5 years in arrears.

The statistics are used by North Tyneside Council and other organisations as an important body of information to help identify high emitting sources of CO<sub>2</sub> and energy intensive sectors, to monitor changes in CO<sub>2</sub> emissions over time, and to help design carbon reduction strategies. The Borough's carbon footprint is reducing and can be seen in Figure 4 below.

North Tyneside Council has limited control over the carbon emissions generated by households, businesses and transport with the Borough. The Council does, however, follow the energy hierarchy when possible and has generated significant carbon emission reductions through key projects such as the Warm Zone partnership and the Solar PV project that installed arrays on over 1,500 Council homes.

Carbon emission reduction across the Borough is supported by central government policies, incentives and taxation.

**Figure 4: Carbon Emissions for the Borough of North Tyneside**



*The above graph shows the absolute reduction of carbon emissions in North Tyneside of 22%, from 1.393m tonnes to 1.080m tonnes. This means that the 2020 target has been achieved 7 years early; however, the Council continues to work hard to limit carbon emissions from development of the Borough such as housing and employment land.*

## 5. Carbon Reduction Target

### 5.1 Our Target

The Council has adopted the National Government carbon reduction target for this plan;

**50% carbon footprint reduction by 2027 against the 2010/11 baseline.**

This is an ambitious target and whilst challenging, it will continue to motivate and influence the Council and its partners. The Council recognises that both external and internal factors will influence our trajectory towards the target and we will regularly monitor progress and apply performance management and governance through the Council's Environment Board.

### 5.2 Our Vision

In order to focus actions of the Council and its partners to achieve this challenging target through action planning and delivery between 2016 and 2027, the Council has agreed to adopt the simple vision which is;

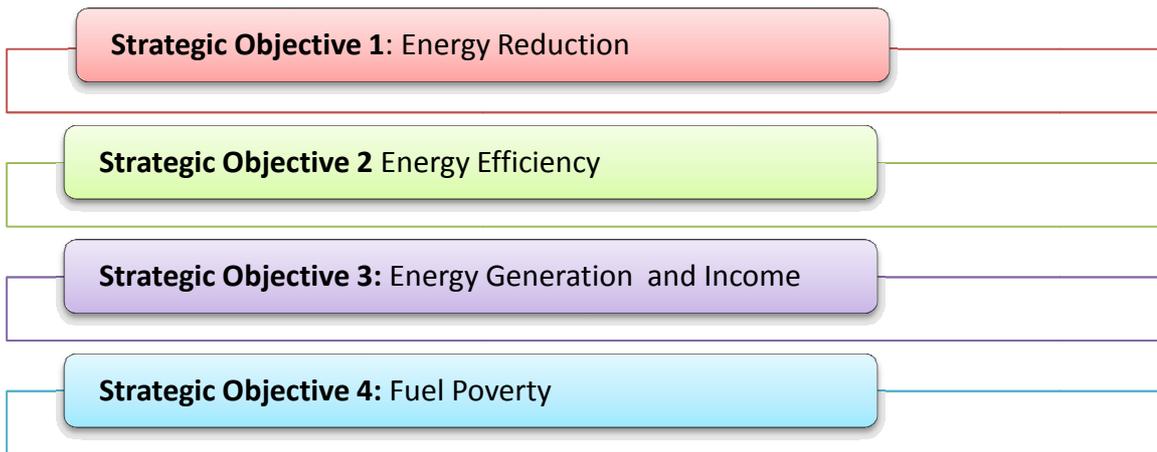
**“To build on the principles of good energy management by developing a range of low and zero carbon energy projects which reduce our carbon footprint and maximise income generation opportunities.”**

Achieving this vision of a low carbon North Tyneside will be a challenge. The Council will require a concerted on-going programme of action across all services, and positive engagement of the borough's businesses and communities is vital in order to deliver energy efficiency improvements.

The Low Carbon Plan provides a vision and North Tyneside Council will take a leadership role for delivering a low carbon future in the borough and will bring together the necessary stakeholders to achieve this.

In order to practically manage and focus on this process, the Council has identified 4 key Strategic Objectives and these are listed below (Figure 5). These Strategic Objectives form the themes of the Low Carbon Plan - Action Plan.

**Figure 5: The Low Carbon Plan Strategic Objectives**



### **5.3 Investment in Low Carbon projects.**

There is a requirement in delivering actions within the Action Plan (pages 15-19) to outline feasibility studies and robust business cases for each project. A major factor in releasing the potential of each business case will be underpinned by financing options and these will be explored as part of business case development.

As a vehicle for low carbon developments in North Tyneside, European Union Structural Investment Funds (ESIF) provide an opportunity to enable smart, sustainable and inclusive growth for the borough and the north east region. The scale of opportunity across the developments will be significant and additional investment will be needed to deliver overall project potential. EU funds for low carbon projects are predicted to be in place for the duration of 2016- 2020 although it should be noted that this finance is subject to short open calls for proposals. Funding from this source is a competitive process.

There are currently a number of specific objectives in the ESIF Plan for Low carbon and these are:-

- Promoting the production and distribution of renewable energy
- Promoting energy efficiency and renewable energy use in enterprises
- Supporting energy efficiency smart energy management and renewable energy use in public buildings
- Promoting low carbon strategies
- Promoting research and innovation in adoption of low carbon technologies.

## **5.4 Local Investment Opportunities**

Suitable funding arrangements will be considered as part of the development of each business case for investment in future energy projects.

The Council has a strategic partnering arrangement with Capita in which a ring fenced budget is allocated for the delivery of energy efficiency / generation projects. The 16/17 delivery plan for this funding is currently being considered.

Previously the Council has secured interest free SALIX loans to deliver energy reduction projects in public buildings and to the street lighting portfolio and this is a source of funding that can be considered for future projects.

## 6. Influences from National Policy

The Low Carbon Plan seeks to translate national policy context into a local delivery. North Tyneside Council's approach to date has been aligned to national carbon budgets as introduced by central government in Part 1 of the Climate Change Act 2008. The Act requires that five-yearly 'carbon budgets' be set three budget periods ahead, so that it is always clear what the UK's emissions pathway will be for the next 15 years.

The UK's energy policy aims to meet the challenge of reducing carbon emissions as well as providing a secure and safe supply of affordable energy. Renewable energy is seen as one of the key elements of the national Government Carbon Plan: Delivering our low carbon future (2011). In particular the national Carbon Plan outlines supportive actions which will work towards decarbonising the energy supply, which will help to meet long term climate change targets.

As part of the EU Climate and Energy package, the UK has committed to sourcing 15% of its energy (both heat and power) from renewable sources by 2020. The target of sourcing 15% of energy from renewable sources nationally is unclear beyond this date and also it is affected by recent changes to national policy outlined below.

In spite of the policy changes, the national government 2050 targets of 80% reduction of CO<sub>2</sub> gives North Tyneside Council a focus for the longer-term changes we will need to see in each sector of the Borough's economy. The Government developed a comprehensive package of policies to deliver the emissions reductions necessary to meet the first three carbon budgets. There is however great uncertainty over the future policy direction to attain the fourth carbon budget.

This Low Carbon Plan is being developed against a significant series of changes to current national government energy policy. The list below identifies a number of key policies which are changing the face of low carbon opportunities at a local level.

- Withdrawal of the code for sustainable homes – March 2015
- Closure of the Renewables Obligation to on-shore wind farms and changes to planning guidance – June 2015
- Removal of the Climate Change Levy Exemption for Renewable Energy – Budget in July 2015

- Zero carbon homes requirement and allowable costs withdrawn – July 2015
- Green Deal funding ended – July 2015
- Support for sub 5MW solar farms to be withdrawn and pre-accreditation for Feed-in-Tariff (FIT) to be removed – July 2015
- Feed in Tariff further reduced in January 2016
- Enterprise Investment Scheme (EIS) & Social Investment Tax Relief (SITR) exclude community energy
- Renewable Heat Incentive (RHI) likely to be reviewed.

## 7. Impacts on Local Policy

The Our North Tyneside Plan has three key themes – our people, our places and our economy. The Low Carbon Plan has cross cutting impacts in priority areas of focus which are:-

Our People will:

- Be healthy and well – with the information, skills and opportunities to maintain and improve their health, well-being and independence
- Offer a good choice of quality housing appropriate to need, including affordable homes.

Our Places will:

- Provide a clean, green, healthy, attractive and safe environment
- Have an effective transport and physical infrastructure - including our roads, cycle ways, pavements, street lighting, drainage and public transport.

Our Economy will:

- Have the right skills and conditions to support investment, and create and sustain new good quality jobs and apprenticeships for working age.

## 8. North Tyneside Council Low Carbon Plan - ACTION PLAN

<b>Theme 1. Energy Reduction</b>				
<b>Lead Officer: Environmental Sustainability Manager</b>				
Action ref.	Links to Strategic Objectives	Action Outline	Priority	Target Date
1.a	All	All Council policies and projects affecting energy consumption will take the Low Carbon Plan into account in consultation with the Environment Board and implement low carbon options where practical.	High	On-going
1.b	1,2,3	The Council will compile an accurate record of greenhouse gas emissions so as to measure the success of carbon reduction policies and projects where practical.	High	On- going and annual report
1.c	1,2	The Council will continue to review street lighting levels and times to maximise the potential for energy reduction (trimming and dimming).	High	March 2016 and annual review

## Theme 2. Energy Efficiency

### Lead Officer: Environmental Sustainability Manager

Action ref.	Links to priorities	Action Outline	Priority	Target Date
2.a	All	The Council will continue to develop business cases for energy efficiency business cases.	High	On-going with monthly review
2.b	1,2,3	The Council will review options to establish a revolving energy efficiency investment fund for all Council infrastructure and buildings that ring-fences and invests the money saved through reduced fuel consumption for further energy efficiency activity.	Medium	March 2017
2.c	1,2	The Council will use its influence through Local Plan Policies to encourage high energy efficiency standards and renewable energy in all new and refurbishment projects in commercial and industrial premises.	Low	On-going
2.d	1,2,3	As part of the Councils depot rationalisation review, explore the options to make any new depot an exemplar low carbon building.	High	On-going
2.e	2,3	The Council will work with developers and the local electricity network operator to establish opportunities for local power generation from low carbon and renewable energy sources.	Medium	On-going
2.f	1,2	The Council will continue to work with its Street Lighting Contract PFI partner to implement new technologies in the street lighting infrastructure to ensure maximum efficiency.	High	On-going

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**Theme 3. Energy Generation and Income**

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**Lead Officers: Environmental Sustainability Manager and Commercial Services Manager**

Action ref.	Links to priorities	Action Outline	Priority	Target Date
3.a	2,3	The Council will assess the potential for renewable energy systems on any Council led new build or refurbishment projects.	Medium	On-going
3.b	2,3	The Council will undertake feasibility studies to identify local district heat network opportunities and will assess the outputs and consider implementation.	Medium	March 2017
3.c	2,3	The Council will develop the business case for energy generation using a range of technologies.	Low	6 monthly reviews
3.d	3	The Council will undertake a detailed review of the opportunity and benefits of establishing a North Tyneside Municipal Energy Company to provide a range of energy services.	Low	On-going

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**Theme 4 : Fuel Poverty**

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**Lead Officer: Environmental Sustainability Officer / Housing Investment Manager**

Action ref.	Links to priorities	Action Outline	Priority	Target Date
4.a	4	The Council will develop a Fuel Poverty Plan with relevant partner organisations.	Medium	March 2017
4. b	2,4	The Council will evaluate the options for increasing the SAP rating of its Non Traditional Housing stock by developing an energy efficiency implementation programme within the HRA Asset Management Strategy.	Low	On -going
4.c	1,2,3,4	The Council will support local community groups through signposting help and advice on energy related projects and aspirations.	Low	On-going
4.d	1,2,4	The Council will actively participate in combined authority (NECA), regional and local approaches to community energy projects.	Low	On-going
4.e	1,4	The Council will continue to work with Warm Zone to		August 2017

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improve the energy efficiency of the Borough's housing stock and will review options for extending the existing contract.