



SUSTAINABLE ENERGY STRATEGY

2012- 2020



West Lancashire Borough Council

Planning Services

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1.0 INTRODUCTION

1.1 EXECUTIVE SUMMARY

West Lancashire Borough Council recognises that, while climate change is an internationally important problem, we can play a significant part in tackling the issue locally. It is also recognised that, through working together to reduce carbon emissions, we can also reap many other benefits along the way. Whether you live, work, visit or travel through West Lancashire, this strategy will contain something to help you reduce energy costs, save money and reduce carbon emissions.

1.1.1 THE PURPOSE OF THIS GUIDE



This Sustainable Energy Strategy is essentially a Council document that contains actions, projects and ideas we would like to develop to reduce carbon emissions across the Borough. We appreciate that we can't do this alone and as we start to progress ideas and develop our action plans, we hope to work in partnership with many external organisations along the way.

The strategy also aims to provide useful information and ideas to a whole range of audiences including homeowners, businesses and developers. The 'How to' guides included within each chapter of the strategy aim to help the target audience, signposting to useful websites from organisations who are specialists in the field, without re-iterating the wealth of information already available..

1.1.2 CONTINUAL DEVELOPMENT

The green agenda is developing at a very fast rate. This guide has been developed as a web based document to allow easy revision, ensuring it remains current and up to date. As we develop the energy saving projects set out in our action plans, we will aim to continually add case studies and share our knowledge through this document. We are also interested to hear about your energy saving initiatives at home, at work or with your community.



1.2 THE WAY FORWARD

1.2.1 THE CHALLENGE

The [UK Climate Change Act \(2008\)](#) set a legally binding target for reducing UK CO₂ emissions by at least 80% by 2050. It also established the [Committee on Climate Change \(CCC\)](#), an independent body set up to advise UK Government on setting and meeting carbon budgets, and preparing for the impacts of a changing climate.



The CCC's first binding carbon budget, established in 2009, sets a target to achieve a 34% reduction in emissions by 2020. The reductions required to meet this are set out in the [UK Low Carbon Transition Plan \(2009\)](#).

[The Renewable Energy Strategy \(2009\)](#) also sets an additional target for the UK to achieve 15% of its energy consumption from renewable sources by 2020.

1.2.2 THE AIMS OF THE STRATEGY

The main aims and objectives of this strategy have been identified as:



OBJECTIVE 1: To improve the energy efficiency of West Lancashire's housing.



OBJECTIVE 2: To tackle hard-to-treat properties, reduce fuel poverty and ensure affordable warmth for all.



OBJECTIVE 3: To increase renewable energy generation across the Borough.



OBJECTIVE 4: To support and aid the development and installation of community energy projects.



OBJECTIVE 5: To encourage sustainable development and low carbon buildings.



OBJECTIVE 6: To encourage sustainable business and industry across West Lancashire.



OBJECTIVE 7: To encourage sustainable travel and reduce transport related emissions across the Borough.

1.2.3 TIMESCALES

The overall targets of this strategy sit in line with national policy, which will take us to 2020. However, each section of the strategy also comprises an action plan listing potential projects which are felt would achieve our local aims and objectives.



Timescales for completion of each action have been split up into short, medium and long term. A short term action is scheduled to be completed within the next 12 months, a medium term action within one to three years, and a long term action within the next three to five years. Some actions have also been labelled as 'ongoing'. This primarily relates to an advice service or signposting which is already in operation and will continue indefinitely.

The strategy, action plans and timescales will be monitored and reviewed on an annual basis. Progress reports and outcomes will be included in the revised document to share knowledge and promote successful projects as they develop.

1.3 NATIONAL, REGIONAL AND LOCAL POLICY CONTEXT

This strategy does not intend to duplicate or repeat existing national, regional or local plans, policies or strategies. It should therefore be considered alongside these documents and where relevant, a link has been provided to the document or a related webpage. The strategy does aim to fulfil requirements placed on Local Authorities within these policy documents, to reduce carbon across their areas.



1.3.1 CLIMATE LOCAL

Climate Local is a Local Government Association (LGA) initiative to 'drive, inspire and support Councils to act on the causes and effects of climate change'.

Becoming a Climate Local Council involves a four stage cycle:

1

Sign up to the Climate Local commitment: Council Members considered the requirements and agreed to sign up to the Climate Local commitment at a Cabinet meeting in November 2012. The signed document can be viewed in Appendix 1 of this strategy.

Declare commitments and actions: Within six months of signing up, Councils are asked to set out the actions they intend to undertake locally, clearly setting out priorities, resources, deliverability and progress reporting.

2

- This strategy document aims to fulfil this requirement. The Councils aims and objectives are set out in Chapter 1.2 and an action plan for each objective is included in the following sections. The action plans primarily focus on actions to be initiated, and where possible completed within the next 12 to 24 months.

3

Sharing learning and experiences: Councils are encouraged to share learning and experiences with other Councils. The Climate Local forum provides interactive space to share knowledge and post case studies.

- Case studies have been included throughout this document to inform of the energy saving projects we have delivered so far, the barriers we had to overcome and the successes achieved.

Sharing progress: Climate Local Councils are encouraged to keep communities and stakeholders up to date with how they are getting on. It is requested that we share progress on our commitments and actions once a year.

4

- This document is to be reviewed and updated on an annual basis, with an accompanying progress report detailing outcomes and actions completed.

1.3.2 HOME ENERGY CONSERVATION ACT (HECA)

In July 2012, the Department of Energy and Climate Change (DECC) released [Home Energy Conservation Act guidance](#) highlighting how Local Authorities have a unique position to be able to help improve the energy efficiency of all residential housing.

The guidance requests 'Councils set their own priorities, ambitions and related targets, based on local needs and circumstances'. It also requests Councils prepare progress reports each year setting out the energy conservation measures that are considered 'practicable, cost effective and likely to result in significant improvement in the energy efficiency of the Boroughs housing stock'.

Whilst this strategy does not intend to set specific targets for emissions reductions from the housing sector in West Lancashire, it does acknowledge national targets and aims to fulfil HECA requirements. It identifies the current situation, highlights local needs and sets priorities to address these issues within a clear and deliverable action plan.



West Lancashire Borough Councils 1st HECA report, for the period 2012-13, can be viewed in Appendix 2 of this document. This will be reviewed, updated and reported annually as part of the Sustainable Energy Strategy review.

2.0 RESIDENTIAL AND DOMESTIC SECTOR

2.1 BACKGROUND

There are approximately 24 million homes in the UK, responsible for around 43% of total UK greenhouse gas emissions. In 1990, the level of CO₂ emissions from housing alone was in the region of 160 million tonnes per year and it has reduced very little since this time.

The Government intends to make all new dwellings built after 2016 meet a net zero carbon standard, which should stop further growth in domestic CO₂ emissions. However, the majority of our homes, and anything built before 2016, is likely to still exist in 2050 and will therefore make up around 80% of our future housing stock.

Retrofitting these homes with energy efficiency measures to reduce the loss of heat energy through uninsulated walls and roof space is key, if we are to meet our carbon reduction targets. To achieve this we need to improve energy efficiency and tackle fuel poverty. We need to move away from fossil fuels as the main source of energy and exploit renewable energy sources.

This will not only reduce emissions associated with burning carbon intensive fossil fuels, but provide security in our energy supplies as we rely less on fuels imported from abroad. Aiding the development of a green economy can offer many other benefits and opportunities through the creation of green jobs and growth of the renewables industry.



2.1.1 ENERGY EFFICIENCY

The UK has some of the worst performing buildings in Europe, with over half of our homes without sufficient insulation, leaking heat and wasting energy.



Emissions from dwellings vary depending on their size, build type, design and the number of occupants and their lifestyles. Average CO₂ emissions from an individual dwelling is in the region of 1.5 tonnes per year, however a large family dwelling is likely to emit more, whilst a small one bedroom flat will usually emit much less.

The physical characteristics of a dwelling will also have a major effect on its efficiency. The number of exposed external walls and the construction materials and methods all affect the overall heat loss. Different types and ages of dwellings will all have different energy characteristics.

The energy efficiency rating of a property is measured by the [Standard Assessment Procedure \(SAP\)](#). This gives the property a rating between 0 and 100, banded A to G, based on the calculated annual energy cost for space and water heating. The higher the number, the better the energy performance of the dwelling.



Increases in SAP ratings are often associated with a reduction in dwelling age, with the most modern stock usually having the highest SAP rating. Older dwellings (pre-1919) and converted flats often suffer with high heat loss and low SAP ratings.

2.1.2 CO₂ EMISSIONS

Different fuels used for heating also have varying levels of carbon content within them, which are released to the atmosphere during combustion.

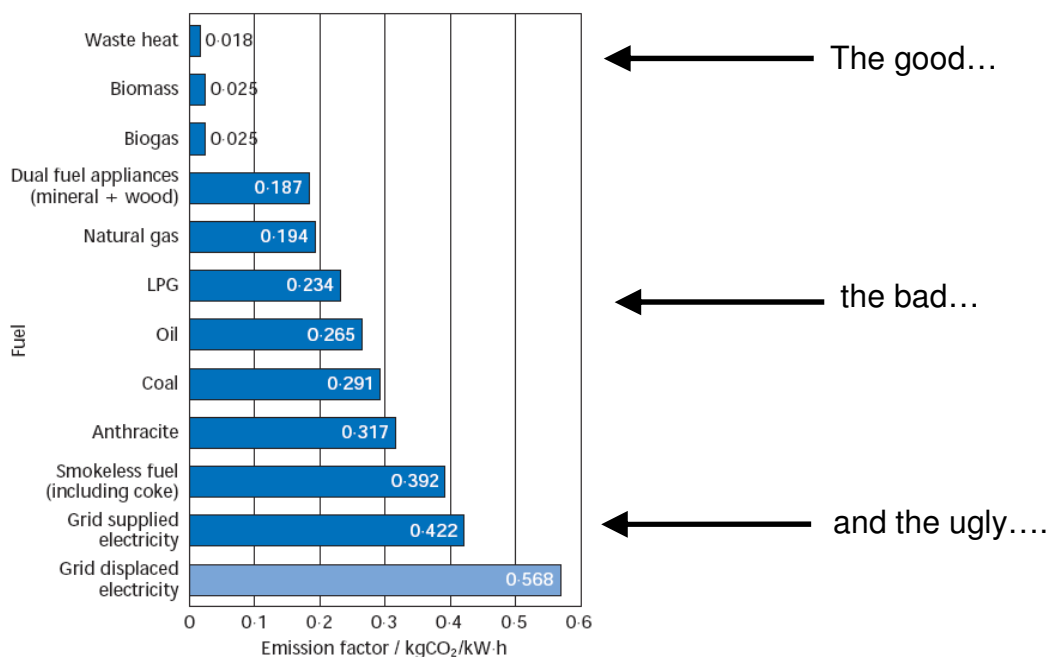


Diagram 2.1.2: Carbon content of fuels

As illustrated in diagram 2.1.2, natural gas systems release significantly lower levels of carbon per KWh of energy used. Fuel switching properties using electric or solid fuel heating to gas will significantly reduce emissions from domestic heating. This can be further reduced by the use of renewable or sustainable heating sources, which are discussed later in this document.

2.1.3 FUEL POVERTY

A household is currently considered to be in fuel poverty when residents need to spend more than 10 percent of their income to maintain an adequate level of warmth in their home. Whether a household is in fuel poverty or not is determined by the interaction of a number of factors, but 3 key components are:

- the cost of energy
- the energy efficiency of the home (and therefore how easily and cheaply it can be heated)
- the household income.

[The UK's Fuel Poverty Strategy](#) provides [fuel poverty statistics](#) identifying approximately 4 million households (around 18% of all households) as being fuel poor, with levels increasing annually over recent years. Those struggling in fuel poverty are often the most vulnerable groups within our communities including the elderly, those on benefits and those with young children. Rising energy prices have also seen an increase in the number of families struggling to pay their energy bills and maintain an adequate level of warmth in their home. It's also thought to be common amongst those living in private rented accommodation.



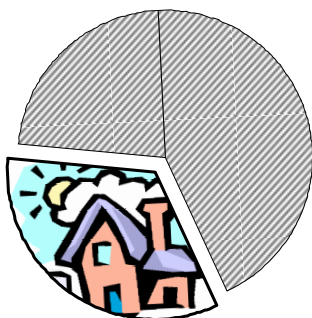
However, the [Hills Fuel Poverty Review](#), concluded and published in March 2012, has cast significant doubt on existing statistics and proposes a new way to define fuel poverty. This separates the extent of the issue (the number of people affected) from its depth (how badly people are affected). The findings of this review are currently with the Department of Energy and Climate Change to ensure future policies are as effective as possible. Improving the fuel poverty measurement is a key part of this.

2.1.4 HARD TO TREAT HOMES

Basic insulation measures to lofts and cavity walls are the fundamental first steps to affordable warmth and making a home thermally efficient. However, many properties have been built in a way that doesn't allow the resident to benefit from these cheap and easy measures. Many homes throughout the UK are of solid wall construction, without a cavity to fill, or have narrow sub-50mm cavities which are more difficult to fill. This is most common in older houses (pre 1920) and blocks of flats.

Homes are also considered hard to treat when located off the gas network. Depending on the distance to the nearest gas connection, it's often economically unfeasible to connect properties to the gas grid, leaving the resident reliant on inefficient heating systems such as solid fuel, oil or electric. Statistics from the [English House Condition Survey](#) show that 62% of people in fuel poverty live in hard to treat homes.

2.2 WEST LANCASHIRE HOUSING



35% of CO₂ emissions in West Lancashire originated from the domestic sector in 2010 (DECC, 2011). Improving the energy efficiency of the Borough's housing stock will provide many benefits including reduced fuel consumption, lower energy bills and reduced carbon emissions, warmer homes and improved health and well being.

There is an estimated 47,345 residential dwellings in West Lancashire. 85% of these properties are privately owned, with 12% being privately rented. Social housing makes up the remaining 15%, with the Local Authority owning 13% and the remaining 2% currently under Housing Association ownership. Improving the condition of our housing stock will therefore need to be approached from a variety of angles to suit the mix of property types and tenures.

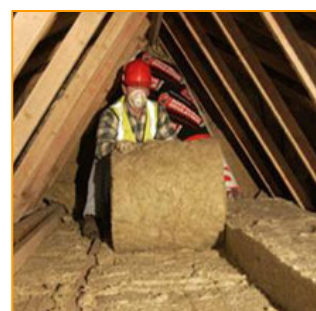
2.2.1 ENERGY EFFICIENCY

The average SAP rating of privately owned properties in West Lancashire is 53. This is better than the national average of 48, but needs to be significantly improved if we are to reduce emissions from this sector. Typically, the lower SAP ratings are found in older, pre-1919 dwellings and converted flats, which suffer with high heat loss. The privately rented dwellings across the Borough have an average SAP rating of 51.

By area, the lowest mean SAP rating was found in the Western parishes sub-area (46), followed by the Northern parishes sub-area (51). The Skelmersdale sub-area has the highest mean SAP rating (56) with the remaining sub areas being very close to the Borough average (53).

[A West Lancashire Housing Stock Condition Survey](#) undertaken on behalf of the Council in 2010 identified the following, which starts to indicate the scope for improvement:

- ❖ 43% of privately owned properties have less than 200mm of loft insulation, with 2.9% having no loft insulation at all.
- ❖ The largest percentage of dwellings has between 50mm to 150mm loft insulation. Converted flats and small terraced houses appear to have the least.
- ❖ Around 10% of converted flats and small terraced housing are heated by electric storage heaters. A carbon intensive, inefficient method of space heating.



Adopting a whole-house approach to installing energy efficiency measures is the most cost effective and efficient way to improving the housing stock.

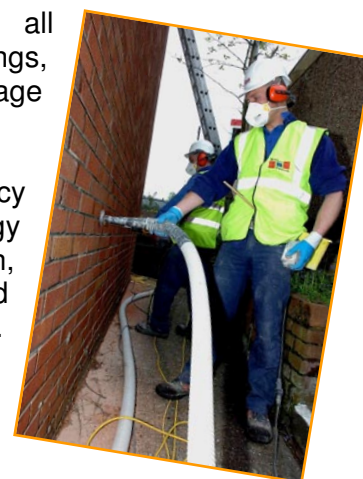
Table 2.2.1 illustrates the energy efficiency measures that could be carried out on privately owned homes across the Borough:

Measure	Dwellings	Percent of stock
Loft insulation	14,200	35.4%
Wall insulation	9,900	24.7%
Double glazing	3,100	7.7%
Cylinder insulation	28,800	59.3%
New boiler	7,600	18.9%
New central heating	600	1.5%

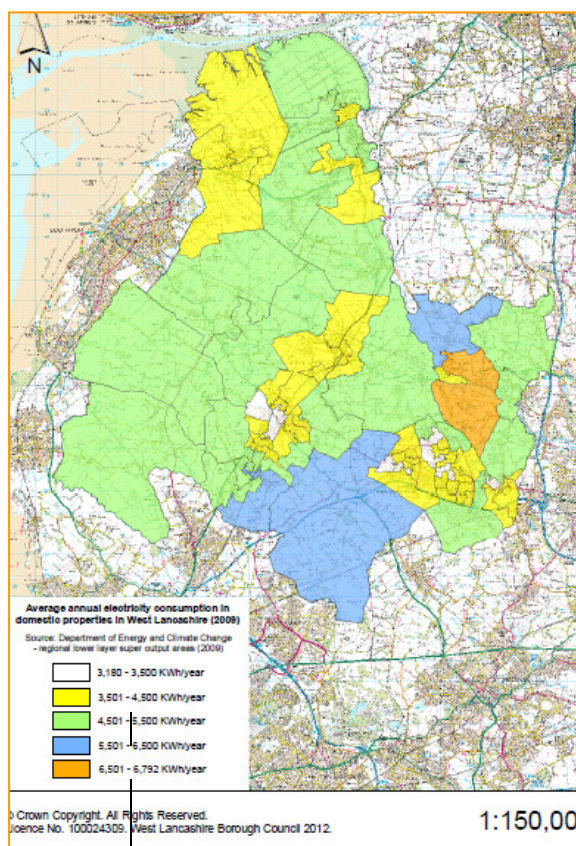
Table 2.2.1: Energy efficiency measures that could be carried out.

The housing stock condition survey predicted that, if all combinations of improvements were carried out to all dwellings, the total cost would be around £38.6 million. This is an average of £1,120 per dwelling.

It should be noted however, that improving energy efficiency does not necessarily equate to a reduction in energy consumption. In the majority of cases there will be a reduction, but, for example, where a household is in fuel poverty and improvements are made, energy consumption may well go up. In such dwellings the occupiers may have been heating the dwelling to an inadequate level using expensive fuel. Use of cheaper fuels can create affordable warmth, but also lead to increased energy consumption.



2.2.2 CO₂ EMISSIONS



[Domestic energy consumption data](#) for the Borough is provided by the Department of Energy and Climate Change. The following statistics are taken from the most recent data set for 2010 and provide 'average' consumption figures.

Its should be borne in mind however that houses do vary enormously in size and generally, the larger the property, the higher the consumption of energy and the higher the running costs and carbon emissions.

The average household electricity consumption in the Northwest of England is 4,221KWh a year. West Lancashire residents consume a higher than average 4,624KWh a year.

To try and pinpoint the cause, detailed national consumption data has been mapped by sub area, the results of which are illustrated in diagram 2.2.2a opposite.

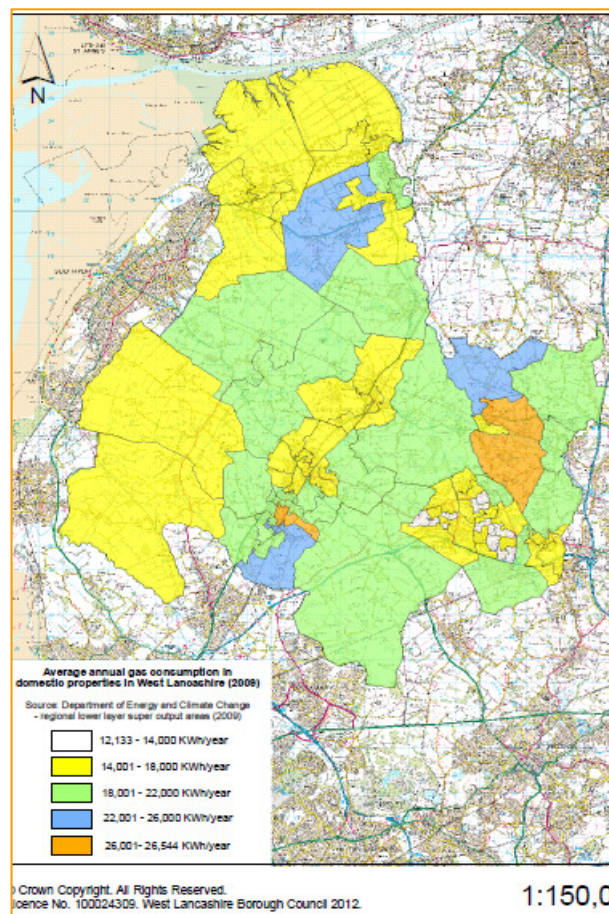
Diagram 2.2.2a: Electricity Consumption in West Lancashire

The highest consumption of electricity occurs in the areas to the South of the Borough around Aughton, Bickerstaffe and Simonswood Moss, and to the East around Parbold, Dalton and Bispham Green. It must be borne in mind that areas such as Bickerstaffe contain areas off the gas grid that are heated by electricity and therefore expected to be higher.

The average domestic gas consumption in the Northwest is 15,232KWh a year. Again, West Lancashire residents consume a higher than average 16,626KWh a year.

The pattern of gas consumption follows a similar trend to that of electricity, as illustrated in diagram 2.2.2b opposite. The highest consumption being seen around the Parbold area and up towards Bispham Green. Other areas of high consumption include Aughton and the Northern Parishes. However, it should be highlighted that this could occur for a number of reasons. It doesn't necessarily mean that housing in these areas is less efficient than elsewhere in the Borough.

In total this equates to 270 kilotonnes of CO₂ being released from the domestic sector in 2010. This is a 7% reduction in emissions since 2005. For national comparison this is divided by population of the Borough, equating to 6.9 tonnes of CO₂ per capita in West Lancashire. This is higher than the Northwest and national emissions level of 6.3 and 6.6 tonnes per capita respectively.



2.2.3 FUEL POVERTY

Diagram 2.2.2b: Gas Consumption in West Lancashire

In 2010, 19.2% of households in West Lancashire were thought to be living in fuel poverty (DECC, 2010). Those most vulnerable in West Lancashire are thought to be elderly, those on benefits or with young children and those living in hard to treat homes.

West Lancashire has an ageing population, with around 32% over the age of 65, so consideration needs to be given to the support required by older households, where tenants are more vulnerable to illness from cold and damp homes.

2.2.4 HARD TO TREAT HOMES

Insulation - During the growth of Skelmersdale in and around the 1960's, the Wimpey no fines and Bison concrete type properties were prolifically used. This is primarily because they were quick



and relatively inexpensive to build, making them a very attractive option to developers. As a result, these types of properties are a very common sight in areas such as Digmoor and Tanhouse, primarily as small blocks of flats and maisonettes.

These properties are structural precast concrete units with solid external walls, making them thermally inefficient and unsuitable for cavity wall insulation. Properties such as this need to be insulated internally or externally to reduce heat loss and improve the energy efficiency of the building envelope. External wall insulation is most common, where a layer of insulation is fixed to the walls then covered with render.



According to the [Energy Saving Trust](#), around 45% of the heat lost in a solid walled home without insulation is lost through the walls. Insulating solid walls not only reduces the amount of energy lost, but it also saves the householder around £475 a year. The photograph opposite was taken with a thermal imaging camera and shows the comparison in heat loss between a terraced property with the benefit of solid wall insulation against one that is yet to be insulated.

Over the last few years the Council has been working to externally insulate all their solid walled properties, improving thermal comfort and reducing energy bills for our tenants.

There is also the option of utilising a polyurethane, spray based insulation for properties that have narrow or variable cavities, are random stone built or are at risk from the ingress of rainwater due to the location and orientation of the property.

Properties with defective cavity wall insulation can also bring problems. Many properties insulated 10+ years ago with wool or foam insulation now suffer from degraded, sunken or disintegrated insulation that is sitting in pockets within the cavities, providing minimal thermal benefits and causing cold spots. These properties can be identified with thermal imaging technology and may require extraction of the old insulation before new can be installed, which can be a timely and expensive exercise.

Areas off the gas network - Approximately 11% of housing in West Lancashire is also located off the gas grid. Without access to the mains gas supply, properties usually rely on oil, electric or solid fuel heating. These fuels are often inefficient and expensive, leaving the resident struggling to maintain comfortable temperatures in their home and afford their heating bills. Renewable heat technologies are now starting to offer an affordable alternative. More information is provided in Chapter 3: Renewable Energy.



2.3 A RESIDENTS GUIDE TO REDUCING ENERGY AND CARBON EMISSIONS

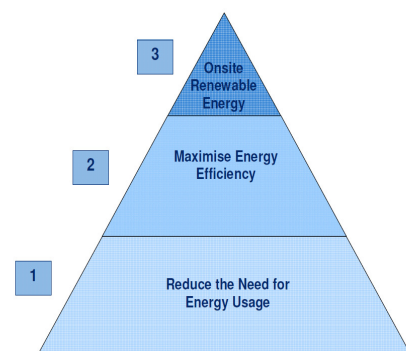
2.3.1 RETROFIT YOUR PROPERTY

If we are to make any progress towards meeting UK CO₂ targets and improving the energy efficiency of our housing stock, we will need to concentrate on retrofitting our homes. The retrofitting of homes and the resulting reduction in energy demand is the most cost effective and efficient way to ensure progress towards meeting UK carbon reduction targets.

2.3.2 THE ENERGY HIERARCHY

The energy hierarchy should be used when applying energy efficiency and renewable energy measures to any dwelling, be it retrofitting an existing property or a new build development. The hierarchy, as illustrated below, sets out the most effective way to reduce a dwellings energy consumption and carbon emissions.

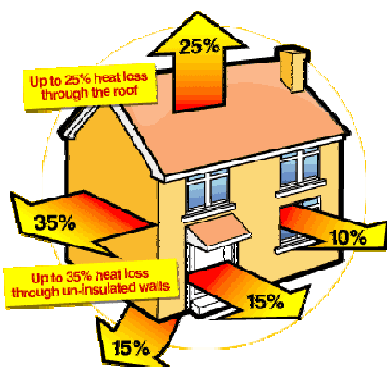
1. Reduce the energy demand by establishing a well insulated building envelope; insulate loft and walls, low air permeability and passive design. Make behavioural changes.
2. Use energy efficient lighting and appliances. Replace old central heating boilers with new models with upgraded heating controls.
3. Make up any remaining energy deficit by installing low or zero carbon technologies, where possible, and generating energy on site e.g. solar thermal hot water or biomass heating. As an alternative, substitute low efficiency fossil fuel systems with more efficient installations e.g. replacing electric heating with air source heat pumps in areas off the gas grid.



Following the basic rules of the energy hierarchy will ensure the highest carbon savings in relation to cost effectiveness.

2.3.3 ENERGY EFFICIENCY

An uninsulated house loses approximately 25% of heat loss through the roof and 35% through the walls. The primary measures required to improve the energy efficiency of a dwelling are:



- 270mm of loft insulation
- Cavity wall insulation (or solid wall insulation if required)
- Energy rated double glazing
- High efficiency heating system
- Pipework and 70mm cylinder jacket insulation.

The quick wins with regards to improving the energy efficiency of a dwelling at minimal costs are provided by loft and cavity wall insulation measures, which have been heavily targeted over the last few years. These measures are quick and easy to install and will have a noticeable impact on energy bills and carbon footprint. A loft insulation top up and cavity wall insulation can save up to £310 a year per dwelling!

There is a vast amount of information and help already available informing of various energy efficiency measures that you can undertake to save energy and money.

The links below provide a list of helpful websites:



Energy Saving Trust

['Save energy and money today – take action!'](#)



Act on CO₂

['Its time to act!'](#)



English Heritage

['Saving energy in older homes'](#)



DEFRA

['Water saving tips'](#)



Institute for Sustainability

['Improving Building Fabric'](#)

2.4 SUPPORT PROGRAMMES AND FINANCIAL INCENTIVES

2.4.1 THE GREEN DEAL

[The Green Deal](#) is a new Government finance framework that aims to reduce carbon emissions and lift families out of fuel poverty by significantly improving the energy efficiency of local homes and businesses. The Green Deal offers the opportunity to install energy efficiency measures in homes and commercial buildings, with no upfront costs. The costs incurred are then attached to the property, as a form of loan, which is repaid through the savings the resident makes on their energy bills.

Eligible energy saving improvements include:

- Insulation (loft and wall)
- Heating and hot water
- Draught-proofing
- Double glazing
- Renewable energy technologies



The Green Deal model, introduced on the 28th January 2013, will work on a 'golden rule' principle that the cost of installing the energy efficiency measures must be less than the expected savings on energy bills made as a result of the retrofit. This will be measured by attaching a Green Deal charge to the electricity meter at the property concerned.

The Green Deal process has four stages:

1. **Assessment:** You will need to have an Energy assessment carried out on your property by an independent, green deal approved energy assessor. This will provide a list of recommended energy efficiency measures your property would benefit from and calculate how much this would save you on your energy bills.
2. **Finance:** Choose a Green Deal provider who will arrange and fund your chosen energy savings measures. You will be required to sign a Green Deal agreement with the provider at this stage.
3. **Installation:** The Green Deal provider will arrange for a Green Deal installer to visit your property and carry out the agreed works.
4. **Repayment:** You pay back the cost of the improvements over time through the savings on your energy bills. Your electricity supplier will pass your payments on to your Green Deal Provider.

Please note: Interest will be charged on these payments. It is up to the Green Deal Providers to decide this interest rate, so it will be worth while to shop around to find the best deal. The Council would recommend seeking at least **3** quotes before going ahead with any one provider.

All organisations working to deliver the Green Deal must be approved and authorised, to ensure fairness and transparency in delivery of the initiative. Look for the mark of quality from any Green Deal assessor, provider or installer you deal with.



You can search for Green Deal certified companies on the [Oversight and Registration Body](#) website.

The Energy Saving Trust also has an independent list of [EST Green Deal certified installers](#) which can be viewed on their website.

The links below provide helpful websites for further information:



Gov.uk

[‘Green Deal Information’](#) and [‘Quick Guides’](#).



Energy Saving Trust

[‘Green Deal and ECO’](#)

2.4.2 ENERGY COMPANY OBLIGATION (ECO) FUNDING

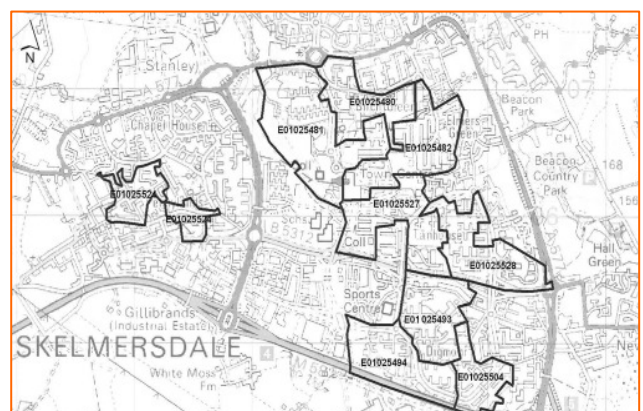
Alongside the introduction of the Green Deal, a new Energy Company Obligation (ECO) funding source is available. The ECO primarily aims to provide additional funding for the installation of expensive measures on hard to treat homes (e.g. solid wall insulation) that would not satisfy the golden rule through Green Deal finance alone.

In the majority of cases your Green Deal installer will seek ECO funding on your behalf and provide you with costs for repayment which include any ECO discount. Installers may ask questions regarding receipt of any qualifying benefit claims, which may increase the ECO funding available.

ECO funding is split into 3 elements:

1. **Affordable warmth:** to provide heating and insulation improvements for low income and vulnerable households (excluding social housing tenants).
2. **Carbon savings:** to provide funding to insulate solid-walled properties (internally or externally) and those with hard-to-treat cavities.
3. **Carbon saving communities:** to provide insulation measures to people living in the bottom 15% of the UK’s most deprived areas. In West Lancashire this includes the areas of Skelmersdale outlined in Diagram 2.4.2 below.

Diagram 2.4.2: Areas qualifying for the carbon saving communities element of ECO funding.



2.4.3 GREEN DEAL CASHBACK SCHEME

This is a further initiative introduced by the Government to help kick-start take up of the Green Deal. The Cashback Scheme is being offered on a first-come, first-served basis for a limited period while funds last.

The Cashback scheme offers householders the opportunity to take up a Green Deal finance package and claim cash back on the improvements they have done. Packages could be worth over £1,000 as the more you do, the more you get.

£125 million was initially earmarked for this Cashback Scheme, and the rates received for each measure installed can be viewed [here](#). These are guaranteed for the first £40 million, after which they are likely to reduce.

For more information and to apply for the Green Deal Cashback Scheme, please visit the [Green Deal Cashback website](#).

The Green Deal

Cashback for energy-saving
home improvers



Department
of Energy &
Climate Change

2.5 CASE STUDY

2.5.1 COUNCIL HOUSING STOCK

West Lancashire Borough Council is one of a few local authorities to have retained a relatively large housing stock, comprising approximately 6,000 properties. We have been working to improve the energy efficiency of our stock through a number of measures:

- Loft insulation top up's
- Cavity wall insulation
- External wall insulation
- A-rated energy efficient glazing
- Fuel switching
- Renewable energy installations



Fuel switching from electricity to gas is taking place in areas where a connection to the gas grid is close enough to make it economically viable. Whilst gas central heating is still reliant on a finite fossil fuel, it's far more efficient and less carbon intensive than electric heating. This makes it cheaper for the resident to heat their home and reduces the associated carbon emissions from the property.

In areas where this isn't possible, the installation of renewable heating technologies are being investigated and installed where technically feasible and economically viable. Further information and case studies regarding this work are detailed in section 3: Renewable Energy.

2.6 FUTURE ACTION

2.6.1 OBJECTIVE 1: TO IMPROVE THE ENERGY EFFICIENCY OF WEST LANCASHIRE'S HOUSING

ACTION:	MECHANISM:	PARTNERS:	TIMESCALE:
Sign up to 'Climate Local'.	<ul style="list-style-type: none"> - Consider the requirements of signing the Climate Local commitment and seek Member approval. - Ensure actions fulfil the requirements identified. - Utilise the forum facility to share experiences and knowledge. 	WLBC	Short term
Increase the number of properties with the recommended level of loft and cavity wall insulation.	<ul style="list-style-type: none"> - Investigate energy efficiency projects deliverable through ECO/ Green Deal/ Home Improvement Agency. - identify barriers preventing take up and investigate possible solutions. 	WLBC Potential partners	Medium term
Provide an easily accessible and helpful advice service for households across all tenures.	<ul style="list-style-type: none"> - Environmental Strategy Officer to ensure up to date advice can be given to residents regarding energy efficiency options. - Maximise publicity by utilising media opportunities and community newsletters. - Target all homeowners, tenants and landlords with information to encourage action, including behavioural change actions. - Promote and raise awareness of the energy hierarchy. 	WLBC	Ongoing
Continue to progress the energy efficiency work programme on Council owned properties.	<ul style="list-style-type: none"> - Installation of basic insulation measures, where possible. - Complete window replacement programme. - Tenant and staff liaison and education. - Ensure sustainability issues are considered during the production of the Asset Management Strategy. Educate tenants to ensure significant weight is given to this issue in the decision making process. 	WLBC Potential funding partners	Ongoing
Secure maximum funding from all available sources for energy efficiency projects.	<ul style="list-style-type: none"> - Maintain up to date knowledge of all funding streams available and submit bids to develop suitable, eligible energy saving projects. - Develop new and strengthen existing partnerships with funding providers. 	WLBC Potential partners	Ongoing
Work with landlords to improve energy standards in the private rented sector.	<ul style="list-style-type: none"> - Increase the number of privately rented properties that have basic energy efficiency measures installed. - Utilise the West Lancashire Landlord Accreditation Scheme to 	WLBC Local Landlord/ Letting Groups	Medium term

	provide information and promote energy efficiency grants/ offers to landlords.		
Aid successful role out of the Green Deal.	<ul style="list-style-type: none"> - Investigate partnership opportunities for the Council. - Consider the possibility of a joint scheme working in partnership with neighbouring authorities and local Registered Social Landlords. - Promote, instil confidence and encourage take up of the scheme. - Ensure the scheme is delivered to a high standard by Green Deal approved assessors and installers. 	WLBC Potential Green Deal providers	Short term
Produce a HECA progress report on an annual basis.	<ul style="list-style-type: none"> - Work with Lancashire authorities to establish a Lancashire-wide reporting template. - Produce a further report, fulfilling all requirements, highlighting progress across the Borough. 	WLBC Lancashire authorities	Short term

2.6.2 OBJECTIVE 2: TACKLE HARD TO TREAT PROPERTIES, REDUCE FUEL POVERTY AND ENSURE AFFORDABLE WARMTH FOR ALL

ACTION:	MECHANISM:	POTENTIAL PARTNERS:	TIMESCALE:
Identify opportunities to retrofit hard to treat homes in the private sector.	<ul style="list-style-type: none"> - Identify all properties in need of solid wall insulation and their ownership. - Promote and encourage take up of free measures that can be delivered through grant funding. Include private homes in Council projects where possible. - Investigate and aid roll out of the Green Deal. - Investigate and develop projects to initiate community action from those living in privately owned, solid walled properties or off the gas grid. 	WLBC Local installers Energy suppliers Home Improvement Agency	Medium term
Lead by example by continuing to tackle fuel poverty in Council housing.	<ul style="list-style-type: none"> - Continue to focus on reducing energy consumption in hard to treat properties and those located off the gas grid. 	WLBC Potential funding partners	Ongoing
Explore opportunities for fuel switching.	<ul style="list-style-type: none"> - Identify all areas without connection to the gas grid. Explore the distance to the nearest grid connection and the potential for fuel switching. - Investigate potential funding options and grant availability. 	WLBC Potential Community Energy Groups	Medium term
Aid the implementation of a fuel poverty referral system.	<ul style="list-style-type: none"> - Support the set up of the Lancashire Warm Homes Healthy People (WHHP) project. - Enable easy referral of residents identified as fuel poor following home visits by frontline staff. - Improve communication with Public Health contacts. 	WLBC Lancashire County Council Home Improvement Agency NHS	Short term
Consider projects specifically focused on the vulnerable groups of our communities.	<ul style="list-style-type: none"> - Target the elderly and those with young children. - Identify funding streams to help deliver extra support to West Lancashire's aging population e.g. the Warm Homes, Healthy People fund. - Tailor energy efficiency advice and promotion of grants via health related events e.g. doctors campaigns. - Target properties with low SAP ratings. 	WLBC NHS Related charities/ support groups	Medium Term

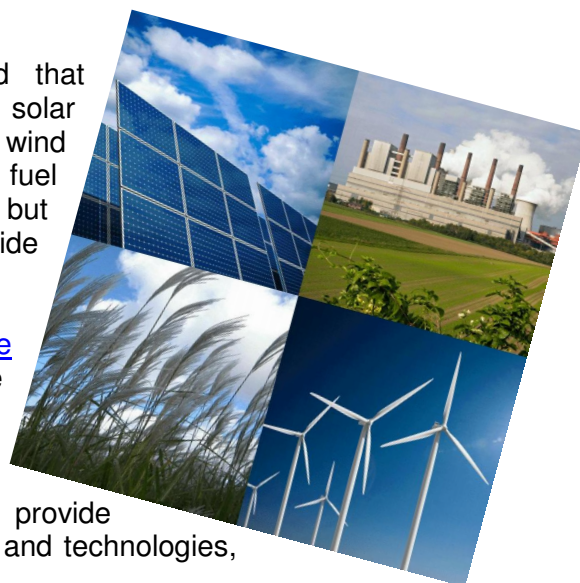
3.0 RENEWABLE ENERGY

3.1 BACKGROUND

Utilising sustainable technologies to exploit our renewable energy resources and generate low carbon electricity and heat has seen substantial growth over the last few years.

It's becoming increasingly well recognised that utilising low carbon technologies such as solar photovoltaics (PV), biomass boilers and wind turbines will not only reduce fossil fuel consumption and associated CO₂ emissions, but also reduce energy bills and potentially provide income generation.

[The Department of Energy and Climate Change](#) is committed to increasing the proportion of energy we use that originates from a renewable source. It is recognised that this will not only increase the security of the energy supplies in the UK but also provide opportunities for investment in new industries and technologies, developing a greener economy.



Recognising that the depletion of our domestic fossil fuel reserves, combined with the projected growth in global energy demand, is putting our energy security at risk, the Governments [Renewable Energy Roadmap](#) sets out actions to meet the UK target to generate 15% of our energy from renewable sources by 2020.

Whilst the technologies and capacity to achieve this already exist, it presents a significant challenge over the coming years. However, exploiting our renewable sources now will allow us to be less reliant on others in the future.

3.1.1 SUSTAINABLE ENERGY



The energy hierarchy follows a 'be lean – be clean – be green' principle; however the urgent need to reduce carbon emissions will require the use of all means available. In practical terms, initiatives to minimise energy demand, improve energy efficiency and develop renewable energy technologies will need to work in parallel, and in many instances will be the elements of an integrated approach. The energy hierarchy should therefore not restrict the use of low carbon technologies but be seen as an integrated approach to energy reduction.

3.2 WEST LANCASHIRE ENERGY DEMAND AND SUPPLY

3.2.1 ENERGY DEMAND

In 2009, the total energy consumption of the Borough was 2,753.5 gigawatt hours (GWh), responsible for 723.4 kilotonnes of CO₂ emissions (DECC, 2012). In the same year, just 3% of the UK's energy consumption originated from a renewable source, indicating we have a very long way to go if we are to meet the UK renewables target by 2020.

3.2.2 RENEWABLE ENERGY CAPACITY

To help tackle climate change and reduce our dependency on fossil fuels, West Lancashire Borough Council supports an increase in the use and supply of renewable and low carbon energy. The Local Plan supports the delivery of this objective, provided any proposals can demonstrate that they will not result in unacceptable harm to the local environment.

The use of low carbon technologies depends very much on the surrounding landscapes of an area and what they lend themselves to. The very nature of the landscape in West Lancashire, which is predominately flat and open, lends itself to some technologies more than others.

To investigate West Lancashire's capacity to deliver low carbon and renewable energy technologies two studies have been undertaken:

[The Liverpool City Region Renewable Energy Capacity Study](#): Commissioned in 2010, this study considered the viability of different forms of energy generation and identified possible constraints across the Borough. Unsurprisingly, the study concluded that West Lancashire is well suited to wind power generation, due to the large expanses of flat land with relatively high wind speeds.

The study identified areas generally considered to be suitable for large scale wind development. This was achieved through identifying areas with wind speeds exceeding 6.5m/s and giving consideration to other local constraints. These included, but are not restricted to, a 500m address buffer, a 100m buffer from listed buildings, conservation areas, deep peat areas and sites of ecological conservation e.g. SSSI's and Green Belt land.

The general area identified to be of least constraint and greatest wind resource is south of Great Altcar, adjacent to the River Alt. A map showing this identified area can be viewed [here](#). However, further detailed appraisals of the broad areas of least constraint will be required before any wind scheme could be considered.

The study also identified renewable energy generation targets, derived from the Regional Spatial Strategy targets and based upon the Boroughs capacity to generate. The findings are illustrated in Table 3.2.2 overleaf.



These targets are set out as guidelines and should not be interpreted as maximum targets for energy delivery. Nor should they be considered restrictive in terms of what technology is proposed, for example a spread of smaller scale developments over a wider area, utilising a mixture of renewable energy types may achieve a similar or better result than focusing on a single large scale development in one location.

Indicative Renewable Energy Generation Targets (including existing installed capacity at July 2009)			
Indicative Renewable Energy Generation Size/Type	2010 (MW)	2015 (MW)	2020 (MW)
Onshore Wind Farms (Single, large and small stand along turbines)	22.64	27.44	27.44
Building Integrated Wind	-0.03	0.09	0.24
Biomass CHP	0.63	0.98	1.33
Anaerobic digestion (AD)	0.22	0.66	1.1
Photo Voltaic (PV)	0.02	0.71	1.43

Table 3.2.2: Renewable Energy Generation Targets for West Lancashire

These generation targets are not intended to place a dependence on wind generated renewable energy. West Lancashire Borough Council supports contributions from all other renewable energy technologies and recognises that many technologies are better suited to certain locations with landscape and amenity considerations.

[The Lancashire Sustainable Energy Study](#): Consultants SQW and Maslen Environmental were commissioned by Lancashire County Council to provide a Borough level interpretation of the [North West Renewable and Low Carbon Energy Capacity and Deployment Study \(2010\)](#) regarding renewable energy potential and deployment.



This assessment estimated that West Lancashire has a renewable energy capacity of 1,630MW, which equates to 15% of the total capacity for Lancashire.

Similar to the Liverpool City Region Study, the technology providing the largest resource is wind, reflecting West Lancashire's rural characteristics and low population density. Microgeneration was also highlighted but with much smaller amounts of available resource in the form of waste and biomass.

In addition, a planning guide and summary factsheet has also been produced to assist with understanding this topic. These documents can be viewed [here](#).

3.2.3 TECHNICAL POTENTIAL VERSUS DEPLOYABLE POTENTIAL

The above mentioned studies provide an estimation of technical potential to deliver renewable energy generation within the Borough. They do not provide an indication of best approach for the Local Authority or provide an indication of whether the targets, and the renewable technologies they relate to, are feasible. Nor do they provide strict criteria which all proposals must meet in order to be considered acceptable in planning terms.

Many other factors need to be taken into account to identify the likely level of deployment over time, for example economic, environmental and planning considerations. Whilst an area of least constraint and greatest wind resource has been identified, individual proposals must be considered on their own merits, within the specific local context and must have regard to the wider Local Plan. These are discussed further in Chapter 3.5.

3.2.4 RENEWABLE ENERGY PLANNING POLICIES

The Council is currently in the process of adopting a new Local Plan for West Lancashire 2012 - 2027. This emerging Local Plan has been produced in line with the National Planning Policy Framework (NPPF) guidance which requires Local Planning Authorities to have a positive strategy to promote energy production from renewable sources, while ensuring that adverse impacts are addressed satisfactorily.

Whilst this Strategy document encourages the use of all renewable technologies and makes reference to national and local planning policies, it is not itself a planning policy document. The current Replacement Local Plan 2001 – 2016 and the new Local plan 2012 – 2027 can be viewed [here](#).

3.3 A GUIDE TO RENEWABLE ENERGY INSTALLATION

Whether retrofitting a renewable technology into an existing building or installing into a new build development, there are always considerations that need to be borne in mind and a trusted supply chain with a performance guarantee should always be used.

The design and installation of renewables into new build developments is also considered within Chapter 5: Sustainable Development.

3.3.1 LOW CARBON TECHNOLOGIES

There are various forms of renewable electricity and heat generating technologies. Over recent years this sector has seen dramatic growth; one of only a few given the current economic climate. Significant investment in this area has resulted in the technologies advancing at a rapid rate to achieve greater efficiencies. Additionally, growth in this sector has resulted in these technologies becoming increasingly cost-effective with installation prices dropping significantly, especially in the case of Solar PV. When coupled with the subsidies available from Government, the installation of renewables is often the most feasible and viable option.

There are a wide range of renewable technologies which utilise natural elements such as the sun, air and wind to generate energy. There is already a wealth of information available to inform of what renewable technologies do and how they work. These include solar photovoltaics (PV), solar thermal hot water, biomass boilers, wind turbines, air source/ ground source heat pumps, combined heat and power (CHP) units, energy from waste and hydroelectricity, to name a few. The links below provides a list of helpful websites:



Energy Saving Trust
[‘Generate your own energy’](#)



West Lancashire Borough Council
[‘Renewable energy factsheets’](#)



Centre for Sustainable Energy
[‘Sustainable energy’](#)



TADEA
[‘Supporting sustainable’ growth’](#)

3.3.2 MICROGENERATION CERTIFICATION SCHEME

The [Microgeneration Certification Scheme \(MCS\)](#) certifies renewable technologies used to produce electricity and heat. The MCS is also linked to the financial incentives, explained in Chapter 3.4, which requires both the products and installers to be accredited to ensure eligibility.

To check if a product or installer is MCS certified, visit the [MCS website](#).



3.3.3 SOLAR KEYMARK

The [Solar Keymark scheme](#) is equivalent to the MCS but covers the certification of solar thermal products only. Unlike the MCS scheme, it does not cover installation company certification. Consumers are able to use a CEN Solar Keymark approved product and still claim the Renewable Heat Incentive, provided the installation has been undertaken by an MCS accredited installer.



The Solar Keymark Database

3.4 SUPPORT PROGRAMMES AND FINANCIAL INCENTIVES

3.4.1 FEED-IN TARIFF (FIT)

The Feed-in Tariff is a Government incentive to increase the level of renewable energy in the UK and work towards our national target of 15% of energy from renewables by 2020.

The Feed-in Tariff provides the owner of any renewable electricity generating technology with a fixed income for every kilowatt hour (KWh) they generate, making renewable technology a more affordable and feasible option.

If you are eligible to receive FITs you will benefit in 3 ways:

- **The generation tariff:** a set rate paid for every kWh of electricity generated, paid by the energy supplier (tariffs vary between technologies and dates of installation).
- **The export tariff:** a further payment from your energy supplier for each kWh that isn't used on site, which you export back to the electricity grid.
- **Reduced energy bills:** as you use the electricity you generate on site and therefore use less from the grid.



Further information on how FITs work, the generation tariffs for different renewable technologies and advice on how to sign up to the scheme, can all be found on the [Energy Saving Trust](#) website.

3.4.2 RENEWABLE HEAT INCENTIVE (RHI)

The Renewable Heat Incentive is designed to provide financial support to encourage individuals, businesses and communities to switch from fossil fuel heating to renewable sources such as biomass.

This support comes in 2 phases:

- **Renewable heat premium payments (RHPP):** an upfront payment to help with the initial purchase of the renewable heating system.
- **Renewable heat incentive:** currently available to the non-domestic sector. The domestic element is due to be launched in Spring 2014, subject to parliamentary approval. Guidance indicates that technologies installed from July 2009 will be eligible.

For further information and eligibility criteria please visit the [Energy Saving Trust](#) website.

3.5 CONSIDERATIONS



There are many hurdles which must be overcome to reach the installation stage of a renewable energy project.

When a homeowner considers investing in renewables it's usually on the basis of either an attractive investment or a reduction in their carbon footprint. In these situations, the benefits of any investment are directly attributable to the owner of the technology and will help to build an appealing project.

However, managing to get the business case to stack up for commercial installations, especially those in multi-occupancy or multi-ownership buildings, can be far more complicated. Issues such as leasing arrangements, tenure contracts and split incentives often cause complications. Where investments are made, they are usually driven by financial incentive, rather than to improve energy efficiency and reduce carbon emissions. Some of the barriers identified by property and industry professionals are discussed in the following sections:

3.5.1 THE BUSINESS CASE



When presenting the business case in support of investing in renewable energy, it is important to consider the savings that will be made on energy bills, alongside any income you may receive from financial incentives such as the Feed-in Tariff or Renewable Heat Incentive.

Other benefits that may help the case to stack up include encouraging existing occupiers to extend their lease and reduce voids, the replacement of existing failing plant or equipment and to improve green credentials and company image.

3.5.2 DISRUPTION

The installation of renewables can be disruptive, especially if internal pipework is required. Where possible, it's far easier to undertake the works when part or all of the building is vacant. Nevertheless, low disruption retrofits are possible with careful planning and arrangements for additional heating.

3.5.3 CAPITAL FUNDS

Depending on the type of project you're implementing there are different finance models that may be of interest, if you are struggling to fund the installation upfront.

The financial income provided by the Feed-in Tariff and Renewable Heat Incentive can make a loan or repayment scheme attractive. Funding aid can also be available for some projects from CESP and CERT, as detailed in Chapter 2.4.



Some commercial projects may be suited to an Energy Services Company (ESCO) model whereby a partnership with an investor is utilised. Further information regarding ESCo's can be found in Chapter 4.

3.5.4 LOCATION AND ORIENTATION

The type of technology you are considering will have an impact on where it can be located. For example, solar technologies such as photovoltaics or hot water systems ideally need to be located on a south facing roof slope to achieve maximum generation. Consider any surrounding vegetation that may cause shading in future years. Localised wind speeds for turbines and local sources of fuel and access arrangements for deliveries to biomass boilers may also need consideration.



3.5.5 PLANNING PERMISSION



Depending on the technology you have chosen and the type of project you are proposing, be it domestic or commercial, you may need to secure planning permission prior to installation.

Some technologies, in some circumstances, do benefit from permitted development rights and will therefore not require planning permission, providing certain criteria are met. A factsheet on each renewable technology and all related planning information has been produced by CLASP and can be viewed on the [Council website](#). More information on national and local planning polices can be found in Chapter 5, however it is strongly advised that you check with the Council prior to any works starting.

Applications will need to be considered on their own merits, within the specific local context and must have regard to the wider Development Plan. This is made up of Local Plan policies, the emerging Local Plan policies and the National Planning Policy Framework (NPPF). The NPPF emphasises the importance of providing for appropriate renewable energy development, which is in keeping with the sustainable development message that runs through the Policy.

This also applies to development within the Green Belt, where renewable and low carbon energy development proposals can demonstrate that the harm to the Green Belt is outweighed by the wider benefits of the development.

3.5.6 GRID CONNECTION

Larger electricity generating installations must have permission to connect to the grid from the [Distribution Network Operator \(DNO\)](#), which in West Lancashire is [Electricity Northwest](#). Application can be a lengthy process so it's advisable to make contact with the DNO as soon as possible into the project. Location and access to the nearest sub stations also need to be considered.



3.5.7 IMPACTS ON LANDSCAPE CHARACTER AND VALUE

The impact of any development on the landscape character and value is a primary consideration, especially in the case of wind turbine installations.

Local Supplementary Planning Guidance (SPG) '[Natural Areas and Areas of Landscape History Importance](#)' was adopted in accordance with the current West Lancashire Replacement Local Plan. This document identifies and designates areas of importance for landscape history. These areas are designated on a scale of local, county and regional importance, which will need to be given due consideration against any development.



The Borough has also been divided up to represent the different areas of landscape character across West Lancashire. There are thirteen landscape character areas in total, each listed with their key characters and mechanisms for minimising environmental impact.

Photo montages are required with wind turbine applications to help determine the impact on visual amenity.

The Borough also has 28 conservation areas and various buildings listed for their historical importance. Further information on West Lancashire heritage is available on the [Council website](#).

3.5.8 IMPACTS ON LOCAL AMENITY

The proximity and impact on nearby local residents is always a principal consideration for any installation, mainly in terms of noise impacts from technologies such as air source heat pumps and wind turbines. Visual impact on the living conditions of neighbouring properties, with regards to outlook, is also considered.

Air source heat pumps generally do not cause an issue provided they are located away from openable windows to habitable rooms. Wind turbines however, need far greater assessment to ensure nearby residents are safeguarded. In many cases a noise consultant is required to undertake an assessment over a given radius around the proposed site, which increases with distance in relation to the size of the installation.

[Shadow flicker](#) can also occur, albeit infrequently, when the rotating wind turbine blades periodically cast shadows through windows of neighbouring properties. This does need to be given consideration during the planning stages of a wind turbine development.



3.5.9 ECOLOGICAL IMPACTS



Local wildlife and biodiversity must also be given due consideration, again predominantly to wind turbine developments but this issue can also be applicable when siting a large boiler house for example.

The migratory route of birds is usually a key issue, depending on the height of the proposed structure, and is particularly relevant in West Lancashire with reserves like Martin Mere attracting species such as the pink footed geese. A qualified ecologist should be consulted prior to any wind turbine development.

3.5.10 IMPACTS ON AVIATION NAVIGATION SYSTEMS

Wind turbine developments can create problems for aviation organisations, causing radar interference and obstruction to low flying air traffic. Local and national aviation authorities such as [National Air Traffic Services \(NATS\)](#) are consulted through the planning process to ensure such impacts are avoided. NATS also provide a [pre-planning application advice service](#) on their website.



3.6 CASE STUDIES

The Council are piloting a number of renewable technologies on our buildings and housing. Information regarding our experiences implementing these schemes and the savings we have seen are detailed in the case studies below, along with some other independent case studies from across the Borough. We hope these will be of benefit to those considering similar schemes in the future.

3.6.1 AIR SOURCE HEAT PUMPS

There are currently 69 Council properties heated by air source heat pumps in West Lancashire. The properties are located within the sheltered housing schemes on Beechwood Court, Skelmersdale and Church Road/ Stockley Crescent, Bickerstaffe, both of which home elderly tenants, vulnerable to fuel poverty and the associated health risks of a cold home.

With no connection to the gas grid, these properties were previously heated by electric storage heaters, an inefficient and expensive form of heating which often couldn't provide an adequate level of warmth during the winter months.

The heat pumps installed at Beechwood Court have successfully delivered efficient, controllable heating, on demand, even with outside temperatures as low as -15°C.

Continual monitoring since completion of these projects in 2011/12 has seen significant savings in energy consumption, electricity bills and carbon emissions.

Other benefits of the installations include:

- Easy to install with minimal disruption to residents.
- Low maintenance.
- Elegant modern radiators replace storage heaters.
- Temperature controls ensure an adequate level of warmth is maintained.

A recent press article regarding the Beechwood Court installation can be found overleaf.

Energy efficient future for tenants

Installation Summary

42 warden-assisted flats

Ecodan chosen to lower the building's energy rating, improve efficiency and reduce tenants energy bills

Originally heated by electric heaters connected to an Economy 7 circuit

One 5kW unit installed for every 2 flats

14kW unit installed to service communal areas

Installed over a period of weeks with tenants in situ



The tenants of 42 warden-assisted flats owned by West Lancashire Borough Council, are looking forward to enjoying reliable, energy efficient heating thanks to the installation of a number of Ecodan air source heat pumps which provide them with low carbon, renewable energy.

In a move to increase the energy rating for the flats in Beechwood Court, Birkrig, Skelmersdale, the Council has replaced its old heating system which was run on a number of direct electric heaters connected to an 'Economy 7' circuit, with Mitsubishi Electric's energy efficient, Ecodan system.

Following a review of the old system the Council called in Accredited Ecodan Installers, Dalliam Ltd, to advise on an energy efficient, cost effective, low carbon replacement. Taking into account energy calculations from a survey of the building, Dalliam's Managing Director, Bill Tyrer, and his team set about designing a new system.

"We know that people are often afraid to use their heating because of the cost, but these residents are vulnerable and need to keep warm when the weather conditions are poor. Our priority was to provide them with a reliable, effective heating and hot water system that was also affordable," said Mr Tyrer.

"The new system not only provides that, but has also lowered both the energy rating and the carbon emissions for the building, thereby fulfilling the Council's brief."

One 5kW Ecodan unit was installed for every two flats, providing heat via a radiator circuit fitted with independent lockable heating stats and thermostatic radiator valves, further helping to save energy costs.

A 14kW Ecodan unit has also been installed to provide heating and domestic hot water to the warden's accommodation and the communal dining area, and hot water for use in the kitchen, hair salon and guest rooms.

The replacement project has been carried out over several weeks and some of the units that were installed towards the end of last winter have already been given a thorough testing with the onset of bitterly cold weather, which saw temperatures dipping down as far as -17°C. During this time, however, the tenants remained warm and cosy as the new system maintained a constant temperature of 24°C.

Councillor Val Hopley, portfolio holder for Landlord Services at West Lancashire Borough Council, said:

"We are incredibly impressed by the Ecodan system. In fact, during the very severe weather last year, when we compared Beechwood Court with other Council buildings using gas boilers, it was the only one that did not fail in some way in its heating and hot water."

3.6.2 SOLAR PHOTOVOLTAICS (PV)

To date, the Council has installed a total capacity of 41KW of solar PV technology on five sheltered housing schemes and two Council offices. The electricity generated from these systems is used on site, reducing the Councils energy bills and carbon footprint.



The systems also generate an income from the Feed-in Tariff for the next 25 years. The funding from this contributes to a Community Energy Fund for recycling into other energy saving projects.

All installations have been in place for over a year now and the energy generation from the systems has exceeded our expectations. Table 3.6.2 below details the KWh generation, savings on energy bills, income from the Feed-in Tariff and CO₂ savings over the last 12 months.

	1 st year's generation (KWh)	Savings on energy bills (£)	FIT Income (£)*	CO ₂ Savings (kg/yr)
Beechwood Court	2538	228	1,182	1,376
The Dell	2363	212	1,100	1,283
Victoria Court	2480	223	1,155	1,338
Crosshall Court	7918	712	3,231	4,291
Bath Springs Court	4354	391	1,793	2,359
52 Derby Street	7006	630	2,747	3,797
61 Westgate	6962	626	1,301	3,773

Table 3.6.2: Solar PV generation, savings and FIT income

* Please note: These systems were installed prior to the FIT review and are receiving the higher FIT rate of 43.3p/KWh. These rates were correct at the time of installation but are index linked and increase year on year.

CASE STUDY: DOMESTIC SOLAR PV SYSTEM IN TARLETON*

A resident invested in a 2.5KW system for his four bedroom, detached property in Tarleton in May 2011. The system comprises 14 panels and manufacturers' guidance predicted generation around 2,170KWh of electricity a year.

The system has been monitored closely over the first year and has actually generated a total of 2,100KWh, pretty much matching expectations. On a bright sunny day, the owner has recorded the system generating approximately 12 - 14 KWh, which just about covers the daily consumption of the home. Typically an average unit of electricity costs around 12 pence per KWh resulting in savings of around £252 off the properties energy bill.

The owner also receives 43.3pence* for every KWh the system generates from the feed-in tariff, plus an additional 3p* for every KWh he doesn't use and sells back to the national grid. This is deemed to be 50% of the amount generated as the system isn't fitted with an export meter. This provided an income of approximately £940 in the first year.

Whilst undoubtedly the efficiency of the system will drop off over future years, these statistics predict a payback period of around 9-10 years; however the owner will continue to benefit from the feed-in tariff for 25 years.



3.6.3 SOLAR THERMAL HOT WATER

Solar Thermal Hot Water

Marlborough Court sheltered housing scheme benefits from a solar thermal system which helps provide hot water to its residents. Part funded by the Low Carbon Buildings Programme, this system helps provide reductions in gas consumption, energy bills and carbon emissions.



3.7 FUTURE ACTION

3.7.1 OBJECTIVE 3: INCREASE RENEWABLE ENERGY GENERATION ACROSS THE BOROUGH

ACTION:	MECHANISM:	POTENTIAL PARTNERS:	TIMESCALE:
Investigate opportunities to encourage take up of low carbon technologies.	<ul style="list-style-type: none"> - Provide an advice service to residents, businesses and community groups. - Educate and raise public awareness, to aid installation and finance models where possible. 	WLBC Energy Saving Trust/ Referral agencies	Ongoing
Investigate barriers preventing take up of renewables and how these can be overcome.	<ul style="list-style-type: none"> - Establish a network of local contacts to provide a greater confidence in renewables and share local knowledge. - Promote successful installations, details of their performance and benefits provided to owners. 	WLBC Local installers, contractors, energy generators	Ongoing
Investigate the opportunities provided by Energy Services Companies (ESCO's) and potential finance models.	<ul style="list-style-type: none"> - Gain experience from operational ESCo's in the Northwest. - Investigate the opportunities an ESCo could provide for Council projects. 	WLBC Potential ESCO partners	Long term
Continue to investigate feasibility of renewable technologies for social housing located off the gas grid.	<ul style="list-style-type: none"> - Continue to investigate options to reduce the number of dwellings with electric heating systems. - Install renewable heating technologies, where feasible and economically viable. - Monitor performance and report on savings. - Provide leadership and promote successful projects. 	WLBC Potential funding partners	Ongoing
Investigate the potential for renewable energy generation on Council estates.	<ul style="list-style-type: none"> - Identify areas of least constraint for potential energy generation. - Investigate interest from private investors to develop any identified sites. 	WLBC Potential private investors/ developers	Medium term
Implement policies/guidance to promote renewable energy.	<ul style="list-style-type: none"> - Develop local plan policies, in line with relevant planning guidance, to promote the use of renewable technology through the Development Control process. 	WLBC	Short term
Continue to report on Borough wide energy use and carbon emissions.	<ul style="list-style-type: none"> - Identify and promote progress towards reducing the Boroughs energy use and carbon footprint, on a local area basis. 	WLBC DECC	Ongoing

<p>Develop the Council's Community Energy Fund (CEF) to incorporate private investment, where possible.</p>	<ul style="list-style-type: none">- Investigate the use of the CEF for community energy projects.- Establish whether the CEF can be utilised to aid feasibility/ implementation of district heating systems through Local Plan policy, or link to the Allowable Solutions framework.	<p>WLBC</p>	<p>Medium term</p>
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4.0 GREEN COMMUNITIES

4.1 BACKGROUND

The role communities can play in reducing CO₂ emissions and tackling climate change is an important one. Community energy initiatives can cover various aspects of collective action, with the aims of reducing, managing or renewably generating energy, or the group purchasing/ collective switching of energy providers.

This can have a significant impact on residents and businesses alike, be it the promotion of behavioural changes across an area or the implementation of a community owned energy generation project.

There are many reasons why a local community may embark on an energy saving project from a mutual interest in reducing CO₂ emissions to the lack of gas in their area, which has left them reliant on expensive and inefficient heating.

Recent years have seen more and more community owned energy projects being delivered, predominantly focussed on energy and heat generation enabled through the financial support provided by Government schemes such as the [Feed-in Tariff and Renewable Heat Incentive programmes](#).



4.1.1 COMMUNITY BASED ENERGY EFFICIENCY PROJECTS

Community projects have a vital role to play in engaging people and helping to deliver real carbon and energy savings on the ground. Projects may include the refurbishment of a community building, the provision of home energy checks in a local area, a community engagement event or thermal imaging initiatives, to name a few.

The [Energy Saving Trust's Communities programme](#) is no longer in existence but their website is full of case studies detailing community group achievements and the challenges groups met along the way.



4.1.2 COMMUNITY BASED RENEWABLE ENERGY PROJECTS

Community renewable energy projects are becoming increasingly popular as, not only can they provide a community group with an income, they also provide a secure energy supply and protection from increasing energy prices.



Renewable energy projects can take two forms. They can consist of a group of individuals all interested in investing in a certain technology e.g. solar PV, who group together to achieve economies of scale and increased buying power.

Alternatively, and more commonly, a renewable heating technology is installed which can supply all properties and buildings in the local vicinity. This is known as [district heating](#) or a local energy network.

4.2 THE BENEFITS OF COMMUNITY ENERGY PROJECTS

Community energy projects can deliver a vast number of benefits, both in terms of helping to meet national energy reduction and renewable energy targets, but more so in delivering wider benefits to a local area.

4.2.1 LOCAL AREA BENEFITS

These can include:

- An opportunity to work in partnership with your neighbours and local community members, improving social cohesion.
- Improve the green economy in your area, improving local skills and creating jobs.
- Utilising opportunities which may not have been available or attractive to commercial investors.
- Helping to alleviate fuel poverty in the local area.
- Influencing behaviour change and helping your community make savings on their energy bills.



4.2.2 COMMUNITY ENERGY FUNDS



The [Feed-in tariff](#) (FIT) and [Renewable Heat Incentive](#) (RHI) have made renewable technologies and district heating networks an attractive investment. These incentive schemes provide an income for varying time periods ranging between 7 and 25 years, which in many cases is utilised to re-pay initial investments to buy and install the plant. However, following payback this money can be recycled into a 'Community Energy Fund' for re-investment into other energy schemes.

The Council has set up a Community Energy Fund to receive the FIT and RHI income from Council installed energy projects. The fund is currently in its infancy, but will eventually hold enough to invest into further energy projects.

4.3 DELIVERY MECHANISMS

4.3.1 COMMUNITY GROUPS

Community groups are successfully delivering energy projects across the country. Whether it's a group formed through a mutual interest or a subsidiary group off another e.g. a Parish Council, once established you will be able to tap into a vast amount of free advice services and potential funding opportunities.



4.3.2 COMMUNITY INTEREST COMPANIES

A Community Interest Company (CIC) is a limited company that is created by a group of people who want to conduct a business for community benefit, and not for private financial gain.

The CIC status is achieved by a 'community interest test' which ensures the business will function for, and all profits are dedicated to, community purposes.

The CIC [regulator's website](#) is run by the Department of Business, Innovation and Skills.

4.3.3 ENERGY SERVICES COMPANY (ESCO'S)

An Energy Services Company (ESCO) is a partnership or business that finance, install, and operate energy services. They can be public, private or a social enterprise venture with community involvement.

There are many variations of ESCo models and roles they can play, which can be developed to suit a particular project. Depending on the partnership and type of ESCo model adopted, profits from energy developments are often available to be recycled into further local energy projects. The successful implementation of a community energy project often relies heavily on partnership working based on an ESCo model.



4.4 DISTRICT HEATING/ LOCAL HEAT NETWORKS

The national grid is a huge network that provides electrical power all over the UK. However, when it comes to heat generation, this is still very much reliant on individual boiler systems. Whilst [district heating](#) has been commonplace in many European countries for years, it still only provides roughly 1-2% of the UK's demand. Analysis shows that in the right conditions, district heating could supply up to 14% of the UK heat demand.

District heating networks can offer a cost effective, viable and low carbon solution to local heat demand. They supply heat to buildings and homes through a network of highly insulated pipes similar to a conventional boiler, however all pipework is fed from a single decentralised energy centre as shown in Figure 4.2 below.

Ideally a district heating system will supply large energy consumers with a mix of uses and peak demands. For example, a mix of homes and businesses require energy at different times of the day, therefore enabling the system to smooth out demand and run efficiently at a relatively constant level. Every building is fitted with a heater meter to monitor how much heat is used.

Heat networks can be supplied from a diverse range of renewable heat technologies, commonly including biomass boilers, combined heat and power (CHP) units and energy from waste facilities.

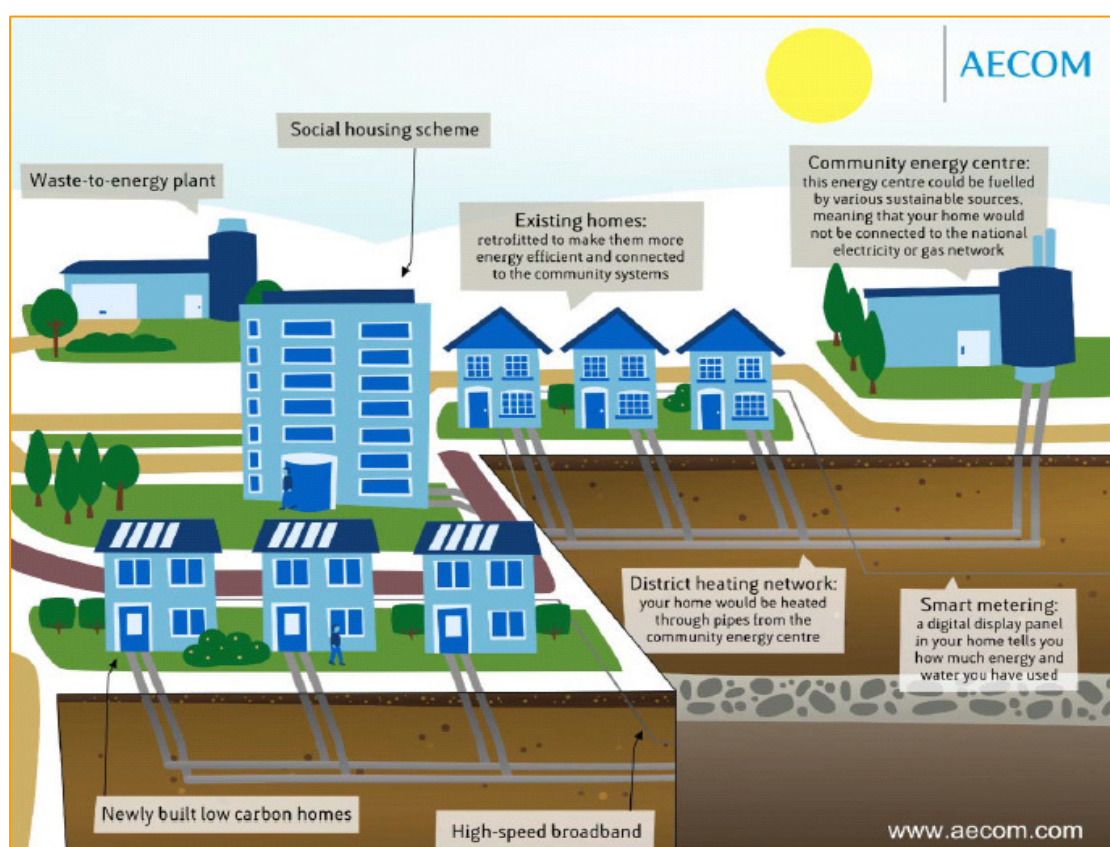


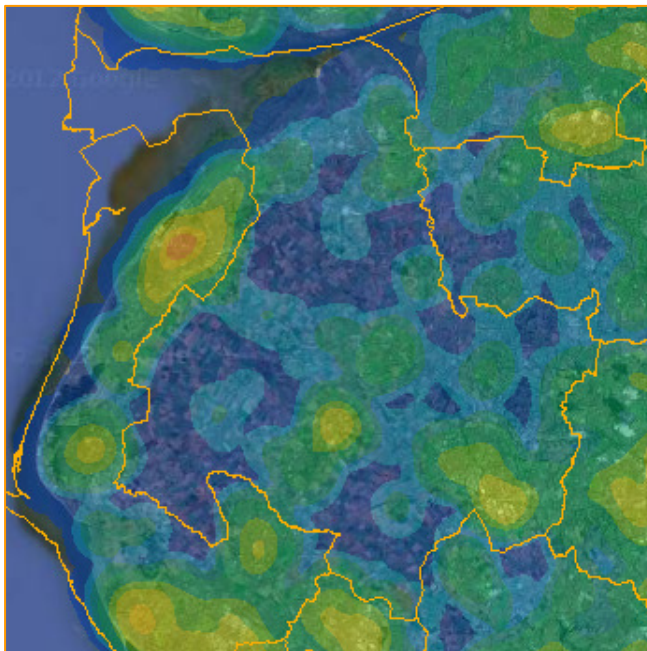
Figure 4.2: Diagram of local energy network showing potential components including district heating system.

The advantages of a heat network are provided from the efficiencies and economies of scale that are achievable through such a system, providing an effective tool against fuel poverty. The ability to consolidate heat supply, together with the ability to bulk buy fuels, means that district heating can often provide cheaper energy, reducing consumers energy bills. Maintenance costs of the plant will also be reduced and usable space within the buildings supplied will increase. Such efficiencies provide a significant reduction in associated carbon emissions as a single piece of equipment determines the CO₂ output for multiple end users.

District heating networks can be applied at a variety of scales, from a few buildings to whole cities. A network also has the ability to incorporate low or zero carbon technologies, which are often not efficient or effective at smaller scales. Also, district heating pipes are not specific to one technology and can therefore connect to a range of sources of heat supply including CHP, biomass, energy from waste, ground source heat pumps, geothermal heat or large power stations.

In most cases a mix of energy use with a high density demand is helpful in justifying the installation of a district heating scheme. If a scheme is not connected to the natural gas grid, the carbon and cost savings can be significant. The use of large scale renewable technologies also means there is less reliance on gas supplies and less impact from rising fuel prices, providing greater security in energy supplies.

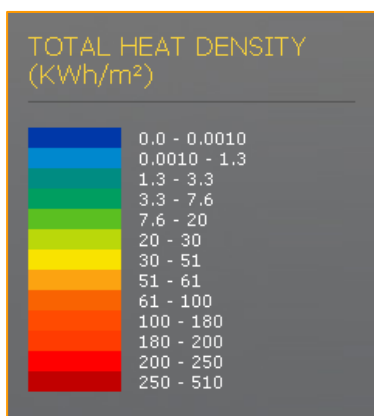
4.4.1 HEAT MAPPING



Heat mapping is an ideal tool to identify areas that have a high heat demand and may benefit from a district heating system. DECC have recently released [national heat maps](#) showing the total heat density in any area selected.

The heat map produced for the West Lancashire area is shown opposite, highlighting, as expected, a higher energy demand in the denser urban areas of Skelmersdale and Ormskirk.

[The renewable energy capacity study](#) also identified Ormskirk town centre as a potential energy priority zone for district heating. This is primarily due to large energy consumers such as the leisure centre, all located within close proximity of each other.



4.4.2 DISTRICT HEATING PIPEWORK

District heating pipework is critical to the success of any system. Depending on the scale of the heat network, pipework is usually the most expensive element of any scheme and can account around a third of the overall cost.

There are two main types of pipework: plastic and steel. Plastic is cheaper to install and its flexibility lends it to areas where there are difficult ground conditions. Steel is more commonly used for larger commercial installations due to its strength and durability.

Thermal insulation of the pipes is critical. Heat loss from district heating schemes is usually found to be between 5-20% and can be affected by a number of factors such as the length of pipework from the energy centre and the standard of the material used. Thickness of pipework insulation will also need consideration prior to trenching works to bury the pipes, which can affect construction costs.



4.4.3 THE ADVANTAGES OF LOCAL HEAT NETWORKS

- Significantly reduced capital costs for energy plant, especially if connecting to an existing heating network or provision through an ESCo model, in partnership with an investor.
- Significant contribution towards compliance with future building regulation standards and local planning policy.
- Greater fuel efficiencies than that delivered through the national grid. District heating has the ability to generate heat at low costs, helping to reduce fuel poverty.
- Reduced requirement for plant room space.
- Significant CO₂ savings, reducing the carbon footprint of the development.
- Reducing plant management and operational risks.
- Improved energy performance certificate / display energy certificate ratings.
- Good reliability as most systems are built with stand-by heating capacity to ensure heat is always available.
- Comfort and confidence for tenants that they will have controllable heat on demand, and only pay for what they use.

4.4.4 THE DISADVANTAGES OF LOCAL HEAT NETWORKS

- If not already present, a full wet system will need to be installed into each property.
- Disturbance when laying pipework, although steps to reduce this are available.
- Pipework distances can significantly increase costs so long pipe runs could make a scheme unviable.
- Space required for the location of an energy centre, including fuel storage.
- Physical barriers such as crossing major roads etc with pipework, can often cause delays and be an added expense to an installation.
- Access for fuel deliveries by large vehicles is required on a regular basis.

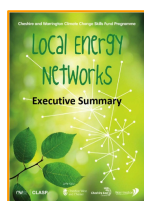
Some of the considerations listed in paragraph 3.5 of Chapter 3: Renewable Energy are also applicable e.g. planning requirements and will need to be given attention during the design stages.



4.5 COMMUNITY ENERGY: STAGES OF DEVELOPMENT

Researching the feasibility of a project is the first step towards progressing any project idea, no matter how small. An initial scoping assessment to identify suitability and overall viability is essential. This may include data gathering, project definition, options appraisals, financial business modelling, procurement and delivery and maintenance issues, to name a few.

There is a wealth of information readily available to take you through the stages of development, with experiences and case studies from those who have already achieved it. The links below provides a list of helpful documents and websites for further information:



[Local Energy Networks](#) has been developed by Cheshire and Warrington Councils, in association with [CLASP](#).

[Community Energy: Planning, Development and Delivery](#) has been developed by the [Town and Country Planning Association](#).



The Department of Energy and Climate Change's [Community Energy Online portal](#), including a range of ['How to' and good practise guides](#) on all aspects of community energy projects.

[GOV.UK's Community Energy Guide and Community Energy Contact Group.](#)



The Energy Saving Trusts [Community Energy Toolkit](#)

[Ashton Hayes CIC website](#), full of stories, tips and advice on how they are working to become England's first carbon neutral village.



[Planning for low carbon living](#): toolkit on all aspects of community energy

CLASP Factsheet
[An introduction to District Heating](#)

CLASP.

4.6 SUPPORT PROGRAMMES

4.6.1 RENEWABLE HEAT PREMIUM PAYMENT COMMUNITY SCHEME

This is a new and innovative fund to assist community projects across the country, supporting communities to deliver clusters of domestic renewable heating systems. The Scheme is funded by DECC and implemented by the Energy Saving Trust.

DECC state that the fund is ‘targeted at making renewable heating affordable for middle to low income households and aims to maximise carbon reduction by reaching homes with high carbon, and expensive to run heating systems, especially those off the gas network’.

For more information, eligibility criteria and application details please visit the [Energy Saving Trust](#) website.

4.6.2 THE RURAL COMMUNITY ENERGY FUND

The Department of Energy and Climate Change have announced a £15m fund open to rural communities that aspire to generate their own clean, green power. Launched in June 2013, the fund aims to help rural communities to carry out feasibility studies into renewable energy projects and fund the costs associated with applying for planning permission. More information can be found on the [Gov.UK](#) website.

4.6.3 THE COMMUNITY GENERATION FUND

This National fund aims to help deliver widespread development of community owned renewable energy infrastructure. More information can be found on the [Community Generation Fund](#) website.

4.6.4 COMMUNITY ENERGY CHALLENGE

The Community Energy Challenge is an initiative from The Co-operative, working in partnership with the [Centre for Sustainable Energy](#). They look to support small, ambitious community energy projects across the UK, offering mentoring, technical advice and facilitation services. More information can be found on the [Community Energy Challenge](#) website.

4.6.5 CORE FUNDING FOR LOCAL ENTERPRISE PARTNERSHIPS

£25m of Government funding has been made available to support [local enterprise partnerships](#) in their pursuit for sustainable economic growth.

4.6.6 OTHER FUNDING OPTIONS

To ensure you remain up-to-date and hear about any new funding options that become available which your community group may qualify for, keep an eye on the [Community Energy page of the Gov.UK website](#).



4.7 CASE STUDIES

4.7.1 BURSCOUGH RENEWABLE ENERGY COMMUNITY INTEREST COMPANY (CIC)

Initially formed as a working group of Burscough Parish Council, the Burscough Sustainability Group had many years of experience in delivering energy efficiency projects. These included initiatives such as public education campaigns for residents, working with schools and lobbying supermarkets to adopt greener policies.

In November 2010, the Group formed the Burscough Renewable Energy Company, a Community Interest Company with the main aim to support and promote the use of renewable energy technologies.

Since this time the group has successfully delivered two renewable energy projects, installing solar photovoltaic installations at Burscough Cricket Club and the Stanley Institute. Financed initially by grants from Burscough Parish Council, the CIC have successfully utilised this money to secure an income for the next 25 years from the Governments Feed-in tariff.



The solar installations are less than 4 KW in size and the energy they produce is being used on site by the community buildings, providing them with free electricity and noticeable savings on their yearly bills.

The income received from the Feed-in tariff will be used to develop further renewable energy projects in the future, for the benefit of the community. The systems are also invaluable in terms of educating and prompting the benefits of renewable technologies to the surrounding communities.

4.7.2 GROUNDWORK PENNINE LANCASHIRE

In 2010 West Lancashire Borough Council teamed up with [Groundwork Pennine Lancashire](#) to deliver community based energy projects across the Borough.

Whilst this partnership has now come to an end, some of the projects undertaken are detailed below:

- Delivery of a workshop for the rural business community regarding sustainable farming practices.
- Various energy surveys conducted on Parish Council buildings, village halls and community group buildings.
- Successfully writing bids and securing funding for energy efficiency works and renewable energy installations on community buildings including the Scout group, Hut on the Hill, and Asmall Primary School.



4.7.3 COLLECTIVE ENERGY SWITCHING

Councils across Lancashire, including West Lancashire Borough Council recently launched a collective energy switching scheme called '[People Power](#)'.



To get a good price for your energy, you need to regularly check the market to see if you can save by switching to another supplier. Many people do not or are unable to switch meaning they could be paying too much for their energy. The People Power scheme was introduced to help Lancashire residents find out if they can save money by switching energy providers.

The first round of registration with the scheme was open in March 2013, with an auction to find the best deal being held on 8th April. Despite local press coverage, advertising and registration drop –in sessions, numbers participating in the scheme were far lower than expected.

The results of the scheme are currently being evaluated and a decision will be made as to whether another round of registration is held later in the year. Please visit the [Council webpage](#) for further information.

In the meantime, should you wish to see if you can make savings through changing your supplier, the following gas and electricity comparison websites may be of interest:



- [USwitch](#)
- [Confused.com](#)
- [Compare the Market](#)
- [Money Saving Expert](#) - [Cheap Energy Club](#)

4.7.4 BIOMASS DISTRICT HEATING SCHEME – OAKGATE CLOSE, TARLETON.

West Lancashire Borough Council is nearing completion of its first biomass district heating system. This is a small pilot scheme that serves 21 sheltered housing flats located in Oakgate Close, Tarleton.

The 60KW biomass pellet boiler is located within an energy centre a few meters from the building, together with a fuel storage unit and backup gas boiler. Previously on old, inefficient electric storage heaters, the residents' flats are now fully fitted with wet radiator systems and will be provided with heating and hot water on demand as and when they require it.

Each flat is fitted with a heat meter, so residents' consumption can be monitored remotely and they will only be billed for what they use. Once the system is commissioned and registered with Ofgem, it will also generate an RHI income for 20 years, providing an impressive payback period and contributions to the Councils Community Energy Fund, for recycling into further projects.

At the time of writing, the system isn't fully up and running but details on consumption, energy costs, performance and maintenance and tenant satisfaction will be included in due course.



4.8 FUTURE ACTION

4.8.1 OBJECTIVE 4: SUPPORT AND AID THE DEVELOPMENT AND INSTALLATION OF COMMUNITY ENERGY PROJECTS

ACTION:	MECHANISM:	POTENTIAL PARTNERS:	TIMESCALE:
Target community groups to promote delivery of energy projects.	<ul style="list-style-type: none"> - Provide leadership and encourage community action to install energy efficiency measures. - Provide energy information events to community groups. - Engage community groups to motivate residents and join forces to take action. - Promote the benefits achieved through community economies of scale and improved buying power. 	WLBC Interested community groups Local installers and funders	Medium term
Aid development and provide support to potential energy projects.	<ul style="list-style-type: none"> - Increase local knowledge of required energy efficiency improvements on an area by area basis and develop community projects to suit e.g. a community solid wall insulation programme. - Provide support with feasibility investigations to establish projects and help get them off the ground. 	WLBC Interested community groups Local installers and funders	Ongoing
Improve the energy efficiency of Council owned community centres, working in partnership with local community groups.	<ul style="list-style-type: none"> - Promote and raise awareness of behavioural measures to save energy in the local community. - Lead by example by implementing energy saving measures and ensuring Council owned community centres are as efficient as possible. - Seek funding to develop further projects initiated by local community groups. - Produce a community centre guidance document on reducing energy consumption. 	WLBC Interested community groups	Medium term
Provide leadership to encourage energy efficiency in private community centres and community group buildings.	<ul style="list-style-type: none"> - Promote action on Council owned buildings and encourage action Borough-wide. - Initiate contact with community groups with building ownership e.g. the Scouts group. - Provide support with project development. 	WLBC Interested community groups West Lancashire Council for Voluntary Service (CVS)	Medium term

5. SUSTAINABLE DEVELOPMENT

5.1 BACKGROUND



Ensuring the properties we build over the coming years are designed and constructed sustainably is another key component to a low carbon future.

Whilst the economic down turn has had a negative impact on the construction industry, putting developers under increased financial pressures, this isn't a reason to dismiss sustainability as a primary consideration during the design, construction and use of a development.

5.1.1 THE BUSINESS CASE

A sustainably built development is often considered to cost substantially more than a development built to conventional standards, however this is often an incorrect assumption.

Sustainable design features can be built into a development with minimal additional cost, if considered at the earliest planning and feasibility stages. Some features can even reduce costs, for example allowing natural ventilation rather than mechanical air conditioning.

Ensuring the use of locally sourced materials can also help to keep construction and transport costs to a minimum. Environmentally sound or reclaimed materials also have lower embodied energy than processed products, delivering them to the market at lower costs than energy intensive materials.

Market demand for sustainability is also growing, making sustainable developments more attractive to the buyer due to reduced running costs on energy and water bills. Developers need to be innovative if they are to take advantage of this emerging market opportunity.

A document produced by [Communities and Local Government](#) aims to provide guidance on the costs of building houses to Code standards. This '[Updated Cost Review](#)' was produced in August 2011. It updates previous documents and reports on developers experiences in delivering sustainability measures over the last few years.



5.2 LEGISLATION AND POLICY

5.2.1 BUILDING REGULATIONS



Building Regulations requirements, with regards to energy consumption and CO₂ emissions, were made increasingly stringent in the most recent revision in 2010. The new [Building Regulations Part L document 'Conservation of Fuel and Power'](#) now has a greater impact on refurbishments as well as new build and implements a zero carbon timeline. This requires all new dwellings to be 'zero carbon' by 2016 and all new non-domestic buildings to be 'zero-carbon' by 2019.

It is now also mandatory to achieve a 25% improvement on the 2006 building regulation CO₂ reduction target. This is set to increase gradually over the next few years, setting zero carbon targets for social and private domestic properties and public and private non-domestic buildings, as shown in Table 5.2.1.

CO2 Reduction Target over 2006 Compliant Building				
Year	Residential (Social)	Residential (Private)	Non-Domestic (Public)	Non-Domestic (Private)
2006	25%	0%	0%	0%
2010	44%	25%	25%	25%
2013	Zero Carbon	44%	44%	44%
2016	Zero Carbon	Zero Carbon	100%	100%
2018	Zero Carbon	Zero Carbon	Zero Carbon	100%
2019	Zero Carbon	Zero Carbon	Zero Carbon	Zero Carbon

Table 5.2.1: Future National Buildings Targets

[SAP assessments](#) are used to demonstrate compliance with Part L of the Building Regulations at the design stage. They calculate the energy cost and carbon emissions generated to heat, light, ventilate and provide hot water to the dwelling. Further calculations will be required post construction to take account of any changes that have occurred during the build process. More information on SAP assessments is provided in chapter 2.1.1).

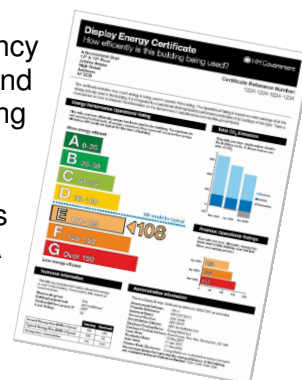


5.2.2 ENERGY PERFORMANCE CERTIFICATES (EPC's) AND DISPLAY ENERGY CERTIFICATES (DEC's)



[Energy Performance Certificates](#) (EPC's) are a legal requirement for any property being bought, sold or rented. They contain an assessment of how energy efficient the property is and provide a rating from A-G. They also contain a recommendations report providing information on how the property can be made more energy efficient and reduce CO₂ emissions.

EPC's will assist in raising awareness of energy efficiency improvements and fuel costs amongst home-owners and tenants. They show the costs of space and hot water heating to aid comparison between similar properties.



[Display Energy Certificates](#) (DEC) are similar documents required to assess the energy rating of public buildings. A DEC should be displayed clearly in buildings occupied by public authorities and institutions that provide services to the public, that have a floor area over 1,000m².

5.2.3 PLANNING POLICY

The need to achieve sustainable development is a key priority of the current [National Planning Policy Framework \(NPPF\)](#). This priority runs through all aspects of the plan making and decision taking process, highlighting how the planning system has a key economic role in helping to deliver sustainable development.

The NPPF encourages Local Planning Authorities to prepare a Local Plan for their area, consistent with the framework, which contributes towards the achievement of sustainable development.

5.2.4 WEST LANCASHIRE LOCAL PLAN 2012-2027



West Lancashire's emerging Local Plan, which is currently under examination by the Planning Inspectorate, sets out policies to sustain the Borough's environment and address climate change through development.

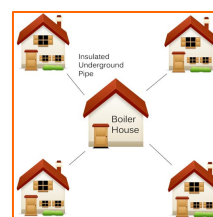
Policy [EN1 - Low Carbon Development and Energy Infrastructure](#): requires developers to consider low carbon design in all new developments and achieve the one of the following:

- Code for Sustainable Homes level 3 as a minimum for new residential developments and conversions. This increases to level 4 and 6 in line with increases to Part L of the Building Regulations.
- BREEAM 'very good' standard as a minimum for new commercial developments of more than 1000m². This increases to 'excellent' and 'zero carbon' standards, in line with the increases to Part I of the Building Regulations.



Policy EN1 also requires all major developments:

- Explore the potential for the installation of, or connection to an existing, district heating network. See Chapter 4: Green Communities for more information on district heating networks.



5.3 NATIONAL STANDARDS

5.3.1 CODE FOR SUSTAINABLE HOMES (CfSH)

[The Code for Sustainable Homes](#) is a national standard relating to the design and construction of sustainable new homes. It provides a comprehensive measure of sustainability, ensuring that new homes deliver real improvements in energy efficiency, environmental performance and carbon reduction.



Assessments are carried out in two phases:

- **A Design Stage Assessment** is carried out at the initial stages of development when the design of the building is first considered. This is based on detailed documentary evidence and commitments which results in an interim certificate of compliance being issued.
- **A Post Construction Assessment** is completed at the final stages of the development. Based on the design stage review, this includes a confirmation of compliance, including site records and visual inspection, and results in a final certificate of compliance.

The Code measures sustainability against 9 categories, rating the dwelling as a complete package and essentially benchmarking sustainability credentials. The categories include:



- Energy and CO₂ emissions
- Water
- Materials
- Surface water run-off
- Waste
- Pollution
- Health and well-being
- Management
- Ecology

Current Building Regulations are equivalent to, and therefore ensure achievement of, Code level 3 in the energy and CO₂ category. This is set to increase to Code level 4 in 2013 as Buildings Regs become more stringent and introduce a 44% improvement on the dwelling emission rate.

5.3.2 BREEAM NON-DOMESTIC DEVELOPMENTS

BREEAM is the national standard for assessment of all non-domestic new builds. The [BREEAM New-Construction package](#) contains a number of different assessments for various non-domestic building types, such as industrial, education, healthcare and offices, as well as less common building types which can be assessed by developing bespoke criteria. There are also assessments for BREEAM Communities, Ecohomes and refurbishments.

Similar to the Code for Sustainable Homes, the assessments contain categories covering energy, water, waste and pollution, to name a few, and credits are allocated to the standard of sustainability met for each category.



5.3.3 CODE FOR SUSTAINABLE HOMES ASSESSMENTS AND ENERGY (SAP) ASSESSMENTS AND PERFORMANCE CERTIFICATES

The Council can undertake both [Energy \(SAP\) Assessments](#) and [Code for Sustainable Homes assessments](#) in-house.

We also offer a Code for Sustainable Homes pre-assessment estimator to give an indication of the development's achievements during the early stages.

Please see the leaflet over the page for more information on the service we can provide and the benefits of undertaking a Code for Sustainable Homes assessment.



Code for Sustainable Homes



What is the Code for Sustainable Homes?

The Code is a national standard for the sustainable design and construction of new homes. It provides a comprehensive measure of sustainability, helping new homes deliver real improvements in energy efficiency, environmental performance and carbon reduction.

Can West Lancashire Borough Council provide a Code assessment?

Yes! The Council can now offer assessments undertaken by a qualified, licensed and registered Code assessor.

Assessments are carried out in two phases:

A Design Stage Assessment is carried out at the initial stages of development when the design of the building is first considered. This is based on detailed documentary evidence and commitments which results in an interim certificate of compliance being issued.

A Post Construction Assessment is completed at the final stages of the development. Based on the design stage review, this includes a confirmation of compliance, including site records and visual inspection, and results in a final certificate of compliance.

As part of our competitive service, West Lancashire Borough Council also offers:

A Pre-Assessment Estimator which can be utilised to provide an indicative Code level achievement. This will be based solely on information provided by the developer and does not include registration with approved body or issue of a certificate.

The Council's Building Control services also offer SAP assessments and advice related to Building Regulations. Visit http://www.westlancs.gov.uk/planning/building_regulations

How much does an assessment cost?

Costs are dependant on the size of the development and the number of assessments required. Please contact us initially with project details and we will be able to provide a quotation to suit your requirements. A fee schedule and application form can be found at www.westlancs.gov.uk/planning

West Lancashire Borough Council

52 Derby Street
Ormskirk
Lancashire
L39 2DF



Contact: Tina Iball
Phone: 01695 585197

E-mail: christina.iball@westlancs.gov.uk

If you would like to know more about the Code for Sustainable Homes or need an assessor, please get in touch for more information to see how we can help.

www.westlancs.gov.uk/

What does an assessment include?

The Code measures sustainability against 9 categories, rating the dwelling as a complete package and essentially benchmarking sustainability credentials. The categories include:

- * Energy and CO2 emissions
- * Water
- * Materials
- * Surface water run-off
- * Waste
- * Pollution
- * Health and well-being
- * Management
- * Ecology



Throughout the assessment process the Code assessor will work closely with you to identify your requirements, explain the level of information required and offer impartial design advice to achieve the required rating. All assessments will be based on

To view our guide to sustainable development and construction visit www.westlancs.gov.uk/qogreen

Why undertake a Code assessment?

There are many benefits to having a Code rating for a new development:

- * a recognised mark of quality
- * demonstrate sustainability performance of builds
- * help with the marketing of the development
- * raised sustainability credentials
- * public relations opportunities
- * differentiate yourselves from competitors
- * meet growing consumer demand
- * be ready for increasingly stringent requirements
- * lower running costs for homebuyer
- * reduced greenhouse gas emissions and carbon footprint
- * better adaptation to climate change

5.4 PLANNING PERMISSION

When submitting a planning application for a major development (over 10 dwellings or industrial/ commercial developments over 1,000m²), it is a local requirement that all applicants submit a Sustainability Statement as part of the application.



Please follow this link for more information on the [national and local requirements](#) when submitting an application to West Lancashire Borough Council.

The Sustainability Statement should include details of how the applicants intend to meet the requirements of [Policy EN1](#) of the new Local Plan and outline all sustainable design features to be incorporated into the development.

Whilst it's appreciated that many of these design features are not considered at outline planning stage, the majority can be achieved more easily and cheaply if considered as early in the planning process as possible. Intentions to include other design features further down the line should also be included at this stage.

Chapter 5.5: 'A guide to Sustainable Development' aims to provide a list of sustainability features for consideration and incorporation into any new development, or refurbishment where applicable.

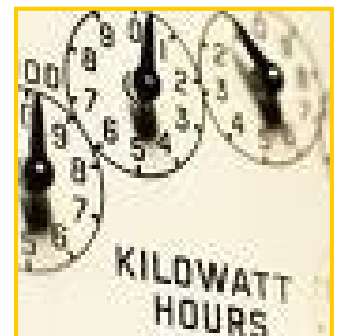
5.5 A GUIDE TO SUSTAINABLE DEVELOPMENT

To enable sustainable living and working, buildings must be efficient, and therefore cheap to heat and power. The following checklist aims to act as a guide to developers, architects, builders and homeowners when designing any new build, or where applicable, refurbishment works.

The measures detailed below are recognised in the [Code for Sustainable Homes](#) and [BREEAM assessments](#), where applicable, and will contribute to a developments credit score and overall assessment rating.

5.5.1 DEMAND ENERGY MINIMISATION

- Achieve low U-values to ensure good fabric energy efficiency.
- Use materials with good thermal mass that have high specific heat capacity, high density and low thermal conductivity, enabling them to slowly store and release heat.
- Ensure a high level of insulation.
- Maximise solar gain and natural light with large south facing windows in main living spaces/ habitable rooms.
- Install energy metering with display devices.
- Ensure drying space is available, avoiding the need for heating and drying appliances.
- Provide energy labelled equipment and white goods, including cold storage refrigeration systems.
- Ensure all external lighting is energy efficient.
- Investigate local energy generation from low or zero carbon energy sources, including district heating systems (see Chapters 3 and 4 for more information).
- Provide necessary space and internet connection to allow home working, reducing the need to travel.
- Use deciduous tree landscaping to provide shade during summer months.
- Allow natural ventilation to avoid the use of mechanical air conditioning.
- Install energy efficient transport systems such as escalators and moving walkways.



5.5.2 WATER CONSERVATION



- Reduce the use of potable water consumption through specifying water efficient fittings and appliances, and water recycling systems.
- Consider rainwater harvesting for external water uses.
- Ensure water consumption monitoring devices are installed.
- Install a leak detection system.

5.5.3 MATERIALS

- Use materials with lower environmental impacts (including embodied carbon) over their lifetime, including those used for landscaping and boundary protection.
- Always use responsibly sourced materials, from basic building elements to finishing elements.
- Use thermal insulation with a low embodied environmental impact relative to its thermal properties. There are many types of natural, sustainable, insulation for example hemp natural fibres, recycled cotton, sheep's wool or cellulose insulation, which comes from recycled newspapers.



5.5.4 SURFACE WATER RUN-OFF



- Manage surface water run-off to avoid, reduce or delay discharge of rainfall run-off to watercourses.
- Keep areas of hard standing to a minimum.
- Consider Sustainable Drainage System (SuDS) techniques.
- Ensure effective water management through the use of permeable surfaces, filter drains, rainwater and greywater harvesting, filter strips (vegetated channels) and swales and green roofs.
- Avoid development in medium or high risk flood areas identified in [The West Lancashire Strategic Flood Risk Assessment](#).

5.5.5 WASTE

- Provide adequate internal and external storage for waste and recyclables, including facilities for operational-related waste streams.
- Promote resource efficiency by effective management and reduction of construction waste.
- Provide compost facilities to reduce household waste.
- Encourage the use of recycled or secondary aggregates, reducing demand for virgin material.
- Where possible, fit floor and ceiling finishes selected by the building occupant to avoid unnecessary waste of materials.



5.5.6 POLLUTION



- Utilise thermal and acoustic insulating materials, and refrigerants, that have a low Global Warming Potential (GWP) throughout their manufacture, installation, use and disposal.
- Install A-rated heating and cooling systems that minimise nitrogen oxide (NO_x) emissions.
- Ensure external lighting is concentrated in required areas and upward lighting is minimised to reduce light pollution.

5.5.7 HEALTH AND WELL-BEING

- Ensure a good level of natural daylighting.
- Ensure adequate sound insulation to ensure noise attenuation from neighbouring developments.
- Provision of private outdoor space.
- Encourage a healthy indoor environment through appropriate ventilation.
- Install effective design measures that promote low risk, safe and secure access and use of the building.



5.5.8 MANAGEMENT



- Provision of a building user guide enabling occupants to operate the building efficiently.
- Ensure sustainable procurement is built into all aspects of the development.
- Compliance with a recognised construction certification scheme such as the 'Considerate Construction Scheme'.
- Design, plan and deliver accessible, functional buildings in consultation with future building occupants, where possible.

5.5.9 ECOLOGY

- Look to develop sites that have a low ecological value to wildlife i.e. brownfield sites and avoid the use of sites that have not been previously disturbed.
- Protect any existing ecological features from damage during the construction phase.
- Carry out works to enhance the ecological value of the site post development and minimise the long term impact of the development, working on the recommendations of a qualified ecologist.
- Ensure efficient use of the buildings footprint by ensuring that land and material use is optimised across the development.



5.5.10 TRANSPORT



- Locate development in proximity to good public transport networks and local amenities, helping to reduce transport related pollution.
- Ensure adequate provision of cycle facilities.
- Consider car parking capacity as an incentive to promote the use of alternative means of transport to the development, other than the private car.
- Ensure development of a Travel Plan during the early design stage, to consider accommodating a range of travel options.

Ensuring your design and construction team are familiar with the practices outlined above and have the skills and expertise to achieve a sustainable approach is critical for future development. It is also equally important to ensure the developments are promoted and marketed effectively to ensure buyers understand and value the benefits that sustainable design will provide.

The links below provide a list of helpful websites that provide further information:



Town and Country Planning Association
[‘Good Practice Guidance: Sustainable Design and Construction’](#)



Business Link
[‘Sustainability in the Construction Industry’](#)



Environment Agency
[‘Sustainable Construction’](#)

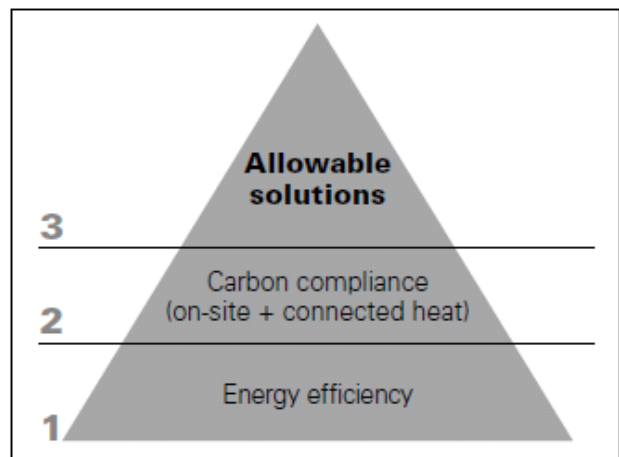
5.6 ALLOWABLE SOLUTIONS FUND

Energy efficiency measures and low carbon technologies can only go so far towards achieving a zero carbon development. 'Allowable solutions' is the Government's [proposed framework](#) to allow carbon offsetting to deal with the residual emissions. It also proposes the predictable level of costs that the construction industry can be expected to bear through this mechanism.

The [Zero Carbon Hub](#) is in the process of developing a finalised framework presented in '[Allowable Solutions for Tomorrow's New Homes](#)'. This document aims to balance national policy objectives with a local approach, enabling payment for carbon savings through a clear structure.

The proposed [EN1 policy](#) of the new Local Plan includes an onus on the Council to consider the requirements of this framework, once finalised, and how we can use this mechanism to fund and support other carbon savings projects in West Lancashire. Potential areas for funding could include district heating feasibility or installation contributions and other low carbon projects across the Borough.

Whilst this is yet to be investigated, developers are encouraged to consider the potential impact this requirement could have on future developments, if they do not start to consider and implement sustainability measures now.



5.7 CASE STUDIES

5.7.1 ELMSTEAD DEVELOPMENT IN SKELMERSDALE ACHIEVES CODE FOR SUSTAINABLE HOMES LEVEL 4

West Lancashire Borough Council, in partnership with the Homes and Communities Agency (HCA), Fawley Construction Ltd and John McCall Architects has recently completed a development comprising 17 new Council homes in Elmstead, Skelmersdale.



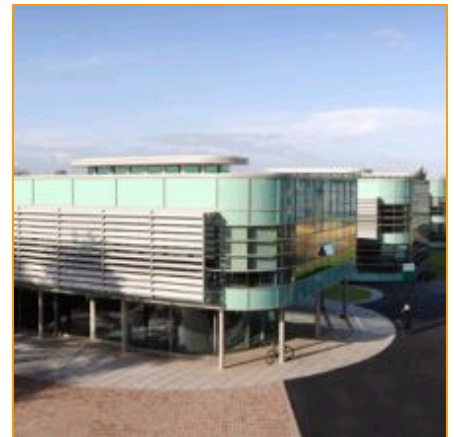
The dwellings have been well designed and constructed to achieve Level 4 Code for Sustainable Homes.

Measures implemented to achieve this include a high level of insulation to reduce the need for heating and cooling, the installation of internal and external energy and water saving devices, good day lighting levels and sound insulation, to name a few. The A-rated energy efficient boilers and domestic solar PV systems will also ensure lower energy bills for Council tenants.

5.7.2 EDGE HILL UNIVERSITY

[Edge Hill University](#) has displayed an admirable contribution to sustainable development over recent years and won many awards for their work along the way.

The Faculty of Health is a state of the art, eco-friendly building that has many energy efficiency and low carbon features. These include a natural underground water source from the nearby lake which is channeled through pumps and heated using solar power, to provide over 50% of the building's hot water demand. The building also has a unique 'live energy wall' which changes colour as the buildings energy consumption increases, reminding occupants to switch off.



The Durning Centre is entirely heated by recovering waste heat from IT servers and the University Data Centre, which is powered by a considerable array of photovoltaic cells. It also exports heat to two other university buildings.

5.7.3 WEST LANCASHIRE INVESTMENT CENTRE SUSTAINABLE DRAINAGE SYSTEM

The West Lancashire Investment Centre was designed and constructed to allow for the sustainable drainage of all surface water run-off leaving the site. The car parking area has permeable paving allowing water to soak away and excess surface water outfalls into open swales around the perimeter of the site.

The most important consideration when incorporating a SUD system into a new development is to ensure that a long term maintenance plan is in place for any silt traps or pipework and that it will be implemented.



5.8 FUTURE ACTION

5.8.1 OBJECTIVE 5: TO ENCOURAGE SUSTAINABLE DEVELOPMENT AND LOW CARBON BUILDINGS

ACTION:	MECHANISM:	POTENTIAL PARTNERS:	TIMESCALE:
Implement planning policies/guidance to promote sustainable development.	<ul style="list-style-type: none"> - Develop local plan policies, in line with relevant planning guidance, to promote sustainable development through the Planning process. - Encourage and provide support to developers to incorporate sustainability measures into the design and construction of new developments. - Revise the 'Energy Statement' requirements within the Council Validation Checklist document. 	WLBC	Short term
Explore the possibility of utilising a Community Energy Fund, or allowable solutions, to aid delivery of off site carbon reduction projects in West Lancashire.	<ul style="list-style-type: none"> - Enable financial contributions from those unable to meet sustainability requirements to aid the implementation of energy efficiency/ carbon saving projects and district heating installations in areas, where it may be feasible. 	WLBC	Short term
Investigate the opportunities for district heating and incorporation into future developments.	<ul style="list-style-type: none"> - Investigate financial options to aid delivery e.g. community or ESCo models. - Utilise the heat mapping resources available to explore possibility of decentralised heating in areas of suitable new development. - Monitor installed capacity of renewable energy across the Borough. 	WLBC	Ongoing
Investigate the opportunities to develop a West Lancashire network of local, sustainable suppliers and contractors.	<ul style="list-style-type: none"> - Investigate the feasibility of producing a local network facility to aid easy procurement of local, sustainable materials and services. - Work with local suppliers and installers to produce, promote and encourage use of the network and other areas it could be utilised. - Investigate existing resources such as the Northwest Construction Knowledge Hub, the Lancashire Best Practice Club and West Lancashire Construction Academy. - Support the smaller self-builders who may require additional support and advice to economically install sustainable measures. Initiate case study sharing with the larger developers. 	WLBC Interested partners	Medium term

6. BUSINESS AND INDUSTRY

6.1 BACKGROUND

It makes good business sense to ensure your organisation is working as efficiently as possible. This includes the building your business is based in and the operations your business undertakes. Improving your businesses green credentials will not only increase your profit margin but can provide various other benefits and advantages to your employees and clients, giving you the competitive edge.



The Government intends to make all new private non-domestic developments built after 2019 meet a net zero carbon standard, which should help to prevent further growth in commercial CO₂ emissions from buildings. However, as with the housing sector, the majority of our commercial buildings, and anything built before 2016, is likely to still exist in 2050. Existing buildings will therefore make up around 80% of our future commercial stock.

The focus now needs to be on retrofitting to significantly improve our existing building stock and become operationally efficient, if we are to achieve the UK targets and reduce carbon emission by 80% by 2050.

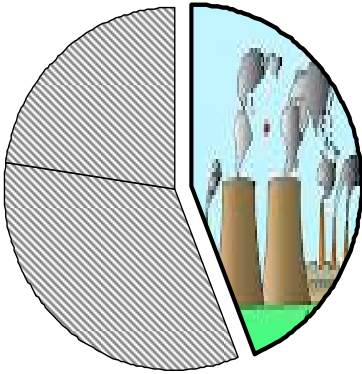
6.1.1 THE BUSINESS CASE

Reducing the consumption of expensive finite resources will provide many benefits for a business:

- Reduce long term operating costs.
- Reduce its carbon footprint.
- Reduce exposure to legislative costs associated with current and future carbon legislation (as detailed in Chapter 6.4.3).
- Reduce risk from increasing energy prices and future energy market volatility.
- Make it easier to achieve carbon neutrality/ the Carbon Trust Standard.
- Help to communicate your businesses environmental credentials, which are becoming increasingly important to clients and customers.



6.2 WEST LANCASHIRE'S BUSINESS AND INDUSTRY



The latest statistics indicate that 41% of CO₂ emissions in West Lancashire originate from the industrial and commercial sector. A total of 312 kilotonnes of CO₂ was associated with this sector in 2010 (DECC, 2011).

West Lancashire has a diverse, and relatively stable, local economy. This is strengthened by some large, internationally renowned companies who have established a base in the area. West Lancashire has seen significant employment growth over recent years, primarily in the manufacturing and distribution sector, with Skelmersdale serving as a regionally important distribution hub.

Over 41,000 people are employed in the West Lancashire borough, with the majority being focused in the Skelmersdale area. The five main sectors of the Borough's economy are concentrated within distribution and retail, manufacturing, health, business services and education. The rural nature of the Borough, with over 90% being green belt land, also gives rise to a large agricultural economy that accounts for 40% of employment.

The nature of a business and its primary use of energy will dictate which area should be the main focus of any efforts to reduce consumption and make the biggest carbon and cost savings.

6.3 A BUSINESS GUIDE TO REDUCING ENERGY AND CARBON EMISSIONS

6.3.1 ENERGY USE AND CARBON FOOTPRINT MONITORING

The first step towards making your business more energy efficient and reducing your carbon footprint is to establish your current energy consumption and calculate the associated carbon emissions. This will provide you with a baseline for comparison, to quantify reductions as you make improvements.

The Department of Energy and Climate Change (DECC) has published [‘Guidance on how to measure and report your greenhouse gas emissions’](#). The guidance includes an easy to use spreadsheet which calculates associated emissions from energy consumption data entered and guidance on how to set targets to reduce them. The guidance is applicable to organisations of all sizes, as well as public and third sector organisations.



West Lancashire Borough Council use this method of calculation and reporting for our carbon footprint, the results of which can be viewed on the Councils webpage [‘What the Council is doing to tackle climate change’](#).

6.3.2 ENERGY AND RESOURCE EFFICIENCY

The measures needed to improve the energy efficiency of your workplace will vary significantly depending on the type of building, the required workplace environment and the nature of the work your business undertakes. However, in all cases the energy hierarchy (see Chapter 2.3.2) should be employed.



Buildings need to be well insulated, just as houses do, to prevent heat loss and make them easy and cheap to keep warm. However in the majority of cases air conditioning and cooling plant is also required to ensure a comfortable temperature can be maintained during the summer months. I.T solutions and other office equipment will also generate heat which may result in additional cooling being required. The use of A-rated, energy efficient appliances and lighting are also equally important considerations, to name a few.

Depending on the nature of your business, your processes and operations may be able to run more efficiently, your waste may be more valuable than you think and your staff may benefit from some green improvements.

There is a vast amount of information and help already available informing of various energy efficiency measures that businesses can undertake to save energy, save money and increase profits.

The links below provides a list of helpful websites.



The Carbon Trust

[‘Green Your Business for Growth’](#).

[‘Technology and Energy Management Publications’](#)



Groundwork Pennine Lancashire

[‘Resource Efficiency Support’ \(for SME’s\)](#)

[‘Lancashire Business Environment Association’](#)

Should you be planning to build new commercial premises or undertake major refurbishment to your current building, the Sustainable Development checklist in Chapter 5 of this document also provides further areas for consideration.

6.3.3 ENERGY EFFICIENCY IN FARMING/ AGRICULTURAL SECTOR

Similar to all businesses, increasing efficiency in the agricultural sector will increase profits, helping the farming industries to stay afloat in the current economic climate and improve rural economic development. In turn this enables the development of sustainable communities and improved food security.

Whilst the measures to be undertaken are very farm specific, areas such as heating, lighting, ventilation and water conservation are often key.

The links below provide details of helpful websites specific to the farming/ rural industry:



Farming Futures

[‘Energy Efficiency’](#)



National Farmers Union

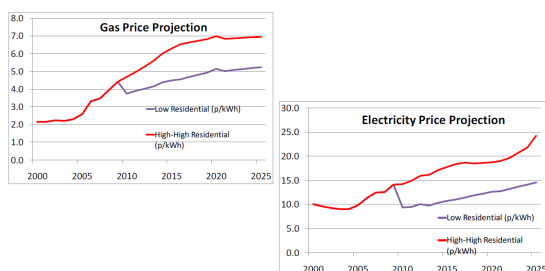
[‘NFU farm Energy Service’](#)

6.4 SUPPORT PROGRAMMES AND FINANCIAL INCENTIVES

6.4.1 ENERGY SAVINGS

Reducing the amount of energy your business consumes will obviously result in reductions on your energy bills. Displacing the necessary energy you use from the national grid with that generated from a renewable source will also provide further reductions on your fuel bills.

Fuel price projections



The recent increases in electricity and gas prices are also predicted to continue for the foreseeable future, as illustrated opposite (CLASP, 2012). Reducing your energy use will offer protection from these price increases and provide security in our energy supplies as we rely less on fuels imported from abroad.

When deciding whether to invest in energy saving measures, the savings on your energy bills should always be factored in and will often provide a very attractive payback period.

6.4.2 FUNDING STREAMS

Depending on the nature of your business, there are opportunities to secure funds to help you become more sustainable.

- The [Feed-in Tariff and Renewable Heat Incentive](#) are available to all businesses and will provide an income from renewable energy generation for up to 25 years. Further details on these Government initiatives are provided in Chapter 3: Renewable Energy.
- The [Energy Efficiency Financing Scheme](#) provides funding to businesses to invest in cost effective energy efficiency equipment and low carbon technologies. Provided by the [Carbon Trust](#), working in partnership with Siemens Financial Services, it provides flexible financing options to any business wanting to reduce their energy costs and become more efficient. Financing payments are calculated so that they can be offset through the anticipated energy savings, therefore designed for energy efficiency improvements to pay for themselves.
- The [Energy Entrepreneurs Fund](#) is a £35m Government fund provided by DECC to help SME's come up with the low carbon ideas for the future. The fund is designed to help innovators and entrepreneurs develop and demonstrate low carbon technologies.
- [Enhanced Capital Allowances](#) allows businesses to claim 100% first year tax relief on energy saving plant, technologies and machinery. The scheme allows businesses to write off the whole cost of the equipment against taxable profits in the year of purchase.



6.4.3 GOVERNMENT CARBON LEVIES

Along with all the support and financial incentives, the Government are also increasing the pressure on businesses to take action to reduce carbon sooner rather than later.

- [The Carbon Reduction Commitment \(CRC\) Energy Efficiency Scheme](#) has been implemented to improve energy efficiency and cut carbon emissions from the business sector. Currently focussed on large public and private sector organisations, performance in reducing energy consumption must be reported and organisations are entered into a [performance league table](#), with reputational and financial penalties for under performance.
- [EU Emissions Trading System \(ETS\)](#) is relevant for electricity generation and energy intensive industries such as power stations, refineries and large manufacturing operations. Participating industries must try to operate within their given emissions allocation or buy allowances from the carbon market.



- The [Climate Change Levy](#) is a tax applied to commodities such as gas, electricity and other finite resources, for businesses in the industrial, commercial, agricultural and public administration sectors. The tax is charged at a specific rate per unit of energy, which varies for each industry sector. However, a 65% discount from CCL can be obtained if the organisation meets challenging [Climate Change Agreement](#) targets in energy reduction.

Note: Emissions covered by the CCA or EU ETS are excluded from the CRC.

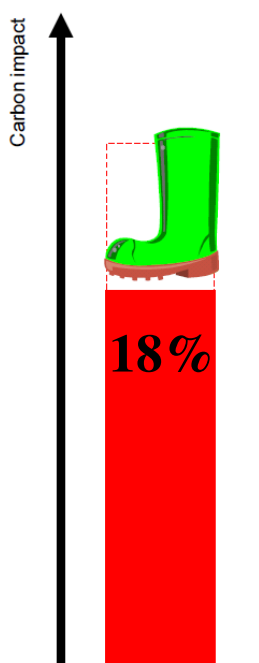
6.5 CASE STUDIES

6.5.1 BOOTHS SUPERMARKET

Booths supermarkets are known for their excellent sustainability credentials. Back in 2010 the supermarket chain opened a new store in Tarleton, designed and constructed to ensure operation is as efficient as possible throughout the stores life. Measures include efficient design to maximise the use of natural light, a heat recovery system and use of recycled rainwater, to name a few. The supermarket also specialises in local produce and suppliers from the Lancashire area to reduce associated food miles.



6.5.2 WEST LANCASHIRE BOROUGH COUNCIL



The Council is committed to achieving our carbon reduction target of a 25% reduction in emissions by 2020, from our 2006/07 baseline, as set out in the [Council's Climate Change Strategy](#). Our carbon footprint is calculated in accordance with DECC guidance, as detailed in Section 6.3.1 and reported annually.

Since 2006/07 the Council has reduced our electricity consumption by 19%. Gas consumption has been reduced 20% on the baseline. Overall we have reduced our emissions 18% on the baseline.

Recent refurbishments to the main Derby Street office in Ormskirk incorporated energy efficiency measures including an insulation top up, energy efficient lighting, new A-rated windows and a new energy efficient air cooling system. As a result, we have seen 14% reduction in electricity consumption and 23% savings in gas consumption on the previous year.

6.6 FUTURE ACTION

6.6.1 OBJECTIVE 6: ENCOURAGE SUSTAINABLE BUSINESS AND INDUSTRY ACROSS WEST LANCASHIRE

ACTION:	MECHANISM:	POTENTIAL PARTNERS:	TIMESCALE:
Encourage businesses to improve their sustainability.	<ul style="list-style-type: none"> - Provide information and signposting to advice for businesses. - Investigate alternative ways to best support businesses to become resource efficient. - Investigate links to existing business support programmes. - Actively promote funding streams when they become available. 	WLBC	Ongoing
Establish the best mechanisms to help the rural business sector.	<ul style="list-style-type: none"> - Establish the services and actions we can take to proactively help the farming industry become more energy and water efficient. - Consider actions to minimise the impact of climate change on food security. 	WLBC Potential interested partners	Medium Term
Investigate opportunities to encourage and aid local installers to up-skill and enable local delivery of the Green Deal.	<ul style="list-style-type: none"> - Contact local installers and seek interest in delivering Green Deal and assessment training. - Investigate the delivery of local training opportunities for local contractors to gain qualified Green Deal Assessor accreditation. 	WLBC Potential interested partners	Medium term
Investigate energy efficiency improvements to Council owned offices, industrial premises and estates.	<ul style="list-style-type: none"> - Conduct energy surveys on Council owned estates and implement identified measures required e.g. regeneration of the dilapidated industrial units on Gorsey Place, Skelmersdale. - Identify funding opportunities to aid the financing of such projects. - Investigate opportunities to promote the sustainability agenda through the Council's asset management programme, especially any land sold for development. 	WLBC Potential funders	Medium term

Explore opportunities to link with existing programmes and services.	- Initiate partnerships with organisations already delivering services in West Lancashire which may be able to incorporate sustainability e.g. Greenshoots.	WLBC Potential interested partners	Ongoing
Encourage Council contractors to take action to reduce emissions associated with their operations.	- Encourage businesses working on behalf of the Council to improve sustainability and reduce the carbon footprints of their organisations. Promote their achievements through this Strategy. - Utilise the tender/procurement process for contractors to display their sustainability policies and demonstrate Council commitment to the agenda.	WLBC Council contractors	Short Term
Investigate opportunities to attract a low carbon business sector to West Lancashire.	- Promote West Lancashire's opportunities to exploit renewable technologies - Promote Skelmersdale economical employment land opportunities, along with excellent transport links for travel and distribution.	WLBC Potential interested partners	Long term

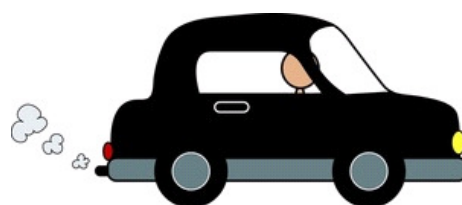
7.0. TRANSPORT

7.1 BACKGROUND

Emissions from transport, particularly vehicles, accounts for a significant proportion of greenhouse gas emissions. [The UK Low Carbon Transition Plan](#) (2009) sets a target to reduce transport related emissions by 14% on 2008 levels, by 2020.

Nationally, Government have started to take action to work towards this target by implementing the following:

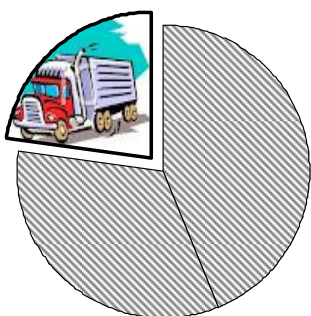
- Cutting average emissions targets from new cars.
- Putting pressure on the EU to lower emissions from vans.
- Investing in low carbon buses.
- Supporting development of electric vehicles.
- Financing the development of ultra low carbon vehicles and fuels for the future.
- Improving cycle storage at railway stations.



However, carbon emissions associated with road transport are still projected to increase by between 11-13% by 2020. This is in spite of improvements in conventional engine technology, which means new cars will produce 40% less emissions in 2020.

Although these national initiatives will have an impact in West Lancashire there also remains plenty to be done to reduce transport emissions at a local level.

7.2 TRANSPORT EMISSIONS IN WEST LANCASHIRE



According to latest statistics, transport emissions account for 24% of total carbon emissions in West Lancashire, which in 2010 related to 179 kilotonnes of CO₂ (DECC, 2011).

If West Lancashire is to achieve the 14% reduction that has been applied nationally, this would require a reduction of 25 kilotonnes by 2020.

Whilst transport is the lowest contributor to the Boroughs carbon footprint, it is still accountable for a high percentage of emissions. This could be attributed to a number of factors including the rural nature of the area, high levels of car ownership and commuting, Skelmersdale's ideal location on the distribution network and a limited public transport provision.

7.2.1 WEST LANCASHIRE AIR QUALITY MANAGEMENT AREA

In addition to carbon dioxide (CO₂), vehicle exhaust emissions also contain other gases harmful to the environment such as nitrogen oxide (NO_x), carbon monoxide (CO) and particulate matter (PM₁₀). Local authorities are required to monitor and assess the levels of these gases across their areas and report on the [air quality](#) levels, as a requirement of the Environment Act, 1995.



In 2009, the air quality around the Moor Street area of Ormskirk was found to be exceeding annual air quality objectives and in 2010 was designated as an [Air Quality Management Area](#).

In order to reduce emissions, an [Air Quality Action Plan](#) was developed to reduce traffic congestion and address other contributing factors. Whilst these actions will help reduce CO₂ emissions, this strategy does not wish to re-iterate actions within this plan, many of which are related to transport.

7.3 A GUIDE TO REDUCING TRANSPORT EMISSIONS

7.3.1 DOMESTIC TRAVEL

If we are to make any impact on transport emissions we will all need to take responsibility for getting out of our cars and using more sustainable means. Increasing travel on public transport (buses and trains) not only reduces carbon emissions; it will also save you money on fuel costs and reduce congestion on the roads, helping to improve local air quality.

The links below provide details of helpful websites that provide information and help planning a low carbon journey:



Traveline

[Plan a journey on public transport here](#)

Lancashire County Council
[For local bus information](#)



7.3.2 COMMERCIAL TRAVEL

Whether you're in the transport and distribution business or just have staff commuting to your offices, you can still play an important part in reducing the Boroughs transport emissions.

Developing a [Travel Plan](#) for your organisation will enable delivery of a package of suitable measures to encourage staff to use an alternative to single-occupancy car use. This plan can include measures such as car sharing schemes, provision of cycling facilities, promotion of bus services to the office and restricted car parking, to name a few. Policies to encourage use of a local workforce and allow home working will also help to reduce the need to travel and reduce vehicle use in the area.

Should you own a vehicle fleet, measures such as regular servicing and maintenance will ensure your vehicles are running efficiently. Effective journey planning will also ensure your vehicles are not travelling further than they need to, increasing fuel expenses and emissions. The following links may be of interest to employers to help improve fleet management and promote sustainable travel to employees:



Energy Saving Trust

['Fleet Management advice and best practise guidance'](#)

Liftshare/ Shared Wheels

['Promote car sharing in Lancashire'](#)



Edie

['Tips for Greener Fleet Management'](#)

7.3.3 CYCLING / WALKING

Cycling and walking offers many benefits. It's an excellent way to get fit and lose weight; it will save you money on fuel bills and avoid traffic jams. Using less fuel will also reduce CO₂ emissions contributing to climate change, and improve local air quality.

West Lancashire offers a great network of cycle/ pedestrian paths to make journeys safer and more enjoyable. More information on what West Lancashire can offer for cyclists is available from the links below.

Travelwise Lancashire

[For information on cycling, walking and car sharing](#)



Cycle Streets

['Cycling intelligence and journey planning for your local area'](#)

Lancashire County Council

['Information on all things cycling, including cycle routes, events, local cycle clubs and training.'](#)



Many organisations offer a 'Cycle to Work Scheme'. This provides employees with the opportunity to purchase a bike tax-free through the scheme, which is then paid for through monthly deductions from your salary for one year.

This is a great way to show your organisations support to reduce car travel and promote healthy lifestyles by encouraging staff to cycle to work.

Cycle to Work Scheme

['Tax free bicycles for employees'](#)



7.3.4 ELECTRIC VEHICLES AND CHARGING NETWORKS

The electric vehicle industry has grown significantly over recent years. Vehicle improvements and the increasing cost of fossil fuels have created an interest in electrically powered transport, which in turn has seen improvements in the electric vehicle charging network.

Electric vehicle chargepoints are rapidly becoming a more common sight across the UK. Users of electric vehicles require charging facilities to be easily accessible and conveniently located to instil confidence and ease in electrically powered travel.

The location of electric vehicle chargepoints can be easily investigated on the [Electric Vehicle Network](#) website.

7.4 FUTURE ACTION

7.4.1 OBJECTIVE 7: ENCOURAGE SUSTAINABLE TRAVEL AND REDUCE TRANSPORT RELATED EMISSIONS ACROSS THE BOROUGH

ACTION:	MECHANISM:	POTENTIAL PARTNERS:	TIMESCALE:
Promote sustainable travel choices such as public transport, cycling and walking.	<ul style="list-style-type: none"> - Promote and signpost to journey planning facilities to encourage modal shift from the car. - Work in partnership with organisations already delivering promotional campaigns e.g. Lancashire County Council. 	WLBC LCC	Ongoing
Investigate opportunities to work with local businesses to encourage local procurement policies.	<ul style="list-style-type: none"> - Promote local supply chains available in West Lancashire, where possible. 	WLBC Interested parties	Medium term
Identify opportunities to aid the movement of goods as efficiently as possible.	<ul style="list-style-type: none"> - Investigate any opportunities to minimise the transportation of goods to rural businesses in the Borough. - Promote journey planning, low carbon fleet management, driver behaviour programmes etc. 	WLBC Interested parties	Medium term
Support the development of low carbon infrastructure to support sustainable travel choices.	<ul style="list-style-type: none"> - Provide support, where possible, into investigations for the Skelmersdale rail link. - Investigate demand and feasibility for an electric vehicle charging network. 	WLBC Interested parties	Long term

8.0. APPENDICIES

8.1 REFERENCES

[Ashton Hayes Go Carbon Neutral](#)

[Burnley and Pendle Borough Council](#)

[BRE](#)

[Business Link](#)

[Carbon Trust](#)

[Centre for Sustainable Energy](#)

[CLASP \(Climate change support programme for Local Authorities\)](#)

[Climate Change Northwest](#)

[Climate Local \(LGA\)](#)

[Committee on Climate Change](#)

[Communities and Local Government](#)

[Department for Transport](#)

[Department of Business, Innovation and Skills \(CIC Regulator\)](#)

[Department of Energy and Climate Change \(DECC\)](#)

[Direct Gov](#)

[Eastleigh Borough Council](#)

[Edge Hill University](#)

[Energy Saving Trust](#)

[English Heritage](#)

[Envirolink Northwest](#)

[Farming Futures](#)

[Gov.uk](#)

[Groundwork Pennine Lancashire](#)

[Homes and Communities Agency](#)

[HM Revenue and Customs](#)

[Institute for Sustainability](#)

[Lancashire County Council](#)

[Local Government Association](#)

[Microgeneration Certification Scheme](#)

[National Energy Foundation](#)

[National Farmers Union](#)

[National Grid](#)

[NetRegs](#)

[Northwest Climate Change Partnership](#)

[Office for Renewable Energy Deployment \(ORED\)](#)

[Planning Portal](#)

[Stockport Borough Council](#)

[Sustainable Development Commission](#)

[TADEA](#)

[Town and Country Planning Association](#)

[Traveline](#)

[Travelwise](#)

[Wigan Borough Council](#)

[Zero Carbon Hub](#)

Climate Local

West Lancashire Borough Council

Our commitment to taking action in a changing climate

We recognise that our council has an important role to help our residents and businesses to capture the opportunities and benefits of action on climate change. These include saving money on energy bills, generating income from renewable energy, attracting new jobs and investment in 'green' industries, supporting new sources of energy, managing local flood-risk and water scarcity and protecting our natural environment.

We will progressively address the risks and pursue the opportunities presented by a changing climate, inline with local priorities, through our role as:

- Community leader – helping local people and businesses to be smarter about their energy use and to prepare for climate impacts;
- Service provider – delivering services that are resource efficient, less carbon intensive, resilient and that protect those who are most vulnerable to climate impacts;
- Estate manager – ensuring that our own buildings and operations are resource efficient, use clean energy, and are well prepared for the impacts of a changing climate.

In signing this commitment, **we will:**

- **Set locally-owned and determined commitments** and actions to reduce carbon emissions and to manage climate impacts. These will be specific, measurable and challenging;
- **Publish our commitments, actions and progress**, enabling local communities to hold us to account;
- **Share the learning from our experiences and achievements** with other councils; and
- **Regularly refresh our commitments and actions** to ensure they are current and continue to reflect local priorities.

[Date]
[Name of council or group of councils]
[Signature of Leader or Mayor of Council]

8.1.2 APPENDIX 2: HECA REPORT (2012-13)

FURTHER REPORT: West Lancashire Borough Council, March 2013

i) LOCAL ENERGY EFFICIENCY AND FUEL POVERTY AMBITIONS AND PRIORITIES			
ACTION	OUTCOMES	TIMING	COMMENTS
Carbon & Fuel Poverty Reduction Target	<p>West Lancashire Borough Council is committed to reducing greenhouse gas emissions and fuel poverty. Current performance on carbon emissions is 6.9% per capita with 19.2% of households being in fuel poverty (data from DECC Fuel Poverty Statistics 2010) https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/fuel-poverty-sub-regional-statistics</p> <p>The Council is currently in the process of adopting a Sustainable Energy Strategy for West Lancashire. The Strategy, which is currently out for consultation, sets out a series of actions on how we plan to reduce Borough wide emissions and work towards achieving affordable warmth for all.</p> <p>The Draft West Lancashire Sustainable Energy Strategy can be view here.</p> <p>Members are to consider commitment to Climate Local on adoption of the Sustainable Energy Strategy later in the year.</p>	<p>2020</p> <p>Sept' 13</p>	
West Lancashire Climate Change Strategy 2008	<p>Aim to reduce emissions directly associated with Council operations by at least 25% against a 2006/07 baseline.</p> <p>The Councils carbon footprint is reported annually to The Department of Energy and Climate Change, in line with their guidance. Since 2006/07 the Council has reduced our electricity consumption by 19% and our gas consumption by 20%. To date, we have reduced our overall CO₂e emissions by 18% on the baseline.</p>	2020	

	The Councils 2012 carbon footprint report can be viewed here .		
Lancashire Health & Wellbeing Board: Emerging Strategy	The ambition of the strategy is to work better together to deliver real improvements to the health and wellbeing of Lancashire's citizens and communities. The strategy has identified 10 'concrete' interventions to be delivered in the first three years of the strategy of which affordable warmth is one.	2013-2020 10 identified interventions incl affordable warmth to be delivered by 2016	West Lancashire will contribute towards this and is an active member of the Lancashire Energy Officers Group
Lancashire Climate Change Strategy	Lancashire aims to reduce greenhouse gas emissions from the use of energy in homes by 30% by 2020. This will be done by improving energy efficiency, minimising waste and exploiting renewable sources of energy.	2009-2020	West Lancashire will contribute towards this and is an active member of the Lancashire Energy Officers Group
West Lancashire Local Plan 2012 - 2027	Should the Councils proposed new Local Plan be approved and adopted later in the year, all new developments will be required to meet the following: <ul style="list-style-type: none"> - Achieve the Code for Sustainable Homes Level 3 as a minimum standard for new residential developments, rising to level 4 and level 6 in line with increases to Part I of the Building Regulations. - Achieve BREEAM 'very good' standard as a minimum for new commercial buildings, rising to 'excellent' and 'zero carbon' in line with increases to Part L of the Building Regulations. - Require all major developments to investigate the potential for a district heating network. 	Sept' 2013	

ii) MEASURES WE ARE TAKING TO RESULT IN SIGNIFICANT ENERGY EFFICIENCY IMPROVEMENT OF OUR RESIDENTIAL ACCOMODATION			
Green Deal and Energy Company Obligation (ECO)	<p>There are no plans for West Lancashire Borough Council to take on the role of Green Deal Provider but discussions on an approach to Green Deal and securing ECO funding are being discussed through the Lancashire Energy Officers Group.</p> <p>ECO funding will also be utilised as far as possible on West Lancashire's social housing stock, to improve the energy efficiency of our homes and benefit tenants</p>	Preparatory work during 2013	
Feed in Tariffs Scheme	<p>We currently have installed 7 PV installations on Council owned buildings, which have a total output of 41KW.</p> <p>We may look to increase this on other suitable buildings and possibly residential dwellings providing sheltered accommodation for the elderly. This is to be investigated later in the year</p>	2013	
Renewable Heat Premium Payment	<p>We have installed 144 Air Source Heat Pump installations, aided through contributions from the Renewable Energy Premium Payment for Social Landlords. This has been achieved in 3 phases, with the first completed in 2011 and the last phase just entering completion stages.</p> <p>We are also in the early stages of installing a communal biomass heating system into a sheltered housing scheme containing 21 flats. The energy centre is scheduled to be on site in approximately 2 months. This has been funded based on the Renewable Heat Incentive finance model.</p> <p>We also plan to investigate further renewable heating options for other areas of Skelmersdale where properties are located off the gas grid.</p>	<p>Summer ' 2013</p> <p>2014</p>	

Energy Efficiency Measures	2,070 Council properties have received replacement A-rated double glazed windows. 236 properties have received a connection to the gas grid and new A-rated gas central heating to replace electric storage heaters. Further works will continue into 2013.	2013	
EPC's	<p>Based on the 2010 Private Sector Stock Condition Survey, the average Standard Assessment Procedure (SAP) rating was identified as 53 slightly higher than the national average which is currently 52.9 (English Housing Survey 2010-11). The higher the SAP the better the energy rating.</p> <p>The Council will explore opportunities to ensure the SAP rating remains above the national average.</p> <p>The Council will ensure that valid EPC's are available when considering properties for the Rent Deposit Guarantee Scheme and raise awareness on the requirement for EPC's in private rented properties in preparation for the mandatory requirements in 2018.</p>		
Minimum standards in the private rented sector	<p>The Council in partnership with the Residential Landlords Association operates the West Lancashire Landlord Accreditation Scheme which aims to encourage landlords to become accredited and thereby improving property and management standards.</p> <p>We will work with accredited landlords to raise awareness of the Green Deal and other initiatives to help them improve the efficiency of their properties.</p>	On-going	
iii) MEASURES WE PROPOSE TO COST EFFECTIVELY DELIVER ENERGY EFFICIENCY IMPROVEMENTS IN RESIDENTIAL ACCOMODATION BY USING AREA BASED / STREET BY STREET ROLL OUT			

<p>Firbeck Revival Project</p>	<p>West Lancashire Borough Council is currently undertaking a regeneration project to revive an estate in Skelmersdale, comprising 78 houses and 32 flats of mixed social and private tenure. All dwellings are hard to treat, system built properties which are to receive external wall insulation, loft top-ups, new windows and doors and connection to a biomass district heating network. ECO funding will be utilised to aid delivery of these measures.</p> <p>The work programme for social housing will continue to focus on properties with a lower SAP rating, primarily hard to treat and those located off the gas grid.</p>	<p>2014</p>	
<p>iv) FUEL POVERTY ACTIONS</p>			
<p>West Lancashire Warm Homes Healthy People Project.</p>	<p>The Council has secured Warm Homes Healthy People funding via the Department of Health and is running a scheme for the over 75's offering free boiler servicing, repair or replacement along with other measures to help them keep warm and reduce energy bills.</p>	<p>Jan-March 2013</p>	
<p>Loft & Cavity Wall Insulation Scheme</p>	<p>Funding was secured via utility partners to offer a Neighbourhood Energy Saving Scheme which offered free loft and cavity wall insulation to all private tenants and home owners irrespective of their income. To date the scheme has completed over 1000 installations.</p> <p>CERT funding was also secured to deliver over 900 loft and cavity wall installations to Council owned properties in 2012. We hope to secure ECO funding to continue to roll out this programme across the rest of the stock.</p>	<p>Aug 2011 – March 2013</p>	

Collective Energy Switching	<p>We are one of the Lancashire authorities working together to develop a Collective Energy Switching Scheme which has secured funding from the DECC Cheaper Energy Together fund.</p> <p>The Council will promote the scheme to residents both locally through press releases and our website. There will also be a Lancashire wide campaign via bus shelter adverts, bill boards, radio adverts etc.</p>	On-going from April 2013	
v) NATIONAL AND LOCAL PARTNERS			
NW Carbon Action Network	The Council links into the NW CAN network to share knowledge on reducing domestic-sector carbon footprint and tackling fuel poverty across the region.	Ongoing	
Lancashire Home Energy Officers Group	<p>The Lancashire Home Energy Group consists of representatives from the 12 district councils in Lancashire, Blackburn with Darwen Council, Blackpool Council, Lancashire County Council and Lancashire County Developments Ltd.</p> <p>The Group was established in 2007 and works in partnership to improve the energy efficiency of Lancashire's Homes, address health inequalities exacerbated by living in cold damp homes, reduce fuel poverty, tackle seasonal excess deaths and reduce carbon emissions from the domestic sector.</p>	Ongoing	

