Report:

Cheshire East Energy Framework

Cheshire East Council

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Prepared by:	Sue Gibson and Nigel Blandford		
Approved by:	Nicola Ball		
Prepared for:	Matt O'Neill, Senior Responsible Officer, Major Projects, Cheshire East Council		
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Gyron LLP was appointed to provide specialist energy support to a range of projects being considered by Cheshire East Council in February 2014, working as part of the Major Projects Team. Gyron's role includes advising the Council about the low carbon and renewable energy sector, new and existing technologies, industry trends and developments, relevant legislation and Government policy.

Gyron contact details:

Sue Gibson - Partner
Gyron LLP
Suite 47
792 Wilmslow Road
Didsbury
M20 6UG

T: 07990 694958
E: s.gibson@gyronllp.co.uk

www.gyronllp.co.uk

Foreword by the Leader of Cheshire East Council

Much of our development and rise in living standards over the past century has been driven by access to cheap energy. British coal, oil and gas resources have been rapidly exploited[1]. Our fuels are now mainly imported, leading to expensive, volatile and potentially insecure energy. Our electricity generation is still dominated by centralised power plants feeding into an ageing distribution network. The risk of power blackouts is increasing[2] over the coming years as our energy infrastructure struggles to cope with existing and new demands.

However, recent work commissioned by Cheshire East Council[3] demonstrates that renewable and low carbon technologies have the ability to make a significant contribution towards meeting the Borough's energy needs. The Council has made sure its Local Plan Strategy[4] is supportive of potential energy and energy efficiency proposals in line with Government policy[5].

Cheshire East has already scored some significant successes. Bentley Motors in Crewe is home to one of the largest roof mounted solar panel electricity projects in the UK[6] and the Council has reduced its own carbon footprint by 25%. It is also actively looking to exploit one of the UK's most significant deep geothermal heat resources[7].

Cheshire East Council knows the move to low carbon energy is not enough. It believes a radical shake-up of the wider local energy economy is vital. While many authorities would view having a significant impact on their energy market as impossible, Cheshire East Council does not[8]. Indeed it believes if it does not start to make significant interventions, the future growth and prosperity of Cheshire East will be adversely affected.

To this end, Cheshire East Council has produced an ambitious but achievable three point Energy Vision and this Energy Framework. We want to give you the energy to succeed.

Michael Jones Leader, Cheshire East Council

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[1] http://www.bbc.co.uk/news/science-environment-27435624
[2] www.raeng.org.uk/news/publications/list/reports/RAEng_GB_Electricity_capacity_margin_report.pdf
[3] www.cheshireeast.gov.uk/pdf/CC%20and%20Sust%20Energy%20Summary%20Report%20with%20Erratum.pdf
[4] www.cheshireeast.gov.uk/planning/spatial_planning/cheshire_east_local_plan/local_plan_strategy.aspx
[5] www.gov.uk/government/uploads/system/uploads/attachment_data/file/47613/3702-the-carbon-plan-delivering-our-low-carbon-future.pdf
[6] www.gov.uk/government/case-studies/bentley-motors-solar-pv-rooftop-array
[7] www.crewechronicle.co.uk/news/local-news/crewe-sitting-vast-supplies-geothermal-5597032
[8] www.ippr.org/publications/city-energy-a-new-powerhouse-for-britain

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Executive Summary

Local Authorities have traditionally provided the planning context to ensure sustainable development but the international drive to address climate change and the national push to improve competition and security in the UK's energy market has led to changes. Councils are increasingly becoming involved in low carbon and energy-related projects, delivering savings to help reduce the cost of local government and new income streams to support local investment priorities and stimulate growth and resilience in the local economy.

Cheshire East's ***Energy Vision*** is a bold but achievable statement of what needs to be done to ensure these goals are reached locally. It is distilled into three strands:

1. ***Affordable Energy*** – Putting Residents First
2. ***Growing Energy Businesses*** – Developing a local energy economy
3. ***Independent Energy*** – Secure, decentralised and locally managed energy services

This document sets out the legislative and financial framework which underpins the Energy Vision. It provides a detailed evidence base for the development of energy-related projects which will deliver the Energy Vision.

The following table summarises future priority recommendations to ensure the successful implementation of the Energy Vision and these are discussed briefly below along with the key findings from the research and analysis completed. More detail on the recommendations can be found in Section 6: Summary and Conclusions.

Future Priorities:	Description
Energy Vision consultation	Further external consultation with four key groups is recommended: Cheshire and Warrington LEP, Local residents and communities, the local business community and potential financial investors.
Council Plans and policies	Several Council strategic plans and policies should be updated, amended or developed quickly to support the Energy Vision. These include the draft Local Plan, Supplementary Planning Documents, the Waste and Minerals Plans and the Carbon Management Plan.
Council Processes	Several Council processes need complete development or enhancement to support decision-making and the delivery of projects under the Energy Vision. These processes cover: the Community Infrastructure Levy, Business Rate Retention, the Asset Investment program, Business Support Services and updating the Energy Framework.
Priority projects	Several projects should be treated as priorities, based on their benefits in facilitating other energy projects, delivery of important benefits to Cheshire East Residents or the need to exploit short windows of opportunity regarding financing the projects or replacing older solutions at contract renewal.

Table 1 - Future priorities for successful implementation of the Energy Vision

Strong UK legislation such as the Electricity Market Reform is now making it easier for new entrants to enter the energy supply market against the established, multinational 'Big Six'. This will allow Cheshire East to develop the Fairer Power™ business model to deliver ***Affordable Energy*** to residents and assist in reducing fuel poverty.

Cheshire East's Local Plan, once adopted, provides strong energy policies particularly around decentralised heat networks. This needs to be consolidated with Supplementary Planning

Documents to define precisely what is expected within energy proposals, including support for community involvement in energy projects. As the Waste and Minerals Plans emerge, officers should ensure they include supportive energy policies that will serve Cheshire East well in developing ***Independent Energy*** from economically and environmentally sound technologies in appropriate locations.

Whether taking forward energy projects alone or in partnership with others, the funding environment is supportive for local authorities. As well as the traditional route of low interest prudential borrowing, some council energy projects have already been financed with Salix interest free loans. Support via Feed in Tariffs and Renewable Heat Incentive are currently extremely attractive but may not remain so; there is a small window of opportunity to maximise income from these incentives.

Cheshire East needs to remain engaged with the Local Economic Partnership to ensure that low carbon energy finance from European Structural and Investment Fund and the Growth Fund is maximised for the ***Energy Vision***. In an area such as Cheshire East, with a higher proportion of individuals of high net worth, financing proposals via the Enterprise Investment Scheme and crowdfunding should be actively pursued.

With a new model of local authority funding in place through business rate retention, renewable energy presents an increased opportunity for Councils to retain funds locally. Supporting local communities and businesses to implement energy efficiency measures and ***Independent Energy*** can positively impact local business competitiveness, improving ***energy affordability***, ***growing energy businesses*** as well as boosting locally retained business rates.

To deliver the Council's energy aspirations, a wholly owned company, Cheshire East Energy Ltd (CEE Ltd) has been established. This fits within the authority's Alternative Service Delivery Vehicle model which Cheshire East, as a strategic commissioning authority, endorses. While Cheshire East Energy Ltd will develop projects and carry out certain functions directly, it is likely to develop a range of separate partnerships and joint ventures to deliver the strands of the ***Energy Vision*** including services aimed at ***Growing Energy Businesses***. The company will be steered by the council's Energy Advisory Board made up of Councillors, Chief Officers and external specialist advisors and will provide the Council with a specialist delivery arm to enable it to optimise its investments in energy-related projects.

Cheshire East's energy aspirations are outwardly facing, putting **Residents First** and assisting businesses. The 2016 target expressed in the Council's Carbon Management Plan for its own asset base has already been met, helping to keep energy costs down. The Council has multiple opportunities for low carbon and renewable energy generation on its assets as highlighted by recent reports. The Council is therefore looking at a number of projects which will deploy ***Independent Energy*** technologies on its highest energy-consuming assets to deliver further energy savings for local tax payers and demonstrate energy leadership for local businesses to follow.

Helping residents and communities to implement energy efficiency measures and ***Independent Energy*** will improve the prospects of making their ***Energy Affordable*** and could help local ***Energy Businesses Grow.***

The ***Energy Vision*** now needs to be communicated and consulted on more widely with external parties, not only to raise awareness and buy-in from key groups but also to ensure that all sources of possible funding and financing, including local communities, are made aware of the investment opportunities that may arise.

Through the ***Energy Vision***, Cheshire East Council has clearly stated that business as usual is not an option. This Framework, CEE Ltd and the Energy Advisory Board are the foundations on which this new way of working will develop, rolling out game-changing programmes and projects.

1 Introduction

1.1 Cheshire East overview

Cheshire East encompasses a diverse mixture of urban and rural areas with approximately 39% of the population living in rural areas and 61% in our towns.[9] There are two major towns in Crewe and Macclesfield and a number of smaller towns including Wilmslow, Congleton, Sandbach, Poynton, Nantwich, Middlewich, Knutsford and Alsager.

93% of the area is classed as at least 'more rural than urban', while 88% is classified as greenspace. There is a wide variety of green spaces including parts of the Peak District National Park, the Cheshire plain, mosses, meres and heaths. Cheshire East contains a valuable natural energy asset: the epi-centre of one of the six geothermal hot spots within Great Britain is located in the East of the region.

The region is crossed by two major motorways (the M6 to the East and the M56 to the North), several major trunk roads (including the A556,A534,A51 and A49) and a large number of rural roads. Crewe is world famous for its railway station and serves as a rail hub for the North-West of England. Six major railway lines converge and cross through Crewe and within the 'High Speed 2' rail project, Crewe has been chosen as one of very few station stops on the Western branch of the route. Transport in the region is currently dominated by private car usage.

A significant proportion of the rural areas in the region are not reached by the national gas-grid[9], with the largest area being rural Nantwich, with more than 90% of households unconnected. In these areas more expensive fuels are used for heating, making energy relatively expensive for the local domestic and business residents.

The Borough is a generally affluent area, especially in the north, but there are some pockets of deprivation, particularly in Crewe. Fuel poverty, as measured by the new Low Income High Cost indicator, stands at about 11.6% across the whole region with high incidence levels in the Crewe and Macclesfield areas.[10]

Cheshire East has a strong economy, contributing the highest share of the North-West region's workforce, businesses and economic output and with its largest business sectors in manufacturing (automotive and pharmaceuticals sectors).[11] Employment in the Financial services, digital, creative and media and computing services has continued to grow. The region is a major dairy-producing area and its strong industrial heritage contributes to a vibrant visitor economy. There is a new focus on developing a cross-regional Science Corridor encompassing Alderley Park to the North-East of the area. The region's low carbon and renewable energy sector is described in detail in Section 2.3.

Cheshire East's population has an older age profile than the UK as a whole (2% higher). Over the next 20 years a significant increase in the older population and reduction in number of children and young people is expected.

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[9] https://www.gov.uk/government/statistics/lsoa-estimates-of-households-not-connected-to-the-gas-network

[10] Internal report on Fuel Poverty produced for the Council's Environment and Prosperity Policy Development Group, April, 2014.

[11] http://www.cheshireeast.gov.uk/pdf/Co-Loc-Sus-Ambition-full.pdf

1.2 Purpose

This document sets out the Council's Energy Vision for the Cheshire East region and brings together research and analysis on the legislative and financial framework which underpins it. The document provides an evidence base supporting the Energy Vision and related current and possible future projects. It highlights actions that can be taken to strengthen current Council planning documents to maximise the Council's benefits from implementing the Vision and indicates possible sources of finance appropriate to possible energy projects.

1.3 Cheshire East's Energy and Low Carbon Vision

This section outlines Cheshire East Council's Energy and Low Carbon Vision. The final version will be announced in a Council press release and published on the Council website. The evidence and detail for the Vision is provided by this Energy Framework.

The Vision was initially drafted and presented to the Energy Advisory Board in April 2014. The Board asked that the Vision be fully developed for their approval.

A consultation process during the drafting of the Energy Vision has involved the following internal departments:

- Regeneration and Major Projects
- Facilities Management
- Strategic & Economic Planning
- Highways
- Spatial Planning and Development Management
- Communications and Media Relations

Selected external consultation partners included Energy Projects Plus, Campaign for Rural England and the Renewable Energy Association. The comment from Mike Landy, Senior Policy Analyst at the Renewable Energy Association is worth highlighting:

> *"I would like to congratulate Cheshire East Council on its Draft Energy Vision, which is progressive and realistic. Its application will serve the people of Cheshire East well.*
>
> *We only wish that central Government did more to encourage amongst local authorities the sort of forward thinking that you have shown. I hope it gets the full endorsement of your members and wish you good luck with its implementation".*

Comments to date on this document have been favourable and noted that The Vision was ambitious but achievable. Full details of these consultation responses can be obtained from Cheshire East's Major Projects Team.

The final consultation draft, after amendments by the Communications team, was presented to the Energy Advisory Group and approved in September 2014.

Further external consultation on the Energy Vision has been recommended with various groups representing householders and businesses in the Borough as well as potential investors.

The Vision centres on three key objectives:

1. Affordable Energy – Putting Residents First

As of 2014 there are an estimated 18,500[12] households defined as being in fuel poverty in Cheshire East. These are some of the borough's most vulnerable residents. Many purchase their energy on a Pay-As-You-Go basis. Even though they pay upfront, they are more likely to be paying more per unit of electricity than those paying by other methods. Those not connected to the mains gas network will also end up paying more to heat their properties. The rural areas to the West of Crewe contain some of the highest proportions of households not connected to the mains gas network in North West England[13].

Cheshire East, first and foremost supports the reduction in energy use and energy efficiency measures to make energy more affordable. However it believes that this is not enough. It will actively support measures to disrupt the existing energy supply market locally and drive down the cost of energy to residents and businesses. Initially this will be done by working with other organisations to establish a local energy supply company, which offers affordable, simple price tariffs irrelevant of the payment method.

2. Growing Energy Businesses – Developing a local energy economy

Over 160,000[14] households in Cheshire East each spend on average £1300 a year[15] on energy, predominantly with the Big Six energy companies. This means that over £200 million of residents' money per year ultimately leaves Cheshire East to companies outside the Borough. By using local energy supply companies who purchase locally produced energy, more income will recirculate in the local economy, improving prosperity.

Cheshire East also wants to demonstrate it is open to business for new and ambitious energy and low carbon companies to base themselves and expand here. It wants to be first to exploit any innovations that may flow from these businesses.

3. Independent Energy – Secure, decentralised and locally managed energy services

Virtually all of the electricity and heating used in the Borough originates from elsewhere. Even in a UK context, the country became a net importer of natural gas in 2004[16] and most of our electricity is generated by coal[17] the majority of which is imported[18]. This is neither sustainable nor healthy. The majority needs to be generated, distributed and supplied locally; a move towards a more **decentralised** and resilient energy economy. Key to this will be;

- The creation of local energy companies capable of generating, purchasing and supplying power to residents and businesses
- Local heat distribution networks in urban areas utilising geothermal and other low carbon heat sources

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[12] Internal CE Document — Environment and Prosperity Policy Development Group
[13] www.merseyforest.org.uk/files/documents/.../offgasgridstudy_final.pdf
[14] Census data
[15] Internal CE Document — Environment and Prosperity Policy Development Group
[16] www.gov.uk/government/uploads/system/uploads/attachment_data/file/65800/DUKES_2013_Chapter_4.pdf
[17] www.gov.uk/government/uploads/system/uploads/attachment_data/file/279546/DUKES_2013_Chapter_5.pdf
[18] www.gov.uk/government/uploads/system/uploads/attachment_data/file/170721/et_article_coal_in_2012.pdf

- A rapid move away from electric, gas and oil to renewable heat in the extensive off-gas areas in rural Cheshire
- Renewables such as solar electricity deployed more widely and appropriately located with any surplus sold to local energy companies
- More combined heat and power schemes serving major developments
- Energy generation from locally produced alternative fuels such as biomass and biogas.
- New building design and orientation optimised for low carbon energy generation
- Retain fuels produced in the Borough for local energy generation rather than export them wherever practicable

Cheshire East Council will not discount any potential energy source and will seek to embrace new and emerging low carbon energy sources and technologies. By being a leading authority in the energy field and championing innovation, Cheshire East Council is demonstrating how it is putting residents and businesses first.

2 Research and Intelligence

Cheshire East's Energy Vision has been formed based on an understanding of the UK's energy market status and drivers, legislation and government policy.

This section of the report provides a snapshot of the UK Energy market and reviews relevant European and national law and policy affecting it. It also provides an overview of regional and local policies and plans and reviews sources of EU UK funding and finance for energy-related projects which could be used to help enable many of the energy projects which will realise the Energy Vision.

Please note that this is not an exhaustive list of energy-related legislation.

2.1 Energy Market Background

The energy market is often described as a natural monopoly and is one that most national Governments have felt the need to have strong control over in the past. Energy is a prime resource for the economy and for society as a whole and control of energy assets is important for these reasons as well as for national security.

The UK energy market developed initially as a heterogeneous, regionally-owned and controlled set of energy generation and distribution assets, was centralised in the intra-war years, nationalised during the 2nd World War and privatised from the mid-1980s onwards. Important milestones in the industry were the development of the "National Grid" of electricity and gas distribution systems which happened between the 1930s and 1950s and the deregulation of the whole UK energy market, starting in 1986, to improve competitiveness.

Today, the UK energy market is heavily regulated and the main roles in both the electricity and gas energy markets are licenced by the industry regulator, OfGEM. The licences contain requirements for standards of service and reporting of various data to OfGEM to ensure that competition can be monitored in a market that is still dominated by a few, very large companies. The most important energy industry roles are:

- Distribution network operators
- Energy Generators (electricity) / Shippers (gas)
- Interconnector operator (networks between countries for electricity or gas)
- Energy Suppliers
- System operator (National Grid)
- Transmission network operator
- Industry regulator (OfGEM – Office of Gas and Electricity Markets)

Figure 1 below gives an overview of how the energy market infrastructure and these roles relate.

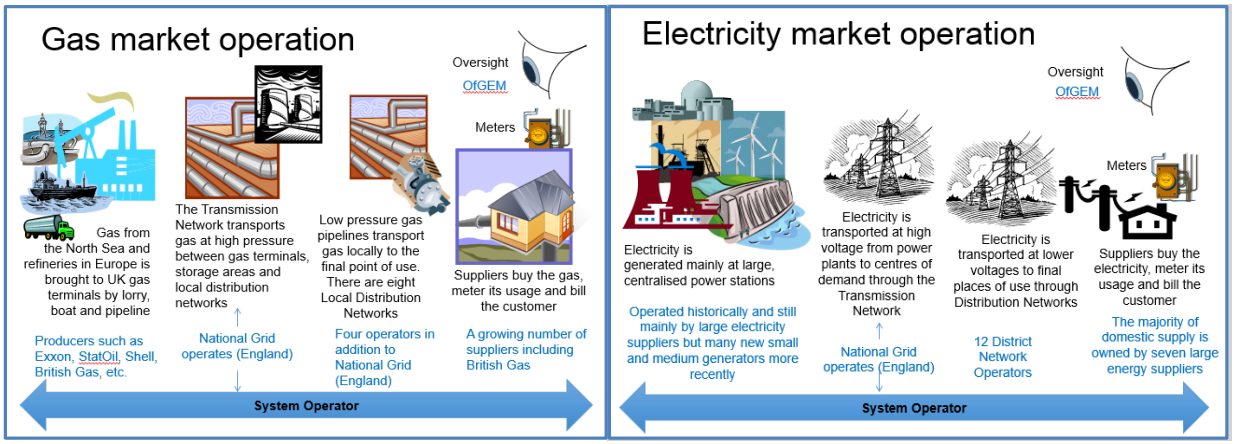

Figure 1 - Operation of Energy Markets

More information about these and other roles in the UK energy market can be found on the National Grid and OfGEM websites.[19]

A key element of market operation is the trading of energy on wholesale energy markets. Energy traders buy energy of different types in bulk over fixed periods of time and in "half-hourly" markets. Energy can be classified according to the fuel-type, either used to generate electricity or directly shipped to consumers as fuel to be converted to energy locally (typically gas).

Fossil fuels include coal, coke, oil, natural gas, diesel and petrol and these were all derived from former plant matter that has been covered and compressed over a very long period of time during previous geological eras. They all emit carbon-based gases such as carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) when burnt to produce energy or heat. Coal emits the most greenhouse gases and natural gas the least[20], considering the fuels that are used most widely either for electricity generation or for direct local usage.

Renewable energy includes all forms of solar, wind, hydro, wave, tidal and geothermal energy.

Low Carbon energy sources include nuclear, alternative fuels and biomass based fuels.

Alternative fuels include solid recovered fuel (SRF) which includes certain waste types recovered or retrieved from municipal and commercial waste streams which have a calorific value enabling them to be burnt to produce heat and/or generate power.[21]

Biomass based fuels are created from plant matter and emit carbon-based gases when burnt but are not regarded as finite in nature.

[19] See http://www2.nationalgrid.com/about-us/our-history/
and https://www.ofgem.gov.uk/licences-codes-and-standards/licences/licensable-activities
[20] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69568/pb13792-emission-factor-methodology-paper-120706.pdf (Table 1, page 11)
[21] http://www.sita.co.uk/downloads/SITAUK-GuideToSolidRecoveredFuel-1307-web.pdf

2.2 Market Drivers and Status

In the UK, three market drivers have dominated government policy affecting the energy sector since 2007. These are:

1. International commitments on climate change

The subject of climate change was reviewed for UK Government by Lord Stern in 2006 following numerous United Nations (UN) debates since 1986.[22] Global warming is now accepted by scientific research worldwide and is connected to the level of concentration of gases containing carbon in the Earth's atmosphere. If the concentration of these so-called greenhouse gases rises too far then heat absorbed from the sun during daylight hours cannot escape the atmosphere back into space and temperatures will rise sufficiently to cause significant climate change.

Some of the more negative issues of climate change include: More and different pests and diseases may be prevalent in previously productive agricultural areas, causing crop failures, food shortages and human sickness. Increases in climate extremes such as droughts, floods and storms may cause wildlife and human deaths and further crop failures. Rising sea levels may reduce the amount of land available for living on and for growing food.[23] Evidence of these effects can be found in international and national news[24] but the most recent scientific evidence and consolidated views are documented in the International Panel on Climate Change's (IPCC) Fifth Assessment Report.[25]

The UK, along with many other countries, has made international commitments under the UN Framework Convention on Climate Change to reduce greenhouse gas emissions significantly with the aim of limiting global climate change. International commitments were first made in 1997 at the Kyoto Climate Change Conference[26] and are revisited yearly to assess progress.[27] These commitments include a series of national greenhouse gas emissions limits[28] for years going forward to 2050 which have been put into UK law in the Climate Change Act, 2008 (described later in this section) to create binding commitments.

Energy is the life-blood of developed economies, providing power, heat and transport fuel for domestic and business use but generation and usage of energy from fossil fuels is the biggest contributor to worldwide greenhouse gas emissions. The UK has had a high dependence on fossil fuels for power, heat and transport[29], which still makes up over 80% of the fuel mix. Any decarbonisation of the UK's energy supply will help the UK to reach the greenhouse gas emissions limits that have been agreed internationally.

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[22] http://webarchive.nationalarchives.gov.uk/20130129110402/http://www.hmtreasury.gov.uk/d/CLOSED_SHORT_executive_summary.pdf

[23] http://www.bbc.co.uk/climate/impact/flooding.shtml

[24] http://www.bbc.co.uk/news/science-environment-27228408

[25] http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_SPM.pdf

[26] http://unfccc.int/kyoto_protocol/items/2830.php

[27] http://unfccc.int/meetings/items/6240.php

[28] http://www.theccc.org.uk/tackling-climate-change/the-legal-landscape/climate-change-act-and-uk-regulations/

[29] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/357432/ET_Sep_14.PDF (See Chart 1.7, Page 8)

Decreases in the overall level of energy usage through energy efficiency measures will also help in this regard.

2. Energy security

As the UK's energy usage for transport, heat and power continues to grow increasingly dependent on importing fossil fuels to generate energy, government concerns have arisen as to the security of the nation's energy supply. The UK imported 25% of the fuel used to generate energy in 2008 and DECC[30] expects this to rise to 60% by 2018. There are concerns that energy prices will inflate rapidly as global demand for energy rises driven by population growth and the emergence of new, large, developing economies in Asia and South America. The International Energy Agency estimates that global demand will have risen by up to 40% during the period 2007 to 2030.[31]

As a result, the UK has developed policies to become more self-sufficient in production of energy to alleviate these problems. The key elements of achieving more self-sufficiency are:

- Generating more energy (both renewable and lower carbon) in the UK so that less fuel and energy needs to be imported and less investment in national energy infrastructure is required
- Increasing the level of decentralised energy generation assets so that:
  - There is more independence and resilience in energy supplies locally
  - Local demand can be matched with local supply, so minimising the need to upgrade the national distribution network infrastructure
- Reducing the overall level of energy demand by driving long-term energy efficiency measures in all sectors and short-term demand-side reduction actions by large energy users at peak times of national demand

3. Energy Market Reforms

Decarbonising energy. Fossil fuels are finite in nature and will eventually be exhausted. Before economically viable fossil fuel supplies run out, other forms of energy production will have to be fully developed to fill the void. In addition, the legal requirement to meet greenhouse gas emissions targets has resulted in government policies and incentives for the energy and other sectors to accelerate this process of decarbonisation, quickly increasing the contribution of renewable and low carbon energy to the nation's "fuel mix". To enable this transition, the energy sector in particular needs to make significant investments in a number of areas including[32]:

- Energy generation plant
- Energy distribution systems
- Computer systems used to manage energy supply and demand

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[30] DECC (2009) "Low Carbon Transition Plan" https://www.gov.uk/government/publications/the-uk-low-carbon-transition-plan-national-strategy-foyr-climate-and-energy

[31] http://www.worldenergyoutlook.org/media/weowebsite/factsheets/fact_sheets_WEO_2009.pdf

[32] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/209279/PU1524_IUK_new_template.pdf (Chapters 4 and 3)

Other sectors including vehicles and transport fuel will also need to make investments.

UK energy market reform. An ongoing process of deregulation is focused on creating greater levels of competition in UK energy markets and delivering lower and fairer energy costs for consumers. Other market reforms have been focused on addressing the issues of energy decarbonisation and energy security mentioned above.

OfGEM launched a Retail Market Review in 2010[33] with the objective of encouraging more consumers to switch supplier more frequently and making that process easier.

Changes to encourage energy efficiency in domestic and business properties as well as within industry are extensive. A national rollout of 'smart' energy meters for domestic properties from 2015 and the upgrade of communications networks to support communication between these meters and energy suppliers will raise awareness of energy usage and be used to help ensure national energy security.

The Government's 2014 Electricity Market Reform policy introduces increased price competition between different types of energy, (i.e. fossil, low carbon, renewable and nuclear-fuelled energy generation or supply) and places a market value on short-term demand-reduction actions. OfGEM also referred the whole energy market to the Competition and Markets Authority in summer 2014 to investigate claims regarding including price-fixing in wholesale energy markets, which defrauds consumers and acts as a barrier to entry for new energy generators and suppliers.

In summary, the costs of change for the energy market will be reflected in higher energy prices in the short-term, to prevent much worse energy price increases and environmental and security crises in the longer term. This will in turn exacerbate problems for some households, increasing levels of *"fuel poverty"*, impacting business costs and competitiveness and the public sector if the topics of energy efficiency and independence are not given appropriate management attention.

The Council's ***Energy Vision*** is well aligned with these three national drivers:

- The objective of ***independent energy*** (low carbon and renewable) addresses both energy security and the international agreements on climate change
- The objective of ***growing energy businesses*** gives rise to greater local energy independence and the opportunity to explore business growth in the low carbon sector that can be stimulated by promoting energy efficiency measures for all Cheshire East residents, both domestic and business
- The objective of ***affordable energy*** addresses the drive for energy efficiency to achieve energy security and the continued market deregulation and competition themes in national policy towards making the market fairer and energy pricing more transparent for consumers.

[33] https://www.ofgem.gov.uk/simpler-clearer-fairer/retail-market-review-background-and-publications

2.3 Low Carbon and Renewable Energy Industry

The low carbon and renewable energy industries are sub-sectors of the low carbon and environmental goods and services (LCEGS) industry. The UK LCEGS industry was ranked 6th globally by sales for 2011/12 (£128.1bn) with 51,252 companies employing 937,923 people and has continued to grow sales continuously at over 4% through the recent recession.[34]

Detailed findings of a local study (the Environmental Sustainability Technical Assistance project or ESTA) showed that in 2011/12 this local industry in Cheshire East employed 5,394 people across 245 companies and achieved sales of £480.5m. More than 50% of this activity is in the low carbon sub sector which includes all building-related energy efficiency measures such as insulation, double glazing, etc. The general trend for growth in sales in this industry in Cheshire East is 4.3% annually although there has been low or no growth in the number of companies and people employed. This trend is not restricted to Cheshire East and the industry across the UK has seen growth in sales since 2008/09 unlike many other industries throughout the recent economic recession.

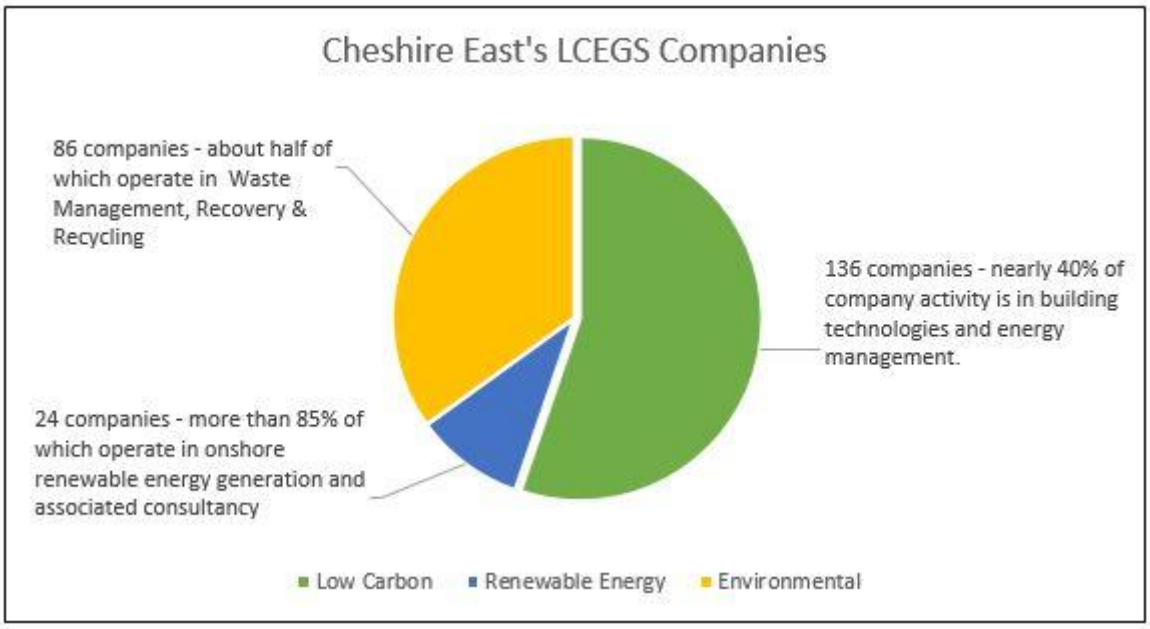

Figure 2 - Low Carbon Energy and Environmental Industry in Cheshire East

The LCEGS industry is a flexible construct capturing disparate activities spread across many existing sectors such as manufacturing, transport, construction and energy, not otherwise mapped by standard industry codes, as this young and dynamic sector continues to develop and grow. The LCEGS industry is sub-divided into three sectors; low carbon, environmental and renewable energy, which are further sub-divided into twenty four goods and services.

The low carbon sector includes businesses providing building technologies and associated services which improve the energy efficiency of buildings. This would include insulation

[34] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224068/bis-13-p143-low-carbon-and-environmental-goods-and-services-report-2011-12.pdf

materials, energy management technologies and associated consulting services. It also includes low carbon energy technologies such as nuclear power, alternative fuels and alternative fuel vehicles as well as carbon capture and storage and energy storage technologies.

The Renewable Energy sector includes renewable energy generation technologies such as hydro, wind and wave, geothermal, solar. Biomass and associated consulting.

The Environmental sector includes waste management, recovery and recycling, water supply and waste water treatment, emissions control technology and all forms of environmental consultancy including environmental monitoring.

The above graph is based on figures provided in the regional ESTA project; a study funded in 2013 which mapped the LCEGS industry across four LEP areas in the North West of England, including Cheshire and Warrington.[35] The findings of the study showed that the industry is growing in Cheshire and Warrington and recommendations were made around supporting the development of the building technologies, energy management, renewable energy and recovery and recycling sub-sectors.

The LCEGS industry in Cheshire East is a valuable asset made up of businesses which can help Cheshire East deliver its ***Energy Vision*** and help Cheshire East residents, both household and business, to realise more ***Affordable Energy*** and more ***Independent Energy***. Helping this industry will help ***growing energy businesses*** and can result in new income streams for the Council to use locally.

[35] http://www.enworks.com/ESTA-project-outcomes

2.4 European and National Legislation and Policy

A significant volume of European and national legislation has been developed over the last 20 years which compels and incentivises industry, consumers and Local Authorities to take action to address the sources of climate change identified by science. The table below sets out a summary of the key items of legislation and policy which inform the Council's Energy Vision. These are then set out in more detail in the following pages. Recommendations are made to address potential gaps and to strengthen the Council's approach in developing its Energy Framework and associated project portfolio further.

Legislation and policy	Energy Vision Objectives			Relevance to Cheshire East
	Affordable energy	Growing Energy Businesses	Independent Energy	Comments and recommendations
EU Directives				
Landfill Directive 99/31/EC			✔	Reflected in existing and draft Local Plan documents
Emissions Trading System Directive 2003/87/EC	✔	✔	✔	No action
Renewable Energy Directive 2009/28/EC		✔	✔	Reflected in existing and draft Local Plan documents
Industrial Emissions Directive 2010/75/EU			✔	Comply with UK legislation - below
UK and National Legislation				
Warm Homes and Energy Conservation Act 2000	✔	✔		Driver for addressing Fuel Poverty - reflected in vision / policy
Utilities Act 2000 and Renewable Obligation Orders 2002 and onwards		✔	✔	Provides a market for unused renewable energy generated
Finance Act 2000 and Climate Change Levy Regs, 2001	✔	✔	✔	Reflected in existing and draft Local Plan documents
Climate Change Act 2008	✔	✔	✔	Reflected in existing and draft documents and policies
Planning Act 2008			✔	Make use of CIL to fund additional energy infrastructure
Energy Act 2008	✔	✔	✔	Reflected in existing and draft documents
Carbon Reduction Commitment Energy Efficiency Scheme Order 2010	✔	✔	✔	Establish business support programme
Energy Act 2011	✔	✔	✔	Establish domestic energy advice support programme
Climate Change Agreements Regulations 2012	✔	✔	✔	Establish business support programme
Non-Domestic Rating (Renewable Energy Projects) Regulations 2013		✔	✔	Finalise local policy and processes
Environmental Permitting Regulations 2013			✔	Reflect in new Local Waste Plan. Comply with for projects.
Energy Act 2013	✔	✔	✔	Establish domestic energy advice support programme
Energy Savings Opportunity Scheme Regulations 2014	✔	✔	✔	Establish business support programme
Energy Market Referral and Electricity Market Reform, 2014	✔	✔	✔	Establish domestic energy advice support programme
Community Energy Strategy, 2014	✔	✔	✔	Add SPDs for specific topics to strengthen
National Planning Policy	✔	✔	✔	Supportive of Energy Vision
Regional and Local Planning Policy		✔	✔	Add SPDs for specific topics to strengthen

Table 2 - Most relevant EU and UK Legislation and Policy for Cheshire East Energy Vision

2.4.1 European Legislation and Policy

1. EU Landfill Directive 99/31/EC

> The Cheshire East ***Energy Vision*** is supported by this directive, which encourages the development of ***Independent Energy*** using waste.

The Landfill Directive came into force in 1999 with the aim of reducing reliance on landfill as a disposal option. It seeks to decrease the environmental impacts of landfills and reduce the risk to human health while imposing a consistent minimum standard for landfills across the EU. The Landfill Directive specifically:

- Sets minimum standards for the location, design, construction and operation of landfills
- Sets targets for the diversion of Biodegradable Municipal Waste from landfill
- Controls the nature of waste accepted for landfill
- It defines the different categories of waste (municipal waste, hazardous waste, non-hazardous waste and inert waste) and applies to all landfills, defined as waste disposal sites for the deposit of waste onto or into land

The directive sets demanding targets for the UK to progressively reduce the biodegradable waste being sent for disposal in landfill. EU wide targets were established for 2006, 2009 and 2016 for reduction of biodegradable waste. As the UK started from a point where over 80% of this waste was being landfilled in 1995, a four-year derogation on these targets was available. The targets are shown below:

- By 2010 - reduce the biodegradable waste landfilled to 75% of that produced in 1995.
- By 2013 - reduce the biodegradable waste landfilled to 50% of that produced in 1995.
- By 2020 - reduce the biodegradable waste landfilled to 35% of that produced in 1995. (If by 2016 target can be reached, the derogation will not be used for this target.)

This legislation has already had a significant impact on the UK's greenhouse gas emissions from the waste sector, reducing emissions from waste landfill sites by 64% by 2011 compared to 1990.[36]

Existing landfill sites containing biodegradable waste (where their design allows) and new landfill sites accepting any level of biodegradable waste are now capturing green-house gases emitted from the waste for use in power generation. Alternative uses for the biodegradable waste diverted from landfill sites, including composting the waste to produce new soil enhancement products and new techniques of composting which maximise the bioenergy produced and captured during the process, have been

[36] http://www.theccc.org.uk/wp-content/uploads/2013/04/Waste-factsheet.pdf

developed following this Directive. According to DECC, electricity generation from bioenergy grew 24% between 2012 and 2013.[37]

This directive is reflected in existing Cheshire East Plans and strategy, specifically, the energy recovery requirements of the Cheshire Replacement Waste local plan and the Cheshire East Council draft Waste Strategy, both described in the next section of this document.

Further information: http://ec.europa.eu/environment/waste/landfill_index.htm

2. EU Emissions Trading System Directives 2003/87/EC (as amended)

The Cheshire East ***Energy Vision*** is supported by these directives, which encourage reductions in energy-related carbon emissions through energy efficiency and implementation of renewable energy, so supporting ***Affordable Energy*** (for businesses), ***Growing Energy Businesses*** and ***Independent Energy***.

The EU Emissions Trading System (EU ETS) is a greenhouse gas emissions trading scheme which started operation in 2005 with the aim of putting a sufficiently high price on carbon so that investment in clean, low carbon technologies becomes more financially attractive. Now in its third phase (2013 – 2020), the EU ETS has approximately 11,000 participants and 1,000 of these are in the UK. This 'traded sector' will account for over 50% of the emissions reductions needed to meet the UK's 2020 target.

Under the 'cap and trade' principle, a cap (limit) is placed on the total amount of greenhouse gases that can be emitted by installations under the system. The system covers emissions of greenhouse gases from power plants, a wide range of energy-intensive industry sectors and commercial airlines. The cap is reduced over time so that total emissions fall.

The EU ETS will only directly affect a few large Cheshire East businesses but other, smaller Cheshire East businesses may have products and services that enable those required to trade carbon under the EU ETS to reduce their emissions, e.g. renewable energy generation technologies or low carbon heating technologies.

Further information: http://ec.europa.eu/clima/policies/ets/index_en.htm

[37] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/337649/chapter_5.pdf

3. EU Renewable Energy Directive 2009/28/EC

> The Cheshire East ***Energy Vision*** is supported by this directive, which encourages the deployment of all forms of renewable and low carbon energy and heat generation, so supporting the objective of ***Growing Energy Businesses*** and ***Independent Energy***.

This directive came into force in 2009 to establish a common framework for the use of energy from renewable sources in order to limit greenhouse gas emissions and to promote cleaner transport across EU Member States. Each Member State has a target calculated according to the share of energy from renewable sources in its gross final consumption for 2020. The UK target is to achieve 15% (up from 3%) of its energy consumption from renewable sources by 2020.

The Member States were required to establish national action plans which set the share of energy from renewable sources consumed in transport, as well as in the production of electricity and heating, for 2020. The action plans had to take into account the effects of other energy efficiency measures on final energy consumption i.e. a reduction in energy consumption would require less energy from renewable sources to meet the target.

> This directive is reflected in existing and draft new Cheshire East Planning Policies and strategy and the draft Cheshire East Plan.

Further information:
http://europa.eu/legislation_summaries/energy/renewable_energy/en0009_en.htm

4. EU Industrial Emissions Directive 2010/75/EU

> The Cheshire East ***Energy Vision*** will need to comply with this directive which requires that ***Independent Energy*** implementations do not pollute the environment.

This directive aims to control pollution from large industrial installations including energy generation and the thermal treatment of waste. It brings together Directive 2008/1/EC (the 'IPPC Directive'), Directive 2000/76/EC (the 'Waste Incineration Directive') and five other directives, into a single directive on industrial emissions, replacing the previous directives as of 7th January 2014.

Any industrial installation which carries out activities covered by the directive must meet certain basic obligations including preventing pollution, applying best available techniques and remediating sites when activities come to an end. Installations must operate under a permit which sets out the measures to ensure compliance with the basic obligations and environmental quality standards. These measures will include emission limit values and monitoring and management methodologies.

This directive is reflected in existing and draft new Cheshire East Planning Policies and strategy and the draft Cheshire East Plan.

Projects involving the local preparation of pre-separated solid wastes for use in energy recovery will be subject to this directive as will energy from waste plants using the fuel. Any Council projects involving these processes should take advice to ensure the legislation is closely adhered to.

Further information:
http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010L0075

2.4.2 UK Legislation

1. Warm Homes and Energy Conservation Act 2000

The Cheshire East ***Energy Vision*** is supported by this legislation, which requires Government to address the problem of domestic fuel poverty, so supporting the objective of ***Affordable Energy*** (for domestic residents) and indirectly the objective of ***Growing Energy Businesses*** (supplying products and services related to energy efficiency).

The Warm Homes and Energy Conservation Act set the framework for eradicating fuel poverty in the UK. From this act the 2001 UK Fuel Poverty Strategy was produced which set targets for eliminating fuel poverty in vulnerable households by 2010 (which was missed). A new definition of fuel poverty went out to consultation in 2012 and has subsequently been adopted.

The new definition uses the principle of 'Low Income High Costs' whereby a UK household is considered to be in fuel poverty if their required fuel costs are higher than average and, after purchasing fuel, the household is below the official poverty line. Many health problems such as cardio-vascular and respiratory diseases are made worse by cold housing.

Following the adoption of the new definition, the Government is developing a new UK Fuel Poverty Strategy, which went out to consultation in July 2014. Currently fuel poverty is partly tackled through energy efficiency financing and funding such as the Green Deal and the ECO. Further measures are included under the Government's Community Energy Strategy (see below). The roll-out of smart meters is another measure that should help to tackle fuel poverty since the new meters put consumers in control of their energy use, allowing them to adopt energy efficiency measures that can help save money on their energy bills and offset price increases. The UK Government has committed to roll-out smart meters to 30 million homes and businesses by 2019.

This legislation is reflected in Cheshire East's Residents First policy and in the recent announcements regarding Fairer Energy.

Further information:
https://www.gov.uk/government/consultations/cutting-the-cost-of-keeping-warm-a-new-fuel-poverty-strategy-for-england

https://www.gov.uk/smart-meters-how-they-work

2. Utilities Act 2000 and following Renewable Obligation Orders from 2002

The Cheshire East ***Energy Vision*** is supported by this legislation which provides an incentive for the implementation and operation of renewable energy generation projects. In doing so, it supports the objectives of ***Growing Energy Businesses*** (supplying products and services related to renewable energy) and ***Independent Energy***.

This act gave the Secretary of State power to require UK energy supply licence holders to provide a certain proportion of the energy they sell from eligible renewable sources and to provide incentives for the deployment of renewable electricity generation assets. This proportion (or 'renewable obligation', RO) is set annually in the Renewable Obligation Order and has increased annually in line with targets set under the EU Renewable Energy Directive.

Eligible renewable electricity generation installations are certified and entered onto a register by OfGEM. They report their renewable energy generation regularly to OfGEM and in return are issued with Renewable Obligation Certificates (ROCs) based on the amount of renewable electricity they generate. The level of energy generated per ROC depends on the type of energy.

Generators sell their ROCs to suppliers (or traders), which allows them to receive a premium in addition to the wholesale electricity price. Suppliers present their ROCs to OfGEM to demonstrate their compliance with the RO. Suppliers who do not present enough ROCs to meet their obligation must pay a penalty (known as the 'buy-out price'). The money OfGEM collects in the buy-out and late payment funds is re-distributed on a pro-rata basis to suppliers who presented ROCs.

This legislation is reflected in the Strategic Economic Plan and in Cheshire East Planning policies, described below.

Further information:
https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/the-renewables-obligation-ro

3. Finance Act 2000 and subsequent Climate Change Levy (General) Regulations 2001 (as amended)

> The Cheshire East ***Energy Vision*** is supported by this legislation which provides a disincentive for the use of fossil fuel- based energy and a number of incentives for the implementation of energy efficiency measures and local renewable energy generation projects. In doing so, it supports all the objectives of ***Affordable Energy*** (for businesses), ***Growing Energy Businesses*** (supplying products and services related to energy efficiency and renewable energy) and ***Independent Energy***.

The Finance Act of 2000 gave powers for a new tax, the Climate Change Levy (CCL) to be levied and secondary legislation enacted these powers with effect from 1st April 2001 in the CCL Regulations 2001. The climate change levy applies a levy on energy consumption (gas and electricity) by the non-domestic sector with the objective of driving businesses to make more efficient use of energy. CCL applies to businesses in the industrial, agricultural and commercial sectors as well as to public sector bodies who must pay a main rate on their energy consumption. Exemptions from CCL include:

- Public Transport
- Micro firms
- Energy exports

The consumption of energy from renewable sources is also exempt from CCL, subject to presentation of suitable Levy Exemption Certificates (LECs) proofing that the energy was generated by an eligible registered renewable energy installation.

The CCL was intended to be a neutral fiscal policy for the UK economy and so monies raised are injected back into the economy in the following ways:

- Reduced Employer's National Insurance Contributions
- Energy Efficiency Fund
- Enhanced Capital Allowances (ECA) - *a fund to cover capital asset expenditure including installation costs for energy efficient equipment allowing the expenditure to be depreciated*

A second rate applies under CCL, called the carbon price support (CPS) rate. This rate is designed to encourage industry to use low carbon technology for producing electricity and uses a combination of the carbon price established by the EU ETS and a second component, reflecting the amount of fossil fuels used in the UK energy generation mix. Fossil fuels liable to the CPS rates of CCL are:

- Gas
- Liquefied petroleum gas (LPG)
- Coal and other solid fossil fuels

Owners of electricity generating stations and operators of combined heat and power (CHP) stations pay the CPS rates of CCL. The UK element of the CPS rates were capped until 2020 under recent policy changes enabled by the Energy Act.

Existing planning policies and the draft Local Plan support the implementation of renewable energy generation projects. Cheshire East's Carbon Management Plan (CMP) has focused successfully on energy efficiency improvements to date and will contribute to reducing the Council's CCL charges.

The Council's CMP should be reviewed regularly to see if new technologies, techniques and services reaching the market offer enhanced energy efficiency opportunities for the Council. Renewable energy and heat technologies should be included, going forwards.

Supporting local businesses to implement renewable energy and heat generation to avoid CCL costs can positively impact the amount of business rates that can be retained locally for purposes designated by the Council.

Further information: https://www.gov.uk/green-taxes-and-reliefs/climate-change-levy

4. Climate Change Act 2008

The Cheshire East ***Energy Vision*** is supported by this legislation which requires the UK to find ways of reducing carbon emissions. In doing so, it supports the objectives of ***Affordable Energy*** (Energy efficiency in the domestic and non-domestic sectors) ***Growing Energy Businesses*** (supplying products and services related to energy efficiency and renewable energy generation) and ***Independent Energy*** (implementing local renewable and low carbon energy generation)

The UK Government introduced legally binding carbon reduction budgets as part of the Climate Change Act 2008, with a goal to reduce greenhouse gas emissions by at least 80% by 2050. This puts a restriction on the total amount of greenhouse gases the UK can emit over a 5-year period. The first four UK carbon reduction budgets (CRB) run from 2008 to 2027, setting specific limits to greenhouse gases within each budget. The limits of each budget are as follows:

- CRB1 - 3,018 million tonnes of carbon dioxide equivalent (MtCO2e) over the period 2008 to 2012
- CRB2 - 2,782 MtCO2e over period 2013 to 2017
- CRB3 - 2,544 MtCO2e over the period 2018 to 2022
- CRB4 - 1,950 MtCO2e over the period 2023 to 2027

By the end of the fourth budget the UK Government has committed to halving UK emissions, relative to 1990.

Cheshire East's Carbon Management Plan, completed with the Carbon Trust in 2011, documents the Council's plans for reducing its carbon emissions.[38]

This legislation is reflected in the Council's Carbon Management Plan, as described above.

The Council's CMP should be reviewed regularly and extended to include renewable energy and heat.

It is recommended that Business Support Services promote implementation of energy efficiency measures and renewable energy generation technologies to help reduce local carbon emissions. This can positively impact local energy businesses and the amount of business rates that can be retained locally.

Further information: http://www.legislation.gov.uk/ukpga/2008/27/contents

5. Planning Act 2008 as amended by the Localism Bill, 2011

This act supports the Cheshire East ***Energy Vision*** objective of ***Independent Energy***, as it is of considerable importance for energy infrastructure projects such establishing new large energy generation stations and local energy infrastructure.

This act introduces a new system for nationally significant infrastructure planning, described below, and a Community Infrastructure Levy (CIL).

Nationally significant infrastructure projects include onshore and offshore generating stations with a generating capacity above 50MW. Under the Act, responsibility for dealing with development consent applications for nationally significant infrastructure projects was passed to the Planning Inspectorate, which was to examine applications and make recommendations to the Secretary of State at Department for Energy and Climate Change (DECC) for decisions on energy applications.

In 2011, the Localism Act abolished the Infrastructure Planning Commission (Planning Inspectorate) and restored its responsibility for taking decisions to Government ministers. It also ensures the national policy statements, which are used to guide decisions by ministers, can be voted on by Parliament.

In 2011 six National Policy Statements for energy (NPS) were designated under the Planning Act 2008 to ensure that the planning system is rapid, predictable and accountable. Planning decisions must be taken within the clear policy framework set out in the NPSs, making these decisions as transparent as possible. The energy NPSs set out national policy against which proposals for major energy projects are assessed and decided on.

[38] http://moderngov.cheshireeast.gov.uk/ecminutes/documents/s11738/5yearCarbonManagementPlanreport20112016.pdf

CIL is a levy which local authorities are allowed to require developers to pay when they build new houses, businesses or shops. The money raised must go to support new infrastructure, such as roads and schools. This is described further in the Funding section 2.6.2.

The act takes responsibility for making decisions on such infrastructure projects out of the control of local authorities so there is no requirement for local planning policies to cover this sort of large energy infrastructure project.

The imposition of CIL on local developments should consider what additional local energy infrastructure may require funding as a result of the development, including, for example, upgrade and extension of local energy networks, development of heat networks, energy or fuel storage facilities and new, local renewable or low carbon energy generation plant.

Further information: https://www.gov.uk/consents-and-planning-applications-for-national-energy-infrastructure-projects

6. Energy Act 2008

The Cheshire East ***Energy Vision*** is supported by this legislation in the objectives of ***Affordable Energy*** (Energy efficiency in the domestic properties improved by Smart Meters) ***Growing Energy Businesses*** (supplying products and services related to renewable and low carbon energy and heat generation) and ***Independent Energy*** (implementing local renewable and low carbon energy and heat generation).

The Energy Act made provisions to encourage and enable private investment in energy-related infrastructure including carbon capture and storage and small-scale renewable energy generation. Three key outcomes enabled by the Act were:

- Feed-in Tariff Scheme – (FiT) which includes two incentives payments for investors in small-scale generators of renewable and low carbon electricity - described in the Funding section following.
- Renewable Heat Incentive – (RHi) for investors in small-medium scale renewable or low carbon heat generation described in the Funding chapter following
- Smart Meters – Changes in this Act enabled OfGEM to alter the terms of various licenced activities and to define a technical specification of new 'Smart' energy meters for gas and electricity to act as a minimum standard

This legislation is reflected in the Council's existing planning policies, Cheshire Replacement Waste Local Plan and the draft new Cheshire East Local Plan.

It is recommended that Business Support Services promote implementation of energy efficiency measures and renewable energy generation technologies by local businesses to help reduce local carbon emissions. This can positively impact local energy businesses and increase the amount of business rates that can be retained locally.

Further information: http://services.parliament.uk/bills/2007-08/energy.html

7. Carbon Reduction Commitment Energy Efficiency Scheme Order 2010

The Cheshire East ***Energy Vision*** is supported by this legislation in the objectives of ***Affordable Energy*** (through implementation of energy efficiency measures and renewable energy and heat generation for businesses) ***Growing Energy Businesses*** (supplying products and services related to renewable and low carbon energy and heat generation) and ***Independent Energy*** (implementing local renewable and low carbon energy and heat generation)

The Carbon Reduction Commitment (CRC) Energy Efficiency Scheme is designed to improve energy efficiency and cut carbon dioxide emissions in large, non-energy-intensive organisations including local authorities, all central Government departments, water companies, supermarkets, hotels and banks. Energy use already covered under CCA and EU ETS is not included in CRC. The scheme, now in its second phase (1 April 2014 to 31 March 2019), is administered by the Environment Agency.

The qualifying period for phase 2 of the scheme was between 1 April 2012 and 31 March 2013. An organisation qualified for phase 2 if it:

- Had at least one settled half hourly electricity meter (sHHM).
- Used 6,000 megawatt hours (MWh) or more of qualifying electricity supplied through settled half hourly meters.

In each year of the current phase, all businesses registered under the scheme must do the following:

- Collate information about its energy supplies
- Submit a report about its energy supplies
- Buy and surrender allowances equal to the CO_2 emissions it generated
- Tell the Environment Agency about changes to its organisation that could affect its registration (designated changes)
- Keep records about its energy supplies and organisation in an evidence pack

Registration fees and annual fees apply to all businesses registered under the scheme. Significant fines are payable by those who qualify but did not register by the deadline for the current phase (registration closed on 31 January 2014).

This legislation is reflected in the Council's 2011 Carbon Management Plan (CMP), as described above.

The Council's CMP should be reviewed regularly and extended to include renewable energy and heat.

It is recommended that local businesses are encouraged to implement energy efficiency measures and renewable energy generation technologies to reduce local carbon emissions and drive up locally retainable business rates.

Further information: https://www.gov.uk/crc-energy-efficiency-scheme-qualification-and-registration

8. Energy Act 2011

The Cheshire East ***Energy Vision*** is supported by this legislation, especially the objective of ***Affordable Energy:*** The ECO funds implementation of energy efficiency measures and the Green Deal can help finance both these and renewable energy and heat generation for domestic properties. The legislation also support the objectives of ***Growing Energy Businesses*** (those supplying products and services related to energy efficiency and micro-renewable energy and heat generation and ***Independent Energy*** (micro-generation from renewable energy sources in the domestic sector).

This Energy Act has three principal objectives: tackling barriers to investment in energy efficiency; enhancing energy security; and enabling investment in low carbon energy supplies. This act implements some of the key measures required to deliver the UK Government's low carbon agenda, including:

- Green Deal – creation of the financing framework to enable the provision of fixed improvements to the energy efficiency of households and non-domestic properties under the Green Deal, a "pay as you save" mechanism (see below);
- Energy Company Obligation - enabling the creation of a new Energy Company Obligation to take over from previous obligations on energy companies, (the Carbon Emissions Reduction Target or CERT and Community Energy Saving Programme or CESP), to reduce carbon emissions in domestic properties through installation of energy efficiency measures;
- Private rented sector - ensuring that private residential landlords will be unable to refuse a tenants' reasonable request for consent to energy efficiency improvements, where a finance package or funding, such as the Green Deal and/or the Energy Company Obligation (ECO) is available as from April 2016 and making it unlawful to rent out a residential or business premise that could but does not reach a minimum energy efficiency standard (the intention is for this to be set at EPC rating "E") from April 2018.

The Green Deal and ECO are described in more detail in the Funding section of this document.

This legislation is reflected in the Council's existing Planning policy and draft Cheshire East Local Plan.

It is recommended that Business Support Services promote implementation of energy efficiency measures and renewable energy generation technologies by local businesses to help to reduce local carbon emissions. This can positively impact local energy businesses and increase the amount of business rates that can be retained locally.

Further information:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48199/3211-energy-act-2011-aide-memoire.pdf

9. Climate Change Agreements (Eligible Facilities) Regulations 2012 (as amended)

The Cheshire East ***Energy Vision*** is supported by this legislation in the objectives of ***Affordable Energy*** (Business energy efficiency and renewable energy and heat generation), ***Growing Energy Businesses*** (those supplying products and services related to energy efficiency and renewable / low carbon energy and heat generation) and ***Independent Energy*** (Driving businesses to implement renewable and low carbon energy and heat generation).

Climate Change Agreements (CCAs) are voluntary agreements between the Environment agency and eligible energy-intensive sectors that enable them to receive up to 90% reduction in the Climate Change Levy (CCL) if they sign up to stretching energy efficiency targets agreed with Government. The scheme is administered by the Environment Agency. For operators who hold a CCA, the CCL will be reduced by:

- 90% on electricity bills
- 65% on other fuels

A total of 53 industrial sectors across more than 9,000 sites have signed up to targets. These sectors range from aerospace, textiles and foundries to supermarkets and data centres. Targets apply to participating sectors from 2013 to 2020, with the scheme running until 2023. If all the sectors meet their targets from 2013 to 2020 against agreed baselines, this would:

- Reduce emissions of carbon dioxide by 19 million tonnes;
- Reduce primary energy consumption by approximately 100TWh;
- Deliver an estimated saving to participants of the Climate Change Levy of £300 million each year.

These savings will be delivered through the implementation of cost-effective measures such as high efficiency motors, variable speed drivers, energy efficient boilers, improved energy management systems and process optimisation.

This legislation is reflected in the Council's existing Planning policy and draft Cheshire East Local Plan regarding implementation of renewable and low carbon energy and heat generation.

It is recommended that local businesses are supported to implement energy efficiency measures and renewable energy generation to reach their CCAs. This could positively impact local energy businesses and renewable energy generation technology implemented as a result could increase the amount of locally retained business rates.

Further information: https://www.gov.uk/browse/business/waste-environment/climate-change-agreements

10. The Non-Domestic Rating (Renewable Energy Projects) Regulations 2013

The Cheshire East ***Energy Vision*** is supported by this legislation which could provide a significant income stream for the Council to help it finance many low carbon and renewable energy projects and meet all of its ***Energy Vision*** objectives.

These regulations add to earlier primary legislation on non-domestic rates (enabling Councils to retain up to 50% of additional business rates from all businesses) to enable Councils to retain 100% of new and increased business rates associated with renewable energy generation projects for Council-designated purposes.

This legislation is only just being absorbed and implemented by Councils in England. In Cheshire East, discussions to establish suitable procedures in conjunction with the local Valuation Office are already underway.

It is recommended that the Council focus resources to finalise and implement an agreed process with the local valuation office to share appropriate information on existing and new eligible renewable energy projects.

It is also recommended that local businesses are supported to implement renewable energy generation technologies to increase the level of business rates that can be retained locally.

Further information:http://www.cans.org.uk/notes/local-government/council-tax-and-non-domestic-rates-england-and-wales/40a-local-retention-of-non-domestic-rates

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6086/2146348.pdf

11. Environmental Permitting Regulations (England and Wales) (As Amended) 2013

> The Cheshire East ***Energy Vision*** will need to comply with this legislation which requires that ***Independent Energy*** implementations do not pollute the environment.

The Environmental Permitting Regulations implement the requirements of the Industrial Emissions Directive (IED) in UK law.

The regulations control certain industrial installations through a permit system. The permit sets out the requirements that must be met at the installation to achieve environmental quality standards and prevent pollution of the environment. Activities known as Part B and A2 activities are regulated by Local Authorities; these include smaller installations such as mobile waste plant. Part A1 activities, which include large waste management facilities (landfill, energy from waste etc.) and energy facilities, are regulated by the Environment Agency.

> The Council may be required to grant permits for certain activities as defined above, which may include stockpiling of biodegradable wastes suitable for Anaerobic Digestion or separation, processing and stockpiling of wastes suitable for use in energy recovery.
>
> This legislation is reflected in existing and draft new Cheshire East Planning Policies and strategy and the draft Cheshire East Plan.

Further information:http://www.defra.gov.uk/industrial-emissions/files/EPR-Regs-2013-consol-changes-RV-April-2013.pdf

12. The Energy Act 2013

> The Cheshire East ***Energy Vision*** is supported by this legislation in the objectives of ***Affordable Energy*** (Domestic consumers through better provision of information from Energy Suppliers and fairer pricing of energy through Market reforms), ***Growing Energy Businesses*** (supplying products and services related to energy infrastructure and renewable and low carbon energy generation) and ***Independent Energy*** (encouraging community investment in local renewable and low carbon energy generation).

This act focused on several aims including continued energy decarbonisation, market deregulation and reform. The main items included were:

- Power to set a new carbon decarbonisation target range for electricity generation by 2030 once the Committee for Climate Change sets a 5th carbon budget for the period 2027-2032

- Electricity Market Reform to attract £110 billion of investment for energy infrastructure projects (reviewed later) including the capacity market and contracts for difference
- Establishment of the Office for Nuclear Regulation
- Rights for the sale of the Government Pipeline and Storage System (energy pipelines including light oil pipelines and storage systems)
- Alignment of OfGEM and Government strategy through a joint Strategy and Policy Statement
- Consumer protection actions altering the terms of the Energy Supplier licences limiting the number of tariffs each can offer to the domestic sector and improving consumer communications with annual energy statements and enforced communication of the best energy deal available to domestic energy consumers.
- Introduction of rights for communities to receive renewable energy incentives.

This legislation is largely reflected in the Council's existing planning policies, Cheshire Replacement Waste Local Plan and the draft new Cheshire East Local Plan

Support for community-ownership of renewable energy projects should be strengthened in future supplementary planning documents.

Supporting local communities to implement renewable energy generation using these new rights can positively impact local energy businesses and increase the level of business rates that can be retained locally.

Further information: http://services.parliament.uk/bills/2012-13/energy.html

13. The Energy Savings Opportunity Scheme Regulations 2014

The Cheshire East ***Energy Vision*** is supported by this legislation in the objectives of ***Affordable Energy*** (Business energy efficiency and renewable energy and heat generation), ***Growing Energy Businesses*** (those supplying products and services related to energy efficiency and renewable / low carbon energy and heat generation) and ***Independent Energy*** (Driving businesses to implement renewable and low carbon energy and heat generation).

The Energy Savings Opportunity Scheme (ESOS) places a mandatory obligation on most large businesses and some public sector bodies in the UK to undertake comprehensive assessments of energy use and energy efficiency opportunities at least once every four years. The Environment Agency (EA) is the UK scheme administrator.

Although there is no requirement to implement changes identified in the energy assessments, doing so will offset the cost of completing the ESOS assessment and save organisations money by reducing their energy bills and other associated costs. Qualifying companies must complete their initial energy assessment and notify the EA of their compliance with this regulation by 5 December 2015.

The scheme is estimated to create £1.6bn net benefits to UK businesses as a result of energy savings.

This legislation is reflected in the Council's existing Planning policy and draft Cheshire East Local Plan regarding implementation of renewable and low carbon energy generation.

Supporting local businesses to implement energy efficiency measures and renewable energy generation to become more energy efficient could positively impact local energy businesses and increase the level of business rates that can be retained locally.

Further information:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/351158/ESOS_Guide_FINAL.pdf

14. Energy Market Referral and Electricity Market Reform 2014

The Cheshire East ***Energy Vision*** is supported by this market reform and oversight in the objectives of ***affordable energy*** (Domestic consumers through fairer pricing of energy through Market reforms) and ***independent energy*** (encouraging investment in local renewable and low carbon energy generation through the new energy pricing mechanisms). This will raise demand for local energy sector goods and services to assist with ***growing energy businesses***.

National Government policy has driven the privatisation and deregulation of the energy sector in the UK for the last 30 years and the UK has one of the most privatised energy sectors worldwide. Government pressure on the energy market continues through the regular oversight activities of OfGEM, which recently referred the whole UK energy market to the Markets and Competition Authority to investigate possible price-fixing of wholesale energy costs between the more established, large energy market players.[39]

Powers to reform the electricity market were also provided in the Energy Act 2013 and implemented in 2014. Electricity Market Reform (EMR) is aimed at ensuring that the energy market provides low carbon energy on a reliable basis to meet UK demand, while minimising costs to consumers.[40] EMR introduces two new mechanisms providing incentives for the investment required in the UK's energy infrastructure, namely:

- Contracts for Difference (CFD) – This provides a long-term energy pricing mechanism to offer security to investors in renewable and low carbon energy / heat generation assets whilst minimising the amount of Government support and

[39] https://www.gov.uk/cma-cases/energy-market-investigation
[40] https://www.gov.uk/government/policies/maintaining-uk-energy-security--2/supporting-pages/electricity-market-reform

the price to energy consumers required to encourage deployment of each different technologies.

- The Capacity Market – This provides a regular retainer payment to reliable forms of energy supply or energy demand reduction capacity in return for such capacity being available when the system is tight

Both mechanisms will be administered by National Grid. CFDs are discussed in more detail in the Funding section following. The Capacity Market assists National Grid in its role as System Operator to balance the nation's supply and demand for energy by enabling regular auctions for:

- Generators of controllable forms of energy to bid for stepping up energy generation at short notice
- Large-scale users of energy to bid to step down their demand for energy on a temporary basis at periods of high demand (Demand Side Balancing Reserve - DSBR)

An initial DSBR tender for the Winter of 2014/15 was won by Tata Steel and Flexitricity, collectively offering to reduce demand by 330MW when required. DSBR incentive payments are not included in the Funding section following as they only apply to a few very large energy-intensive businesses that might be eligible to bid.

This legislation is reflected in the Council's existing planning policies, Cheshire Replacement Waste Local Plan and the draft new Cheshire East Local Plan.

It is recommended that Cheshire East retain technical services to enable them to bid to sell Cheshire East–generated renewable energy under the CfD payments scheme in future auctions.

Part community ownership of all large-scale Solar PV schemes in the region should be encouraged, not only to enable payments for the Council or private owners through the CfD scheme but also to comply with the Community Energy Strategy.

Further information: https://www.gov.uk/government/collections/electricity-market-reform-capacity-market

15. Community Energy Strategy 2014

The Cheshire East ***Energy Vision*** is supported by this legislation in the objectives of ***Affordable Energy***, ***Growing Energy Businesses*** (those supplying products and services related renewable / low carbon energy generation) and ***Independent Energy*** (Driving up community involvement in ownership of local renewable and low carbon energy generation).

The Government published its Community Energy Strategy in January 2014. This sets out the strategy for giving communities more control over the energy they use and ultimately saving on their energy bills, which has many wider social and economic benefits.

The strategy describes community energy as many different types of community getting involved in energy issues in many different ways. Examples provided include a group of local people setting up their own solar installation or wind turbine as well as a local authority leading a collective purchasing scheme to help local people get a better deal on their energy tariff. The benefits of community-led action are energy security and savings on energy bills, both of which have wider social and economic benefits. The main objectives of the strategy are summarised below:

- Encouraging partnerships – e.g. shared ownership models with commercial renewable energy developers
- Increasing capability and capacity - giving communities access to information, advice and expertise
- Measuring impact – helping communities to evaluate the impact of projects which in turn will inform future Government policy
- Addressing issues related to communities generating their own electricity and heat – for example DECC has launched two funds for rural and urban community energy projects to provide finance needed at the pre-planning stage.
- Reducing energy use – e.g. increasing the Green Deal Communities scheme from £20m to £80m to provide a new opportunity for community groups, in partnership with local authorities, to get involved in energy efficiency.
- Managing energy demand – e.g. the rollout of smart meters to households by 2020.
- Purchasing energy – collective purchasing of energy and collective switching of energy suppliers.

This legislation is largely reflected in the Council's existing Planning policy and draft Cheshire East Local Plan regarding implementation of renewable and low carbon energy and heat generation but future planning policy should strengthen support for and requirements around community involvement in renewable and low carbon energy and heat generation projects. The recent announcements about Fairer Power also reflect this.

Supporting local communities to implement renewable energy generation could positively impact local energy businesses and increase the level of business rates that can be retained locally.

Further information: https://www.gov.uk/government/publications/community-energy-strategy

Recommendations

- Council projects involving the local preparation of pre-separated solid wastes for use in energy recovery should comply with the EU Industrial Emissions regulation.
- The Council's CMP should be reviewed regularly to see if new technologies, techniques and services reaching the market offer enhanced energy efficiency opportunities for the Council. Renewable energy and heat technologies should be included, going forwards.
- The Council should support local businesses and community groups to implement energy efficiency measures, renewable energy and heat generation to help them reduce their energy costs, positively impact local energy businesses and to increase the level of business rates that can be retained locally.
- The imposition of CIL on local developments should consider what additional local energy infrastructure may require funding as a result of the development, including, for example, upgrade and extension of local energy networks, development of heat networks, energy or fuel storage facilities and new, local renewable or low carbon energy generation plant.
- Resources should be focused to finalise and implement an agreed process with the local valuation office to share appropriate information on existing and new eligible renewable energy projects.
- Support for community-ownership of renewable energy projects should be strengthened in future supplementary planning documents.
- Technical services should be retained to enable them to bid to sell Cheshire East–generated renewable energy under the CfD payments scheme in future auctions.
- Part community ownership of all large-scale Solar PV schemes in the region should be encouraged, not only to enable payments for the Council or private owners through the CfD scheme but also to comply with the Community Energy Strategy.

2.4.3 National Planning Policy

The Cheshire East ***Energy Vision*** is supported by National Planning Policy in the objectives of ***Affordable Energy*** (Encouraging energy efficiency improvements) and ***Independent Energy*** (encouraging investment in local renewable and low carbon energy generation) and in ***Growing Energy Businesses*** (those supplying the energy efficiency and renewable energy measures and services).

1. The National Planning Policy Framework[41]

   This document was published on 27th March 2012 and sets out the Government's planning policies for England and how these are expected to be applied. This directly relates to what should be covered with the Local Plan and how planning applications should be handled by Local Authorities. The most relevant polices to energy are;

   95 - To support the move to a low carbon future, local planning authorities should:

   - plan for new development in locations and ways which reduce greenhouse gas emissions;
   - actively support energy efficiency improvements to existing buildings; and
   - when setting any local requirement for a building's sustainability, do so in a way consistent with the Government's zero carbon buildings policy and adopt nationally described standards.

   96 - In determining planning applications, local planning authorities should expect new development to:

   - comply with adopted Local Plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and
   - take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.

   97 - To help increase the use and supply of renewable and low carbon energy, local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources. They should:

   - have a positive strategy to promote energy from renewable and low carbon sources;
   - design their policies to maximise renewable and low carbon energy development while ensuring that adverse impacts are addressed satisfactorily, including cumulative landscape and visual impacts;
   - consider identifying suitable areas for renewable and low carbon energy sources and supporting infrastructure, where this would help secure the development of such sources;

[41] http://planningguidance.planningportal.gov.uk/blog/policy/

- support community-led initiatives for renewable and low carbon energy, including developments outside such areas being taken forward through neighbourhood planning; and
- identify opportunities where development can draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.

98 - When determining planning applications, local planning authorities should:

- not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and also recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and

- approve the application if its impacts are (or can be made) acceptable. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should also expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas.

2. National Policy Statements on Energy Infrastructure[42]

Further policy and guidance with regards energy infrastructure is available. Much of this is detailed and high level and not particularly relevant to individual local authorities.

3. Planning Practice Guidance

This guidance further assists local councils in developing policies for renewable energy in their local plans, and identifies the planning considerations for a range of renewable sources such as hydropower, active solar technology, solar farms and wind turbines.

This legislation is reflected in the Council's existing planning policies, Cheshire Replacement Waste Local Plan and the draft new Cheshire East Local Plan.

[42] www.gov.uk/consents-and-planning-applications-for-national-energy-infrastructure-projects#national-policy-statements-for-energy-infrastructure

2.5 Regional and Local Policy and Planning

This section covers energy-related policies and plans in place or being developed by the Cheshire and Warrington Local Enterprise Partnership and by Cheshire East Council to provide a context of what existing local policy can support the Council's Energy Vision and related plans.

2.5.1 North West Regional Policy

A suite of planning policy was published and approved during the time of the Regional Government experiment. The Regional Spatial Strategy[43], Regional Planning Guidance and renewable energy capacity studies contained detailed evidence and policy to a sub-regional level. All this was officially revoked[44] in 2013.

2.5.2 Cheshire and Warrington LEP

The Cheshire and Warrington LEP's strategies are well placed to provide for grant-funded business support projects aimed at ***Growing Energy Businesses*** in Cheshire East particularly linked to The Cheshire Science Corridor and Crewe High Growth City. Crewe could also benefit from infrastructure funding to support decentralised energy networks furthering ***Independent Energy*** aspirations.

1. European Structural and Investment Fund Strategy[45] (ESIF)

   In January 2014 Cheshire and Warrington LEP submitted its ESIF strategy for 2014-2020 to Government. The strategy acknowledges the requirement to move to a low carbon economy and states that £13.8m from the European Regional Development Fund (ERDF) will be dedicated towards low carbon opportunities. This is expected to be matched by £13.8m of public money. The strategy is being developed with the local authorities, academic and business representation. From this several themes will be produced and requests then put out to deliver projects within these thematic areas. Projects will be assessed on jobs and growth and will be either capital or revenue Projects. Further information on ESIF is provided in the Funding section following.

2. Strategic Economic Plan[46] (SEP)

   The SEP was developed and published alongside the ESIF Strategy and sets out local strategic economic priorities. There are two strategic priorities, which potentially impact on energy for Cheshire East;

[43] www.knowsley.gov.uk/pdf/PG18_RegionalSpatialStrategy-for-the-NorthWest.pdf
[44] www.legislation.gov.uk/uksi/2013/934/pdfs/uksi_20130934_en.pdf
[45] www.871candwep.co.uk/media/871-ESandI-.pdf
[46] www.871candwep.co.uk/media/Strategic-Economic-Plan-and-Growth-Plan.pdf

The Cheshire Science Corridor

While extending across the LEP area, it is Alderley Park and Jodrell Bank which are the key locations for Cheshire East. Within this priority programme, there are eight themes of which energy is one. Within the energy theme, it is likely to be the business support programme aimed at ***Growing Energy Businesses,*** accelerating growth in industries, supply chains and technologies with high growth potential that will be highlighted.

Crewe High Growth City

Another priority within the SEP is centred on Crewe, which is already a priority for Cheshire East, backed up with policies in The Local Plan and projects such as All Change Crewe. Crewe is set to become a key focus for investment with nationally important projects such as High Speed Two (HS2: the planned new high speed railway network linking London to the North-West and North-East).

This growth will see interventions in infrastructure. There are already plans for a district heat network for new developments which will help with decentralised and ***Independent Energy*** aspirations. Supporting interventions in innovation and skills can further assist in ***Growing Energy Businesses***.

To support the delivery of the SEP a Growth Deal from the Government has been secured for Cheshire and Warrington for 2015 onwards, totalling £142.7m. Further information about the Growth Deal is provided in the Funding section, below.

It is recommended that Cheshire East continues to attend the Cheshire and Warrington LEP meetings, especially the ESIF Steering Group, and presents its Energy Vision to this group to enable funds to be ear-marked for energy-related projects which drive the ***Energy Vision*** forward.

2.5.3 Cheshire East Council

1. Planning Policies

> Cheshire East's existing planning policies are supportive of all of the objectives within the ***Energy Vision*** but some specific recommendations are made below to strengthen this.

Cheshire East's statutory planning policies will be one of the key mechanisms to drive the Energy Vision with private developers. Developments will have to abide by these policies and may be required to make an additional financial contribution via the Community Infrastructure Levy. This may for example help to pay for upgrades to a decentralised energy network beyond the boundaries of the new development.

Cheshire East's Planning Policies are in a state of flux. Prior to the adoption of documents in the new Local Plan[47], the Saved Policies from the Congleton Local Plan[48], Crewe and Nantwich Local Plan[49], Macclesfield Local Plan[50], Cheshire Waste Plan[51] and Cheshire Minerals Plan[52] will continue to be used. There are currently policies in all these documents relating to energy.

As the Council has high energy aspirations, policy could go further. In the short to medium term it is recommended that this is best taken forward by ensuring a suite of Supplementary Planning Documents on energy and energy efficiency projects are produced.

[47] http://cheshireeast-consult.limehouse.co.uk/file/2949281
[48] www.cheshireeast.gov.uk/planning/spatial_planning/saved_and_other_policies/congleton_local_plan.aspx
[49] www.cheshireeast.gov.uk/planning/spatial_planning/saved_and_other_policies/crewe_and_nantwich_local_plan.aspx
[50] www.cheshireeast.gov.uk/planning/spatial_planning/saved_and_other_policies/macclesfield_local_plan.aspx
[51] www.cheshireeast.gov.uk/planning/spatial_planning/saved_and_other_policies/cheshire_waste_local_plan.aspx
[52] www.cheshireeast.gov.uk/planning/spatial_planning/saved_and_other_policies/cheshire_minerals_local_plan.aspx

2. Documents Supporting Planning Policy

While not statutory planning documents, the following were commissioned by Cheshire East Council as evidence to support planning policy.

Cheshire East climate change & sustainable energy planning research: technical report[53] produced in 2011 by LDA Design for Cheshire East Council, This report looks at the potential of various renewable energy technologies in Cheshire East as well as making recommendations with regards planning policies.

Renewable Energy Policy Study[54] produced for Cheshire East Council in 2010 by EA Technologies. This report suggests planning policies to encourage sustainable development but also back the idea of Council backed Energy Companies and investment in low carbon technologies

Cheshire East Council Draft Waste Strategy[55] went to cabinet and was approved October 14th 2014. It recommends the preparation of a business case for the treatment of co-mingled organic waste using Dry AD to support the future procurement of a treatment solution.

3. Other High Level Cheshire East Policy

Residents First[56]

"Putting Residents First" is a promise to the residents of and communities of Cheshire East and to work hard to deliver on this promise by living fulfilling five core values to underpin its success. Putting Residents First is about really listening and understanding what residents and businesses need and responding appropriately to provide the best possible Service.

- This requires Flexibility, which means the council adapting quickly to changing circumstances and learning together from experiences
- Innovation is about the council being creative in thinking and the way it approaches work and challenging convention where this no longer seems appropriate
- Taking personal Responsibility is at the heart of the council values in delivering the promise, and ensuring efficient use of resources, whether this is people, funding, processes, information or technology

Bringing this together is Teamwork, respecting and working well with others to collectively achieve the best outcomes for residents and communities.

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[53] www.cheshireeast.gov.uk/planning/spatial_planning/research_and_evidence/climate_change.aspx

[54] www.cheshireeast.gov.uk/planning/spatial_planning/research_and_evidence/renewable_energy_policy_study.aspx

[55] http://moderngov.cheshireeast.gov.uk/ecminutes/documents/s36860/Waste%20Strategy%20-%20Appendix%202.pdf

[56] www.cheshireeast.gov.uk/jobs_and_careers/working_for_cheshire_east.aspx

The strands in the ***Energy Vision*** on ***Independent*** and ***Affordable Energy*** fulfil the broader role of Residents First securing Cheshire East as a location of preference to live and work.

Strategic Commissioning Authority[57]

Cheshire East Council leadership has outlined its policy of becoming a strategic commissioning authority as opposed to keeping most services wholly in-house. There is already an Environmental Operations company ANSA, a Bereavement service company Orbitas and the Everybody Sport and Leisure Trust running leisure services. Further arms length companies or Alternative Service Delivery Vehicles (ASDVs) will be rolled out.

Cheshire East Energy Ltd fits into the Commissioning Authority model. This will be the key vehicle by which Cheshire East Council delivers the ***Energy Vision***.

Cheshire East Carbon Management Plan

The Carbon Reduction Commitment[58] (CRC) is designed to improve energy efficiency and cut carbon dioxide emissions in large, non-energy-intensive organisations including local authorities. The scheme started in 2010 and is now in its second phase until 31 March 2019. Cheshire East Council is a statutory participant in CRC. It must report annually on its carbon emissions and buy allowances to cover these carbon emissions. Cheshire East Council also signed up to the Nottingham Declaration in 2009, which is a commitment to reducing CO_2 emissions.

A Carbon Management Plan[59] was approved by cabinet in April 2011. It aimed to reduce CO_2 by 25% by 2016 and make potential financial savings and cost avoidance of around £13.2 million by that date. Since the implementation of the initiative, the council has saved 1200 tonnes of CO_2 annually and has already met its 25% CO_2 reduction target. The target has now been increased to 35%[60]

[57] www.cheshireeast.gov.uk/council_and_democracy/council_information/media_hub/leaders_speech_for_council.aspx
[58] www.gov.uk/crc-energy-efficiency-scheme-qualification-and-registration
[59] www.cheshireeast.gov.uk/pdf/Cheshire%20East%20CMP%20Final%2023%20February%202011.pdf
[60] Personal communication from Emma Griffiths via Colin Farrelly

It is recommended that the use of renewable energy technologies is made more prominent in the Carbon Management Plan. While energy efficiency measures can make the quickest and most cost effective impact, the remaining large carbon reductions will only be met by switching to low carbon ***Independent Energy*** generation.

Projects which make use of financial incentives such as FiTs and RHI on Council assets should be prioritized before the tariffs are significantly reduced in order that ***Affordable Energy*** can be maximised.

Recommendations

- Cheshire East Council needs to highlight the importance of its Energy Vision to the Cheshire and Warrington LEP so that it can influence the way that emerging plans for funding themes and streams are shaped
- The Waste and Minerals Plans, which are in development, should be given a strong energy steer at the commissioning phase in line with the Energy Vision.
- A suite of SPDs covering district heating / decentralised energy, community renewable energy and specific energy technologies should be produced to give assistance to developers in producing high quality planning applications. The recent reports by EA Technologies and LDA Design can provide the evidence base and context for these additional documents.
- The Community Infrastructure Levy policy / criteria should include elements to develop independent / decentralised energy infrastructure.
- The Carbon Management Plan should be amended to bring forward renewable energy projects highlighted Cheshire East's Asset Investment Programme, especially those utilising the FiT and RHi incentives
- The Draft Waste Strategy is supportive of energy and it is recommended that this is reinforced in the Local Waste Plan, when produced.

2.6 Financing and funding sources

In order to develop a portfolio of energy-related projects to achieve the Energy Vision, Cheshire East Council will need to leverage funds from a range of funding and financing options both public and private.

This section provides an overview of the main sources of funding and finance for energy-related projects, which are expected to be available in the immediate and medium to long-term. Grants and loans from EU and UK sources are presented separately from other sources of finance such as green tariffs, pension funds and community investments. **Please note that this is not an exhaustive list of available funding and finance.**

The table below summarises all funding and finance sources reviewed and categorises them by status i.e. whether they present an immediate funding or finance opportunity (green), an opportunity in the next 6 to 12 months (orange) or the funding/finance is to be confirmed, is coming to an end or is not directly applicable (red).

Source	Type	Status of opportunity
The North West Fund for Energy and Environmental	Grant/Loan	
Green Investment Bank	Grant/Loan	
Innovate UK	Grant/Loan	
Energy Efficiency Loans Scheme (Salix Finance)	Grant/Loan	
Low Carbon Fund (The Ashden Trust)	Grant/Loan	
Energy Companies Obligation	Other	
Green Deal Finance Plans	Other	
Feed in Tariff and Export Tariff	Other	
Renewable Heat Incentive	Other	
Council Prudential Borrowing	Other	
Equity Finance	Other	
Crowd Funding	Other	
Energy Performance Contracting	Other	
Enhanced Capital Allowances	Other	
Enterprise Investment Scheme	Other	
Seed Enterprise Investment Scheme	Other	
European Structural and Investment Funds	Grant/Loan	
Local Growth Fund	Grant/Loan	
Community Infrastructure Levy	Other	
Renewable Energy Guarantees of Origin and Levy Exemption Certificates	Other	
Contracts for Difference	Other	
Business Rate Retention	Other	
Local Authority Pension Funds	Other	
Regional Growth Fund	Grant/Loan	
North West Evergreen Fund	Grant/Loan	
Renewables Obligation Certificates	Other	
EU Emissions Trading Scheme	Other	

Table 3- Summary of sources of funding and finance

Key

Immediate funding

6 – 12 months

To be confirmed / ending / not directly applicable

2.6.1 EU and UK Grants and Loans

1. EU Structural and Investment Funds (ESIF)

> ESIF could support Cheshire East Council in achieving its key objective of ***growing energy businesses***, which is part of the Energy Vision.

The Common Strategic Framework (CSF) sees four previously distinct EU funds; the European Regional Development Fund (ERDF), the European Social Fund (ESF), the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF), align under the umbrella of the EU Structural and Investment Funds (ESIF) Growth Programme for the funding term of 2014-2020[61]. In England, the majority of the ESIF Growth Programme is allocated to LEPs. LEPs were invited to apply for funding through the submission of strategic plans in early 2014. These applications, which include financial plans and performance targets, were reviewed by Government through the EU Growth Board. The top priorities of the ESIF Growth Programme are:

- Innovation and research and development
- Support for small and medium-sized businesses
- Low carbon
- Skills
- Employment and social inclusion

The ESIF strategy for **Cheshire and Warrington LEP** includes a target objective to support the shift towards a low carbon economy and a funding allocation from the European Regional Development Fund (ERDF) has been planned to help deliver this. This target objective applies to all sectors and the aim is to address climate change issues and promote sustainable economic growth by responding to opportunities for low carbon goods and services which are expected to experience growth. The target beneficiaries for Cheshire and Warrington LEP's ESIF strategy are:

- Businesses in the LCEGS sector
- Construction businesses
- Businesses in the energy sector
- Public, Further and Higher Education Institutions, where working in partnership with businesses or social enterprises
- SMEs operating in the LEP area (i.e. demand beneficiaries)

Cheshire East Council has had an opportunity to contribute to the development of the Cheshire and Warrington LEP ESIF strategy along with other local authorities in the region. Whilst there is a planned funding allocation for low carbon projects and activities, it should be noted that the exact delivery plan including how the funding is to

[61] https://www.gov.uk/government/policies/making-european-funding-work-better-for-the-uk-economy/supporting-pages/european-structural-and-investment-funds-growth-programme

be distributed or allocated, is not yet known. Included in ESIF is the £1.9m Rural Leader Programme devolved directly to Cheshire East and a Local Action Group.

How funds will be allocated to low carbon energy projects should become clear during 2014-15. It is therefore recommended that Cheshire East Council engages with the LEP through meetings and forums that are relevant to this topic.

ESIF	
Total fund	£13.8m of which: *Low Carbon Markets and Technologies - £5m* *Energy and Resource Efficiency for SMEs - £5.8m* *Evergreen fund for low carbon capital developments - £3m*
Funding period	2014 - 2020
Type of funding	Grant - 50% match funding is required
Eligible activities	• Energy and resource efficiency for SMEs • Growing energy businesses • Localised carbon capture and utilisation • Energy storage • Energy from waste • Decentralised/off grid renewable energy • Resilient energy infrastructure
Further information	http://www.871candwep.co.uk/media/871-ESandI-.pdf

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

This is not an immediate funding opportunity, but there may be further funding available in the future. If this does emerge, it would present an opportunity for commercial projects aimed at achieving the key objective of ***energy independence*** in Cheshire East Council's Energy Vision, such as decentralised energy infrastructure.

The Joint European Support for Sustainable Investment in City Areas (JESSICA) is a policy initiative of the European Commission (EC) developed jointly with the European Investment Bank (EIB) and in collaboration with the Council of Europe Development Bank (CEB)[62]. It is a sustainable support instrument that provides investment through supporting projects.

[62] http://ec.europa.eu/regional_policy/thefunds/instruments/jessica_en.cfm#1

The JESSICA is funded by contributions from the ERDF, which are allocated to Urban Development Funds (UDFs) that invest them in projects included in an integrated plan for sustainable urban development. This is done through the provision of equity, loans and/or guarantees.

The North West's UDF is called **Evergreen**. The fund is a partnership between 16 local authorities (including Cheshire East) and it exists to support the delivery of commercial property and infrastructure projects in Greater Manchester, Cumbria, Cheshire and Lancashire. It provides funding for eligible projects that are viable but are not able to obtain financing from traditional sources. The current Evergreen fund has now been invested. There are proposals by some North West LEPs to allocate further ERDF funding to Evergreen for future projects, for example Cheshire and Warrington LEP has committed £3m in its ESIF strategy (see above).

North West Evergreen Fund	
Total fund	Unknown, but at least £3m has been committed by Cheshire and Warrington LEP through its ESIF strategy
Funding period	Current period now closed. Future funding to be confirmed.
Type of Funding	Debt funding
Eligible activities	• Decentralised/off grid renewable energy • Resilient energy infrastructure. Exit strategy is required to ensure a short term payback period in order that funds may be recycled as efficiently as possible.
Further information	http://northwestevergreenfund.co.uk/

3. Joint European Resources for Micro to Medium Enterprises (JEREMIE)

This presents an immediate funding opportunity for ***growing energy businesses*** in Cheshire East, which is a key objective of the Energy Vision.

JEREMIE is an initiative of the European Commission developed together with the European Investment Fund (EIF).[63] It promotes the use of financial engineering instruments to improve access to finance for SMEs via Structural Funds interventions. EU countries can use part of their European structural fund allocations to invest in revolving instruments such as venture capital, loan or guarantee funds.

These funds can support a number of activities including creation of new business or expansion of existing ones, technological modernisation of productive structures to help reach low carbon economy targets and productive investments which create and safeguard sustainable jobs.

[63] http://ec.europa.eu/regional_policy/thefunds/instruments/jeremie_en.cfm#2

The North West Fund is financed by the ERDF and the EIB under the JEREMIE programme. It is a £155m evergreen investment fund established to provide debt and equity funding to small and medium sized enterprises in the North West of England. The fund's initial investment period extends until December 2015, with a subsequent realisation period through to December 2022.

The Fund is made up of several different funds managed by different Fund Managers and aims to address an identified gap in the lending, venture capital and private equity markets. The North West Fund for Energy & Environmental is managed by 350 Investment Partners.

The North West Fund for Energy & Environmental	
Total fund	Businesses can apply for £200,000 up to £1.2million
Funding period	Up to December 2015
Type of funding	Equity and quasi-equity finance
Eligible activities	Growth and expansion plans of SMEs in the low carbon and renewable energy industry
Further information	http://www.thenorthwestfund.co.uk/funds/energy-environmental

4. Local Growth Fund

This may present a funding opportunity for ***growing energy businesses*** and ***independent energy projects.***

The Government has committed to negotiating a 'Growth Deal' with every Local Enterprise Partnership (LEP)[64] with funding coming from a £2 billion annual Single Local Growth Fund (LGF) to be spent under the direction of LEPs. The LGF is a package of infrastructure funding and is expected to be match funded locally. The allocated fund is to target the growth priorities identified in the Strategic Economic Plan for the LEP area and the Government will expect the LEP to show support for housing, transport and skills.

The payment is to be made as a single annual grant, made at the start of each financial year. As the funding is intended to target the LEP's identified growth priorities the Government will expect evidence of commitment through a report. This report is required annually and shall detail how the funds were used and the effectiveness and propriety of the decision-making involved.

Cheshire and Warrington LEP has secured £142.7m from the Local Growth Fund to support economic growth in the area from 2015 onwards. The 'Growth Deal' will support the delivery of a number of local growth measures set out in the Strategic

[64] http://www.local.gov.uk/c/document_library/get_file?uuid=7b63cf03-d7b0-49ea-977f-895f8ef6c70b&groupId=10180

Economic Plan (SEP) including growing the local skills and business base in key sectors such as energy. Specific commitments in this area include the delivery of a local growth hub, which will coordinate and simplify business support so that it joins up national, local, public and private support. The aim is to create a seamless customer experience for businesses, which makes it easy for them to get the right support at the right time.

How funds will be allocated to support ***growing energy businesses*** or ***independent energy*** projects should become clear during 2014-15. It is therefore recommended that Cheshire East Council engages with the LEP through relevant meetings and forums.

Local Growth Fund	
Total fund	£142.7m secured to date for Cheshire and Warrington
Funding period	2015 onwards
Type of funding	Grant
Eligible activities	Local growth measures set out in the Strategic Economic Plan for Cheshire and Warrington LEP
Further information	http://www.871candwep.co.uk/

5. Regional Growth Fund

This may present a funding opportunity for achieving two key objectives in Cheshire East Council's Energy Vision: ***Growing Energy Businesses*** and ***Independent Energy***, subject to future funding availability.

The Regional Growth Fund (RGF) is a competitive Government fund operating across England to provide grants to private sector-led projects and programmes with significant potential for economic growth. A total of £3.2 billion was to be allocated and drawn down by successful bidders by March 2017. Round 6 closed in September 2014 with successful bids being announced early 2015. Successful bidders in Round 6 will have until March 2017 to draw down funding, which suggests that Round 6 marks the end of the fund.

It is recommended that Cheshire East Council seeks an update from Government in early 2015 in case there is an underspend leading to a further funding round.

Regional Growth Fund	
Total fund	Applications for minimum £1 million
Funding period	Up to March 2017 - to be confirmed
Type of funding	Grant - 100% private sector match is required
Eligible activities	Private sector-led projects which lead to significant economic growth (jobs).
Further information	https://www.gov.uk/understanding-the-regional-growth-fund

6. Green Investment Bank

This is an immediate funding opportunity for supporting ***independent energy*** and ***affordable energy*** projects in Cheshire East.

The Green Investment Bank (GIB) was set up by the UK Government and is underwritten with £3.8bn of public funds. The capital is utilized to back green projects with current investments being focused in the areas of offshore wind, energy efficiency and waste & bioenergy.

Green Investment Bank (GIB)	
Total fund	Underwritten by £3.8b public funds
Funding period	Ongoing
Type of funding	Loans
Eligible activities	To gain funding, each proposal must pass a "green impact' assessment, which refers to the following five measures: • The reduction of CO_2 • The advancement of efficiency in the use of natural resources • The protection or enhancement of the natural environment • The protection or enhancement of biodiversity • The promotion of environmental sustainability Energy Efficiency investments Projects include: • Building retrofits - e.g. lighting, insulation, glazing • Onsite generation - e.g. CHP, renewable heat, heat pumps • Industrial process - e.g. motors, pumps, kilns • Infrastructure - e.g. street lighting, heat networks, transport, smart meters

	The GIB offers a green loan specifically set up to aid local authorities in the transition to low energy street lighting, which Glasgow City Council has benefited from. Waste and bioenergy investments The GIB has recently announced investment in a green power plant in Derby. The plant will help divert household waste from landfill and will generate renewable electricity. The project is expected to run for 25 years and will generate enough electricity to power 14,000 homes.
Further information	http://www.greeninvestmentbank.com/

7. Innovate UK

Innovate UK (formerly the Technology Strategy Board) offers support and funding to help deliver technologies with the greatest scope for improving business, the economy and society.

Over £70m was invested in energy projects between 2007 and 2012. This included £29.5m in hydrogen and fuel cells technologies and £19.5m in carbon abatement technologies.

A priority area identified by Innovate UK is the energy 'trilemma' of a need for low carbon energy, the security of supply of this energy and its affordability, which directly links to Cheshire East Council's ***Energy Vision.***

As well as financial support for research in key areas, Innovate UK also operates a tool called the Knowledge Transfer Network Ltd (KTN). The KTN has over 20,000 members across a multitude of specialties. The KTN gives access to specialist knowledge and networking opportunities.

Innovate UK	
Total fund	Through its 2014 -2015 blueprint for growth, £400m has been ring-fenced for accelerating innovation within the UK, with over £80m of that dedicated to projects in energy.
Funding period	2014 - 2015
Type of funding	Grant funding – this is awarded through competitions, which are usually open for between two and eight months. Funding rates are dependent on the size of organisation applying and type of research activity that is to be funded. If a public sector organisation that is working with a business on an innovation project is not obtaining economic benefit from this, it may be

	entitled to 100% grant funding.
Eligible activities	Each competition covers a different topic of research but in all cases eligible activity includes R&D and innovation carried out by businesses, research organisations or public sector organisations working with business on innovation. This includes feasibility studies, industrial research and experimental development.
Further information	https://www.innovateuk.org/

8. Salix Finance

This presents an immediate funding opportunity for Cheshire East Council for ***Affordable Energy*** projects.

Salix Finance is a not-for-profit organisation funded by the Department for Energy and Climate Change, the Department for Education, the Welsh Government, the Scottish Government and Higher Education Funding Council for England. Salix Finance provides 100% interest-free capital for the public sector to reduce their energy costs by enabling the installation of modern, energy efficient technologies and replacing dated, inefficient technologies.

Salix Finance is keen to work with organisations as they develop and deliver on their carbon management plans and also look to build long term relationships by agreeing funding of projects for subsequent years. The main funding programme in England is the energy efficiency loans scheme. A Recycling Fund (financial savings from projects supported are returned to the fund) for energy projects in the public sector exists but is not open to new applications.

The Salix fund is ideal for and should be considered for all shorter-term pay-back projects (up to 5 years) such as energy saving and efficiency improvements on Council building assets.

Energy Efficiency Loans Scheme - Salix Finance	
Total fund	Up to 100% of the costs of a project can be financed through a loan
Funding period	Ongoing
Type of funding	Interest-free loan to be paid back by direct debit on a 6-monthly basis over 4 years.
Eligible activities	• Energy saving projects in public sector bodies - only those projects where the resultant energy savings, over the lifetime of the project, go directly back to the public sector and the public sector gains a direct financial benefit are eligible.

	• Projects must be 'additional' i.e. they would not have happened without this funding. • Projects must have a payback of less than 5 years at a cost of £100 per tonne of CO_2 over the lifetime of the project. • Eligible energy efficiency technologies include boilers, building management systems, heating, ventilation, cooling, computer & IT systems, energy from waste, insulation, lighting and renewable energy.
Further information	http://salixfinance.co.uk/loans/england-loans

9. The Ashden Trust

This presents an immediate funding opportunity for Cheshire East Council for ***Affordable Energy*** projects.

The Ashden Trust is a grant-making charity that supports programmes focusing on climate change, sustainable development or on improving the quality of life in poorer communities. The Trust recognises the importance of bringing about significant action on climate change and makes funds available through the Low Carbon Fund.

Low Carbon Fund (The Ashden Trust)	
Total fund	Unspecified
Funding period	Applications can be made at any time
Type of funding	Grant funding
Eligible activities	• The Trust will work with an applicant to research their area of interest and bring forward a suitable proposal for a grant. Unsolicited proposals are not normally accepted. • Programmes must have a focus on energy efficiency, green finance or cultural shift (behaviour change). • Proposals must come from charitable or not-for-profit organisations.
Further information	http://www.ashdentrust.org.uk/lowcarbonfund.html

2.6.2 Other sources of finance

1. Community Infrastructure Levy

> This presents an opportunity to raise funds to support the development of ***Independent Energy*** infrastructure in line with the Cheshire East Energy Vision. Cheshire East Council has stated in its Infrastructure Delivery Plan (part of Cheshire East Local Plan) that it intends to introduce the Community Infrastructure Levy.

The Community Infrastructure Levy (CIL) came into force in April 2010. It allows local authorities in England and Wales to raise funds from developers undertaking new building projects in their area. The money can be used to fund a wide range of infrastructure that is needed as a result of development.

The Government has decided that this tariff-based approach provides the best framework to fund new infrastructure to unlock land for growth. Levy rates will be set in consultation with local communities and developers and charging authorities must produce a charging schedule setting out the levy's rates (£ per square metre) in their area; this will provide developers with much more certainty 'up front' about how much money they will be expected to contribute, thus speeding up the development process. The levy creates a fairer system, with all but the smallest building projects making a contribution towards additional infrastructure that is needed as a result of their development and the creation of sustainable communities as set out in the local development framework.

The levy is payable on new building for use by people; buildings housing plant and machinery, structures such as pylons and changes of use of buildings (unless floorspace has increased) will not attract a charge.

The levy is intended to fill the funding gaps that remain once existing sources (to the extent that they are known) have been taken into account. Local authorities will be able to look across their full range of funding streams and decide how best to deliver their infrastructure priorities, including how to utilise monies from the levy. This flexibility to mix funding sources at a local level will enable local authorities to be more efficient in delivering the outcomes that local communities want.

> The Council can specify categories of infrastructure on which the CIL Levy will be spent and will need to prepare a Charging Schedule that will be subject to consultation and formal examination. It is recommended that ***independent energy*** infrastructure is included as a category of eligible infrastructure spending.

Community Infrastructure Levy	
Total fund	Charging schedule yet to be prepared and consulted on.
Funding period	Ongoing
Type of funding	Revenue
Eligible activities	Categories of infrastructure specified by the Council.
Further information	https://www.gov.uk/government/policies/giving-communities-more-power-in-planning-local-development/supporting-pages/community-infrastructure-levy

2. Energy Company Obligation

This presents an immediate opportunity the Council to achieve more ***affordable energy*** in Cheshire East, especially for those residential constituents in fuel poverty. An example of a local authority that has taken this approach is Southampton City Council who formed a partnership with an obligated energy company and procured a contractor (MITIE) to deliver energy saving measures under ECO to 2000 council tenants and private households.

Energy companies who are required to deliver Energy Company Obligation (ECO) are allocated their individual obligations (targets) under each of the three ECO programmes by OfGEM, who calculate these according to the number of domestic customers and the amount of energy that the energy company supplies. The overall targets or obligations for each ECO programme are shown below.

- Home Heating Cost Reduction Obligation (HHCRO) or 'Affordable Warmth' - £4.2 billion savings by 31 March 2015.
- Carbon Emissions Reduction Obligation (CERO) - 14 million tonnes of CO_2 ($MtCO_2$) saved by 31 March 2015.
- Carbon Saving Community Obligation (CSCO) - 6.8 $MtCO_2$ saved by 31 March 2015.

The ECO scheme will be extended to March 2017 with new targets imposed for CERO, CSCO and HHCRO at a pro rata of the March 2015 levels.

It is recommended that Cheshire East Council work in partnership with one or more energy supply companies to maximise the ECO available for eligible council tenants and private households in the area in conjunction with a developer / builder chosen to maximise benefits to the local business and domestic community. Energy efficiency awareness raising and advice to households should accompany such a programme.

Energy Company Obligation	
Total fund	About £1.3 billion per year for current period (to March 2015) of which £540 million per year is available from HHCRO and CSCO (combined) and £760 million per year is available from CERO.
Funding period	Current period ends 31 March 2015. Extended period is 1st April 2015 to 31st March 2017.
Type of funding	100% of the cost of approved energy measures installed in an eligible household will be paid for by the energy company.
Eligible activities	HHCRO – Measures which improve the ability of low income households to heat their homes including insulation and replacement or repair of a boiler or electric storage heater. Low income households must be in receipt of qualifying benefits, such as pension credit, child tax credit and income support. CERO – Loft insulation, cavity wall insulation, other insulation measures and connections to district heating systems in hard to treat properties. CSCO – Insulation measures and connections to domestic district heating systems supplying areas of low income, including rural low income areas. Low income households must be in receipt of qualifying benefits (see HHCRO).
Further information	https://www.ofgem.gov.uk/ofgem-publications/59015/energy-companies-obligation-eco-guidance-suppliers-15-march.pdf

3. Green Deal Finance Plans

This presents an immediate opportunity for owners/occupiers of commercial and residential properties to access finance to make energy efficiency improvements and to install micro renewable energy generation, which will help to achieve more ***affordable and independent energy*** in Cheshire East. When local companies engage in this opportunity it assists business growth, especially ***growing energy businesses***.

Most of the guidance on Green Deal finance is aimed at domestic properties but the same process applies to non-domestic properties.

To obtain a Green Deal Finance Plan a Green Deal assessment must be carried out on the property by an approved Green Deal assessor. This will produce a Green Deal Advice Report (valid for 10 years) which contains the recommended measures for

improving the energy efficiency of the property and associated savings. The report can be used to get a Green Deal Finance Plan from an approved Green Deal Provider who can also arrange for the measures to be installed at the property by approved companies.

Finance can be obtained from a Green Deal Provider for an amount based on what the property owner/occupier is expected to save on energy bills as a result of installing the measures. The annual repayments on the loan should not be more than the savings made on the energy bill. The interest rate is determined by the amount of the finance plan but it will be fixed for the full term of the plan so that repayments will be fixed. The repayments are added to the electricity bill and therefore the Green Deal is attached to the property not the current owner/occupier, even if they took out the finance plan in the first place.

It is recommended that the Council promotes the take up of energy efficiency measures as a way of achieving ***affordable energy*** for both businesses and households. Showcasing businesses and households that have benefitted from implementing such measures and local companies that can assist with the process will encourage others to follow suit.

Green Deal Finance Plans	
Total fund	This is determined by the Green Deal Provider and is based on the recommendations in the Green Deal Advice Report for the property.
Funding period	Determined by the Green Deal Provider who provides the finance plan.
Type of funding	Loan
Eligible activities	• Green Deal approved measures recommended for the property by a Green Deal Assessor in the Green Deal Advice Report. • Green Deal measures may include replacement boilers, insulation, replacement windows and renewable energy.
Further information	https://www.gov.uk/green-deal-energy-saving-measures

4. Feed-in-Tariff (FiT) & Export Tariff for Renewable Electricity Generation

The Feed-in-Tariff scheme provides an immediate opportunity to achieve more ***Affordable Energy*** by offsetting purchased mains electricity and reducing CRC and CCL commitments. It will be extremely useful in achieving a more ***Independent Energy*** stance with Cheshire East's assets. If local companies are engaged to supply and install renewable energy technologies this helps with ***Growing Energy Businesses***.

The Feed-in-Tariff (FiT) is an incentive payment awarded by the Government for the production of electricity from renewable sources. The tariffs are available to both residential and business properties in the UK, providing they produce less than 5MW of power from renewable sources. The rates paid per kWh of power generated vary depending on capacity and the generation method and can help finance the initial investment. Rates are payable depending on technology for a 20 year period and are locked in at the time of accreditation with an annual index linked increase. Tariff rates for new accreditations are assessed on a quarterly basis. The technologies currently covered by FiT are:

- Anaerobic digestion
- Hydro
- Wind
- Micro fossil fuel Combined Heat and Power (under 2kW)
- Solar PV

An Export Tariff is awarded as a bonus payment for any surplus electricity exported back to the grid. The current rate of 4.77 p/kWh applies for the period 01/04/14 – 31/03/15. Finally, if the electricity generated can be used by the property rather than be exported, there will be an additional saving. While the property owner might forego the export tariff on metered installations, they will save on the price that would have been paid for the electricity imported from the grid, which is more beneficial, financially.

FiT, particularly for solar PV, could provide a significant income stream for Cheshire East Council for building assets with constant daytime power demand.

FiT rates are reducing rapidly under a review process called digression. It is recommended that investment in technology projects eligible for this incentive scheme are deploying sooner rather later to get the highest returns possible.

Feed in Tariff and Export Tariff	
Total fund	Tariffs are reduced or digressed if the budget for a type and size of technology goes over profile.
Funding period	20 years from accreditation
Type of Funding	Generation tariff paid quarterly
Eligible activities	• Anaerobic digestion • Hydro • Wind • Micro fossil fuel Combined Heat and Power (under 2kW) • Solar PV
Further information	www.ofgem.gov.uk/environmental-programmes/feed-tariff-fit-scheme/tariff-tables

5. Renewable Energy Guarantees of Origin and Levy Exemption Certificates

These certificates can help the Council achieve ***affordable energy***. The certificates can reduce the Council's Climate Change Levy charges and increase the value of power exported for others to use.

Renewable Energy Guarantees of Origin (REGOs) are certificates of proof of the origin of energy. Suppliers use REGOs to demonstrate what proportion of their energy comes from a renewable source. Unlike ROCs, REGOs do not have an intrinsic value.

Electricity produced from designated renewable sources can be exempted from the Climate Change Levy if an administrative process is completed to get a REGO and through this, apply for and get a Levy Exemption Certificates (LECs).

If any energy generated is connected directly to the National Grid for export only, then the REGO / LEC can increase the value of the energy being sold under a Power Purchase Agreement to an Energy Supplier. Electricity sold in this way is financially attractive to the supplier, as they can sell the certificates to the non-domestic sector. This enables the end user to claim exemption from Climate Change Levies paid on energy.

It is recommended that Cheshire East Council obtain REGOs and LECs for renewable energy generation schemes greater than 10kW that are implemented on Council assets.

Renewable Energy Guarantees of Origin and Levy Exemption Certificates	
Total fund	Limited to exemption from CCL price.
Funding period	Ongoing
Type of Funding	Financial savings made on reduced Climate Change Levy liability
Eligible activities	All renewable electricity generation
Further information	www.ofgem.gov.uk/environmental-programmes/renewable-energy-guarantees-origin-rego www.ofgem.gov.uk/environmental-programmes/climate-change-levy-exemption

6. Renewable Heat Incentive (RHI)

This presents an immediate opportunity for the Council and owners of residential and commercial properties to access incentive payments to help finance investments in small to mid-sized decentralised renewable heat generation, which will help to achieve more ***affordable and independent energy*** in Cheshire East. If local companies are engaged in supplying and installing such technology, this will help with ***growing energy businesses***.

Similar in concept to FiT, RHI is applicable to renewable heat as opposed to electricity. Like FiT it pays an index-linked payment over a fixed timescale for the heat generated. Unlike FiT there is one scheme for domestic properties and one for commercial properties. The commercial tariff is spread over 20 years but the domestic tariff has the 20 years of payment compressed into 7 years causing the domestic tariff to be higher in value and have a faster return on investment. The technologies currently covered by RHI are:

- Biomass (including waste and CHP options)
- Solar Thermal
- Heat Pumps (Ground, Water and Air Source)
- Biogas combustion and mains injection
- Deep Geothermal

At present there is no specific 'uplift' applied to district or community heating networks. A community heating network served by a single biomass boiler would be treated as though that boiler was heating a single dwelling, even though the costs to supply that heat would be much greater. Additional public funding, however, can be provided for the heat network and not jeopardise the RHI. This is because the heat network is not part of the 'Eligible Installation'.

RHI could provide a significant income stream for Cheshire East Council for building assets with a significant heat load, leading to ***affordable energy,*** or any decentralised energy projects achieving ***independent energy***.

Like FiT, the incentives payable under RHi will be decreasing under a review process called digression but this will happen more slowly for RHi, a newer incentive scheme. It is recommended that investment in technology projects eligible for this incentive scheme are deploying sooner rather later to get the highest returns possible.

Renewable Heat Incentive (RHI)	
Total fund	Originally £480m but decreasing. Tariffs are reduced or digressed if the budget for a type and size of technology goes over profile.
Funding period	20 years for commercial and 7 years for domestic
Type of Funding	Generation tariff paid quarterly
Eligible activities	• Biomass (including waste and CHP options) • Solar Thermal • Heat Pumps (Ground, Water and Air Source) • Biogas combustion and mains injection • Deep Geothermal An example of a project that would be eligible for RHI is the Dry Anaerobic Digestion facility which is proposed for Cheshire East[65].
Further information	www.ofgem.gov.uk/environmental-programmes/non-domestic-renewable-heat-incentive-rhi

7. Renewable Obligation Certificates

This incentive scheme can help finance ***Independent Energy*** projects in Cheshire East. The incentive scheme is being phased out and is only applicable to projects implemented and registered with OfGEM before the end of 2018.

Renewable Obligation Certificates (ROCs) are tradable commodities that have no fixed price. They are awarded to the generator of renewable electricity from schemes larger than 5MWe and passed onto the supplier who must surrender a set amount based of the percentage of their supply each year.

The amount an electricity supplier pays for a ROC is a matter for negotiation between the supplier and generator. For the purposes of Government financial planning, the long-term value of a ROC is made up of the buyout price, i.e. the payment avoided by the supplier for presenting ROCs to OfGEM, plus 10%. The current buyout price for a ROC is £43.30.

The number of ROCs that can be accrued by renewable electricity generators for each megawatt hour of electricity (MWh) generated is dependent on the renewable energy source, known as RO banding. Some of the banding levels for the current period (2013 – 2017) are shown below.

[65] http://moderngov.cheshireeast.gov.uk/ecminutes/documents/s36860/Waste%20Strategy%20-%20Appendix%202.pdf

- Anaerobic digestion – 2 ROCs
- Dedicated biomass – 1.5 ROCs
- Dedicated biomass with CHP – 2 ROCs
- Geothermal – 2 ROCs
- Onshore wind – 0.9 ROCs
- Building mounted solar PV – 1.6 ROCs
- Ground mounted solar PV – 1.4 ROCs

DECC sets the level of the obligation on suppliers each year using a fixed target or a 'headroom' calculation. Headroom works by providing a set margin between the predicted generation (supply of ROCs) and the level of the obligation (demand for ROCs). This helps reduce the possibility of supply exceeding the obligation in any given year and therefore reducing the market value of a ROC. Headroom lets investors feel more confident that there will always be a market for their ROCs and it helps stabilise the ROC price.

The obligation level determines the number of ROCs suppliers are required to produce for each MWh they supply to customers. Each supplier's obligation is calculated by multiplying their total annual supply to customers in the UK (MWh) by the level of the obligation (ROCs per MWh). The obligation level for suppliers in 2014/15 is 0.244 ROCs for each MWh they supply to customers in England and Wales. ROCs will close to new schemes/entrants in 2018 to be replaced by Contracts for Difference.

It is recommended that any renewable energy generation projects eligible for ROCS be quickly certified with OfGEM to receive a LEC and REGO to ensure the ROC rates can be secured before the end of 2018

Renewable Obligation Certificates (ROCs)	
Total fund	Dependant on yearly buyout price, secondary market trading and technology band
Funding period	No further rounds from 2018. Scheme closes to existing entrants in 2037 at the latest.
Type of Funding	Generation certificate with a buyout price of £43.30
Eligible activities	Renewable electricity generation schemes over 5MW installed capacity
Further information	www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/the-renewables-obligation-ro www.gov.uk/government/uploads/system/uploads/attachment_data/file/211292/ro_banding_levels_2013_17.pdf

8. Contracts for Difference

Contracts for Difference (CfD) will be the main financial instrument by which Cheshire East Council will underpin any large (>5MW) electricity generation scheme it wishes to develop which will be completed and certified with OfGEM from 2018 onwards. It is a key plank in providing ***independent energy*** but it is a competitive process. Large scale solar farms will need to demonstrate community buy-in if they are to progress under the CfD payment scheme.

A key aspect of Electricity Market Reform is the transition from the RO and ROCs, the current main support mechanism for large scale renewable electricity generation, to Contracts for Difference (CfD), the new support mechanism for low carbon electricity generation, including renewables, nuclear, and Carbon Capture and Storage. The CfD is used to guarantee investors a certainty of returns over a 15-20 year timeframe. The system works by guaranteeing a fixed reference price, known as a 'strike price', for energy generators.

As well as reducing the exposure to volatile and rising fossil fuel prices and therefore reducing the risks faced by low carbon generators, the CfD protects consumers by ensuring that generators pay back the difference when the sale price of electricity goes above the strike price. If the sale price of electricity is less than the strike price then the supplier will be required to top up the price. The strike prices that have been set by the Government should enable the UK to generate at least 30% of electricity from renewable sources by 2020.

The RO will close to new generators on 31 March 2017. Electricity generation that is currently accredited under the RO will continue to receive its full lifetime of support (20 years) until the scheme closes in 2037. From 2027 DECC will fix the price of the ROC for the remaining 10 years of the RO at its long-term value and buy the ROCs directly from the generators. This will reduce volatility in the final years of the scheme.

It is recommended that Cheshire East retain technical services to enable them to bid to sell Cheshire East–generated renewable energy under the CfD payments scheme in future auctions.

Part community ownership of all large-scale Solar PV schemes in the region should be mandatory, not only to enable payments for the Council or private owners through the CfD scheme but also to comply with the Community Energy Strategy.

Contracts for Difference (CfD)	
Total fund	Strike price set at between £80-£305 depending on technology
Funding period	15-20 years from accreditation date
Type of Funding	Guaranteed £/MWh generated. The difference between market and strike price is paid by Government.
Eligible activities	Renewable electricity generation schemes over 5MW installed capacity
Further information	https://www.gov.uk/government/publications/electricity-market-reform-contracts-for-difference https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263937/Final_Document_-_Investing_in_renewable_technologies_-_CfD_contract_terms_and_strike_prices_UPDATED_6_DEC.pdf

9. EU Emissions Trading System (Carbon trading)

EU ETS will only impact a few large emitters of greenhouse gases at specific locations such as Astra Zeneca at Macclesfield and Bentley Motors at Crewe. Participation in the scheme will drive companies to invest in ***affordable energy*** and ***independent energy***, which will have a positive impact on the Cheshire East area and help with ***growing energy businesses***.

Companies registered under the EU Emissions Trading System (EU ETS) receive or buy emission allowances, which they can trade with one another as needed. Each allowance gives the holder the right to emit one tonne of carbon dioxide (CO_2), the main greenhouse gas, or the equivalent amount of two more powerful greenhouse gases, nitrous oxide (NO_2) and perfluorocarbons (PFCs). After each year a company must surrender enough allowances to cover all its emissions, otherwise heavy fines are imposed. If a company reduces its emissions, it can keep the spare allowances to cover its future needs or else sell them to another company that is short of allowances.

Auctioning is the default method of allocating allowances within the system. Some free allocation is made to manufacturing businesses based on achievement of best practice in low-emission production. However, businesses must now buy an increasing proportion of allowances through auctions. The European Energy Exchange (EEX) in Leipzig is the common platform for the large majority of countries participating in the EU ETS. EEX also acts as Germany's auction platform. The second auction platform is ICE

Futures Europe (ICE) in London, which acts as the United Kingdom's platform. Companies under the scheme can also buy limited amounts of international credits from emission-saving projects around the world.

Alderley Park, now part-owned by Cheshire East Council, was a registered installation in the EU ETS. It is recommended that the Council investigates what happened to any spare EU ETS allocations received at the site previously.

EU Emissions Trading System - EU ETS	
Total fund	Dependant on yearly market conditions
Funding period	Yearly allocations
Type of Funding	Tradable allowance
Eligible activities	Limited to very large industrial emitters of greenhouse gases.
Further information	http://ec.europa.eu/clima/policies/ets/cap/index_en.htm

10. Council Prudential Borrowing (or Public Works Loan Board)

Prudential Borrowing is an attractive financing option for larger ***independent energy*** projects particularly whilst the Government borrowing rate remains very low, as it is currently.

Councils need to invest in their buildings and equipment so that people can continue to receive high-quality local services. Local authorities receive central Government funding for a major part of their capital investment in the form of capital grants. They can also use income from their own capital assets to finance capital spending. The new prudential system encourages local authorities to invest in the capital assets that they need to improve their services. It allows them to raise finance for capital expenditure without Government consent as long as they can afford to service the debt out of their revenue resources. Local authorities must have regard to the 'Prudential code for capital finance in local authorities' when setting and reviewing their affordable borrowing limit.

Prudential Borrowing is appropriate and should be considered as a finance option for energy-related investments with a longer payback period, greater than 5 years.

Council Prudential Borrowing	
Total fund	Not known
Funding period	Ongoing
Type of Funding	Low interest loan. Interest rate varies but can offer around 5% over 30 years.
Eligible activities	Any necessary capital investment programme where it can be demonstrated that the loan can be repaid.
Further information	www.gov.uk/government/policies/giving-local-authorities-more-control-over-how-they-spend-public-money-in-their-area--2/supporting-pages/investment-in-local-government-capital-assets

11. Business Rate Retention

The business rate retention (BRR) scheme is a key opportunity for Cheshire East Council to secure local retention of business rates to help fulfil all of its ***Energy Vision*** objectives. These new powers have been identified early by the Council and it is currently developing processes to identify and recirculate the funding. The current view is that any BRR finance retained from the region will be reinvested via CEE Ltd in energy-related projects to further the ***Energy Vision.***

The BRR scheme was introduced from April 2013 to provide a financial incentive for councils to promote local economic growth and to improve collection rates. The scheme allows councils to retain up to half of all business rates collected locally and in addition, 100% of additional business rates attributable to new and extended renewable energy implementations on land or buildings from 1st April, 2103. The BRR on renewable energy projects covers the classes shown in the table below.

Class	Description	Rates retained	From when
Class A	New renewable power stations listed with OfGEM	All	On and after 1/4/2013
Class B	Existing renewable power stations	All growth	After 31/3/2013
Class C	Renewable power stations created from Class B hereditaments	All growth	After 31/03/2013
Class D	Energy from waste plants	All if plant has been in use …	Since, on or after 31/03/2013
Class E	Any other hereditaments used at least in part for the purpose of generating electricity	All growth (new and additions to)	On or after 01/04/2013
Class F	Cables and sub-stations associated with off-shore generating plants listed with OfGEM	All	On or after 01/04/2013

Class E above includes on and off-shore wind, hydro-electric, biomass, biomass, energy from waste, anaerobic digestion, bio-gas from landfill and sewage, advanced thermal treatment, geothermal heat and power and Solar Photovoltaics.

The rateable value of business properties and land assets that this is applicable to, used for rates calculation purposes is currently 1st April 2008 but a new valuation will be published in April 2017, valuing properties as at 1st April 2015. As with other business rates, the rateable value of such renewable projects or project additions, set by the local Valuation Office will be multiplied by the business rates multiplier, currently set at 48.2p in the pound for the financial year 2014/15 for England.

It is recommended that the Council focus resources to finalise and implement an agreed process with the local valuation office to share appropriate information on existing and new eligible renewable energy projects. This will ensure that the locally-retained business rates value can be maximised with immediate effect when the new rate book is published and enable the Council to comply with Government forecasting requirements ahead of this date.

Business Rate Retention	
Total fund	Not known but initial estimates are in the tens of thousands of pounds
Funding period	Linked to rateable valuation periods
Type of Funding	Capital receipts
Eligible activities	Can be reinvested in any activity for which the Council is allowed to legally deliver.
Further information	www.gov.uk/government/policies/giving-local-authorities-more-control-over-how-they-spend-public-money-in-their-area--2/supporting-pages/business-rates-retention

12. Pension and other Private Sector Investment Funds

Local Authority Pension Funds

The Cheshire Pension Fund could be a key source of finance to support the Council's objective of ***independent energy*** within the ***Energy Vision***. This and other similar funds would be able to get a long term, guaranteed index-linked stream of payments (such as RHI or FiT) in return for the investment, which should fit with a low-risk investment strategy and be very attractive to the funds. A business case may be required to attract the investment but several local authorities have already gone down this route.

A recent report by the Institute for Public Policy Research think-tank (IPPR) has presented a list of recommendations for Local Authorities for investment in energy generation. Aside from advising Local Authorities to create a collective agency for the issuance of local authority bonds, and to work with the Green Investment Bank, the report suggests that "local authority pension funds should take into account environmental, social and corporate governance factors and proactively seek low carbon investments".

Flintshire County Council, through the Clwyd Pension Fund, has invested pension funds into the Low Carbon Workplace Partnership (LCW). The LCW design, build and manage energy-efficient offices. They then provide tenants with ongoing advice enabling them to gain independent certification of low carbon occupancy. Pension Fund Manager Phil Latham is satisfied that the outlay "can deliver a superior return to the market through investment in environmental and sustainable projects."

Lancashire County Pension Fund is investing copiously in the low carbon sector. They have so far invested £84m in the recovery of methane from landfill gas sites and coalmines for the generation of electricity, backed biomass electricity generation plants to the value of £50m and spent £17m in a Solar Energy Fund. A further £12m has been

invested in the Westmill Solar Co-operative – a community owned solar farm on the Oxfordshire/Wiltshire border. The LCPF is also promoting PV installations on the roofs of its commercial properties.

In order to meet the carbon targets outlined in the Renewable Energy Roadmap at the required momentum there is a need to revise how projects are funded. This means the use of private sector finance. There are sources of revenue that can be used to fund low carbon activity without the liability necessarily being placed on local authority balance sheets.

Cheshire East Council should engage with the Cheshire Pension Fund and other similar funds to share the Council's Energy Vision and to request the opportunity to present future business cases for investment by the Fund. Significant investors in one or more projects controlled by Cheshire East Energy Ltd, may want to have an active role in the management of CEE Ltd.

Local Authority Pension Funds	
Total fund	c£3 million in assets
Funding period	Ongoing
Type of Funding	Investment Funds
Eligible activities	Any activity contained within The Cheshire Pension Fund Investment Strategy
Further information	www.ippr.org/publications/city-energy-a-new-powerhouse-for-britain www.cheshirepensionfund.org/ebooks/annual-report-2014/

Equity Finance

For Cheshire East Council this may be an important investment route for Joint Venture Special Purpose Vehicles (SPVs) in which Cheshire East Energy Ltd has an interest. This is particularly important with regards to ***growing energy businesses*** and ***independent energy***. Cheshire East Energy Ltd may also provide finance by taking equity in start-up businesses for projects such as advanced thermal treatment technologies or energy storage.

Equity finance is where those who take a share in the company provide the investment. An advantage is that the lender does not require regular payments although they do, in time, expect to make a return. Due to the investor taking part ownership of the company, a level of governance and decision-making would be expected in line with the

size of the investment made. Various sources of equity finance are available. Examples of these are as follows:

- Private direct investment – where the investor purchases an interest which would allow active control of a company, such as angel investment.
- Venture capital – venture capital funds are typically provided to start-up firms and small businesses with long-term growth potential. Venture capital investors will commonly look for a 30% return on outlay and will invest when a business is cash generating, but not yet profitable.
- Infrastructure funds – this is a form of funding available for lower risk investments, where the technology is established but finance is required to bring the project to fruition.
- Social finance - Social finance is an investment model that delivers a social dividend as well as an economic return, and the returns tend to be lower than with other investors. There are social finance investors that are keen to affect a triple bottom line of a social, economic and environmental gain. As well as Equity Social finance can be obtained as low cost loans and social finance bonds.

The Council should consider engaging financial consultants to help increase its knowledge of and contacts with potential local and national investors. The ***Energy Vision*** should be shared with key individuals to help ensure that appropriate investment can be found for planned projects.

Equity Finance	
Total fund	Varied
Funding period	Ongoing
Type of Funding	Investment Funds
Eligible activities	Any viable investment
Further information	www.gov.uk/business-finance-explained/investment-finance www.gov.uk/government/collections/social-investment

Crowdfunding

Crowd Funding is likely to work well in Cheshire East to help fund leading edge low carbon and renewable energy technology projects that contribute to ***affordable and independent energy.***

Crowdfunding is the process of raising funds from an online community or 'crowd' of like-minded people and organisations. It is often described as peer-to-peer lending because investors are usually other people or businesses with an interest in supporting a particular type of project or venture. Individual investors usually give a small amount of money, but the crowd is often large enough to raise the funding that is required.

It is still a new concept but there are a growing number of online crowdfunding platforms and the UK Crowdfunding Association (UKCFA) was established in 2013 to represent this growing sector. UKFCA describe crowdfunding as 'democratic finance', allowing businesses and projects of all forms and sizes access to money while bypassing traditional banking institutions. It is becoming an attractive route in economically difficult times when banks are not lending freely.

There are FCA-regulated and un-regulated crowdfunding platforms. Each platform makes its own assessment of whether it needs to be regulated by FCA or any other body. The UKFCA has developed a code of practice which its members must sign up to. Crowdfunding can be raised in three ways:

- Donation – an investor will make a one-off donation of money to a company;
- Debt crowdfunding - an investor will lend money to a company, who then repays the investor on a regular basis;
- Equity crowdfunding – an investor will buy shares in a company and become a part owner. They make a return on their investment either by being paid a dividend or by selling their shares at a later date, when the company value has increased.

Crowd-funding should be considered for leading edge pilots and projects where geographically distant parties can help fund a project of particular interest to them, such as advanced thermal treatments of waste and energy storage, etc, in conjunction with academic involvement, where appropriate.

Crowd Funding	
Total fund	Varied
Funding period	Ongoing
Type of Funding	Investment funds
Eligible activities	Viable energy projects
Further information	www.ukcfa.org.uk/

Energy Performance Contracting

This can be a useful vehicle to achieve ***affordable and independent energy*** where funding is limited or borrowing limits are restricted. The energy assessment for a Council asset and the achievement of energy savings is contracted out. Doing this may provide an opportunity for ***growing energy businesses*** locally but there is no need to contract out if Cheshire East Council has its own investment capital, has the technical expertise and is willing to take the risk in-house.

Energy performance contracting is a way of gaining energy efficiency within a local authority building. The guaranteed energy saving can be used to borrow against in order to make improvements on a building. Advantages of the scheme are that there is no upfront investment and no additional expense to local authority revenue accounts due to an Energy Services Company (ESCO) taking on the performance obligation and finance risk.

It is the task of the ESCO to perform an analysis of the property, to generate an energy efficiency plan, to then install and maintain the system and to ensure the energy savings. The savings in energy costs achieved during the five to twenty year period reimburses the capital invested in the project. If the returns are not achieved, then the ESCO is usually responsible to meet the difference.

Energy performance contract is a popular option for financing CHP systems and it is recommended that this option be considered alongside in-house. This model should be promoted to local businesses as an option to consider via Business Support Services.

Energy Performance Contracting	
Total fund	Varies by contract
Funding period	Contracts typically extend over 5-20 years
Type of Funding	Capital investment
Eligible activities	Any activity where savings can be generated
Further information	http://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/eurocontract_project_report_en.pdf

13. Tax reliefs on investments in renewable and clean technologies from HMRC

Enhanced Capital Allowances (ECA)

Enhanced Capital Allowances are not directly applicable to Cheshire East Council but this could be useful for businesses that Cheshire East Energy Limited works with or sets up with partners to drive up investment in ***affordable and independent energy.***

The ECA scheme encourages the use of energy saving equipment by allowing businesses to write off the cost of purchasing new plant or machinery against their taxable profits in a single year. The scheme only applies to certain equipment and the 100% capital payment is a one-off.

The maximum credit claimable is limited by the total of the company's PAYE and National Insurance payments for the year in which the claim is made or, if greater, £250,000.

It is recommended that business support services make companies aware of this option in order that they can lower energy overheads

Enhanced Capital Allowances (ECA)	
Total fund	Dependant on company tax liability or £250,000
Funding period	Single tax year
Type of Funding	Company tax relief (100%)
Eligible activities	Investment in specific energy saving equipment listed on the Energy Technology List
Further information	https://etl.decc.gov.uk/etl/site/etl.html

Enterprise Investment Scheme (EIS)

As Cheshire East is an area with a large percentage of individuals of high net worth, this option could be available to raise investment for ***independent energy*** projects and ***growing energy businesses***.

The Enterprise Investment Scheme (EIS) is designed to help smaller higher-risk trading companies to raise finance by offering a range of tax reliefs to investors who purchase new shares in those companies. Relief is available at 30 per cent of the cost of the shares, to be set against the individual's Income Tax liability for the tax year in which the investment was made. Relief can be claimed up to a maximum of £1,000,000 invested in such shares, giving a maximum tax reduction in any one year of £300,000 providing there is sufficient Income Tax liability to cover it.

It is recommended that EIS is advertised to potential investors in Council energy projects especially where there will be an income stream from FiT or RHI which should make this a particularly attractive investment option.

Enterprise Investment Scheme (EIS)	
Total fund	Maximum of £1 million per individual
Funding period	Tax relief calculated on annual basis
Type of Funding	Personal tax relief (30%)
Eligible activities	Taking shares in a company
Further information	www.hmrc.gov.uk/eis/

Seed Enterprise Investment Scheme (SEIS)

As Cheshire East is an area with a large percentage of individuals of high net worth, this option could be available to raise investment for ***independent energy*** projects and ***growing energy businesses***.

Similar to and complementing the existing Enterprise Investment Scheme (EIS), SEIS is intended to recognise the particular difficulties which very early stage companies face in attracting investment, by offering tax relief at a higher rate than that offered by the existing EIS. Relief is available at 50% of the cost of the shares, on a maximum annual investment of £100,000.

It is recommended that SEIS is advertised to potential investors in Council energy projects especially hydro and solar technologies. Projects where there will be an income stream from FiT or RHI should make this a particularly attractive investment option.

Business Support Services should advertise this to smaller local businesses considering an investment in low carbon or renewable energy projects.

Seed Enterprise Investment Scheme (SEIS)	
Total fund	Maximum of £100,000 per individual
Funding period	Tax relief calculated on annual basis
Type of Funding	Personal tax relief (50%)
Eligible activities	Taking shares in a company
Further information	www.hmrc.gov.uk/seedeis/

14. Community Investment

While not directly funding or finance, community investment models are an effective way to engage communities in the transition to utilising greater quantities of energy from renewable sources. Local benefits of a community-owned renewable energy project include job creation, knowledge wealth and ***independent and affordable energy***. Due to a project being locally owned, the knock on effect is felt more locally and the project will be eligible for 100% business rate retention.

The Government's Community Energy Strategy encourages community involvement in local renewable energy schemes. Some of the mechanisms that enable community investments in energy projects are described below.

Community Interest Companies

Community Interest Companies were introduced in 2005. They are a type of business that has its interests in the community and therefore does not strive to maximize profit for shareholders. Many CICs are involved in the development of community renewable energy.

An example is the Bridport Renewable Energy Group (BREG) CIC[66]. The group existed informally for a number of years before becoming a CIC. The group provides a wood fuel resource and a community farm which integrates food and energy production with organic waste processing.

Co-operatives

Co-operatives are another type of business with community interests. An example of a community-owned renewable energy co-operative is Whalley Community Hydro in Lancashire[67]. Following a professional design study, it was discovered that a local hydro scheme could produce 345,000 kWh of electricity per year. A co-operative was created by local residents who then sought funding from the charity bank as well registering with the EIS to provide incentives to investors.[68] Any operating surplus from the project is to be spent on benefitting the community through carbon reduction schemes and to provide grants and loans to local organisations.

It is recommended that the Council promote and encourage community investment schemes in its own projects and in other large schemes going through planning in the area.

Cheshire East Energy Ltd should consider investing in appropriate local schemes to demonstrate its commitment to low carbon and renewable energy, in line with the ***Energy Vision***.

[66] www.breg.org.uk
[67] www.whalleyhydro.co.uk/the-project
[68] http://www.gyronllp.co.uk/whalley-community-hydro-share-issue-to-be-launched-on-6th-november/

Recommendations

Whether taking forward energy projects alone or with others, the funding environment is supportive. As well as the traditional route of low interest prudential borrowing, some council energy projects have already been financed with Salix interest free loans. Support via Feed in Tariffs and Renewable Heat Incentive are currently extremely attractive but may not remain so. Cheshire East needs to remain engaged with the Local Economic Partnership to ensure that low carbon energy finance from ESIF and the Growth Fund is maximised for the Energy Vision. In an area such as Cheshire East, with a higher proportion of individuals of high net worth, financing proposal via the Enterprise Investment Scheme and crowdfunding should be actively pursued.

Short Term Funding Priorities

- Feed in Tariff
- Renewable Heat Incentive
- Salix Finance
- Reserves

Medium Term Funding Priorities

- Community Infrastructure Levy
- Business Rate Retention
- ESIF
- Growth Fund
- Seed Enterprise Investment Scheme
- Enterprise Investment Scheme
- Crowdfunding
- Prudential Borrowing
- Other European Funding

Longer Term Funding Priorities

- Contracts for Difference
- Cheshire Pension Fund

3 Cheshire East Energy Ltd

The idea of an overarching energy company was put forward and agreed by the Political and Corporate Leadership as a flexible way of taking forward and de-risking energy projects that Cheshire East Council may wish to become involved with. Cheshire East Energy Ltd would become part of the Alternative Service Delivery Vehicle (ASDV) family of wholly-owned, arms-length businesses, which forms part of Cheshire East Council's Commissioning Council policy. The company would be guided by an Energy Advisory Board comprising of Cheshire East Council members and senior officers and external specialists.

3.1 Role, structure and resources

3.1.1 Background

The idea of an overarching energy company was put forward and agreed by the Political and Corporate Leadership as a flexible way of taking forward and de-risking energy projects that Cheshire East Council may wish to become involved with. On the 8th April 2014 Informal Cabinet endorsed the creation of a Council Energy Company fully aligned to the Council's wider company structures and arrangements and allocated the resources to progress this as a priority.

This energy company is known Cheshire East Energy Ltd (CEE Ltd).

3.1.2 Role

The role of CEE Ltd is being developed with a proposed role acting as an over-arching vehicle to take forward energy and low carbon policy, deliver investment decisions on energy and low carbon projects and oversee these projects for the benefit of Cheshire East residents and businesses.

With this proposed role, CEE Ltd would need to assume the responsibility for securing, managing and growing funds generated from income streams associated with the projects initiated and for minimising overhead costs of running the company to maximise the impact of the funds. It would also need the ability to employ staff. It is envisaged that while a majority of any physical assets related to CEE Ltd energy projects will either be held by the Council or Special Purpose Vehicles, there may be some special circumstances where CEE Ltd might become the legal owner of land or assets.

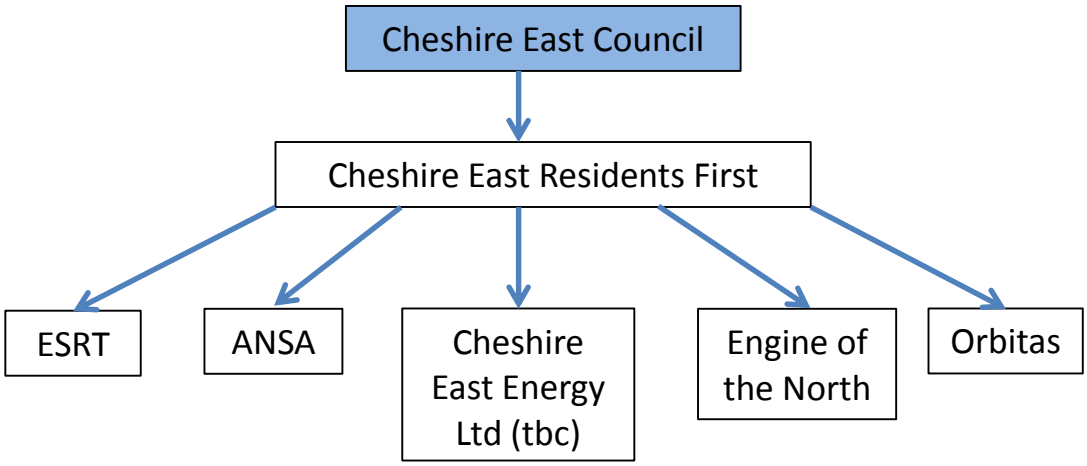
As well as having the ability to take forward projects directly a bulk of the activity would be likely to be organised through relationships with other organisations; businesses that will be termed Special Purpose Vehicles (SPVs). The benefit of using SPVs is that each energy project might need different partners and a different type of legal / financial format to make it a financially attractive proposition for investors. Each project may have different benefits and risk profiles for the Council and its chosen partners over differing periods of time. This distance relationship would allow for some governance and financial interactions but at the same time would reduce

the risk that any single project would cause a significant issue for CEE Ltd. The concept is best explained by the analogy of an Australian cork hat. The hat itself is CEE Ltd from which hang individual projects, which are the corks (SPVs). The string, attaching the corks to the hat is the relationship between CEE Ltd and the SPVs.

CEE Ltd would be part of the Alternative Service Delivery Vehicle (ASDV) family of wholly-owned, arms-length businesses, which form part of Cheshire East Council's Commissioning Council Vision[69].

3.1.3 Current Status

Cheshire East Energy Limited (company number is 09083046) was established as a company limited by shares on the 12th June 2014. The company is registered at Westfields in Sandbach. All the shares are owned by directly by Cheshire East Council. The company has two Directors; Councillor Peter Mason and Councillor Derek Bebbington. The operating structure is being determined. Until then it remains dormant.



[69] www.cheshireeast.gov.uk/PDF/Annual_Governance_Statement_13-14_Final.pdf

3.2 Governance and processes

3.2.1 Governance

The governance of CEE Ltd is being determined.

3.2.2 Energy Advisory Board

It has been proposed that initial technical guidance and advice will be provided by the Energy Advisory Board (EAB), which would become an integral part of CEE Ltd. The EAB currently meets monthly and consists of a core board including The Leader, The Deputy Leader, Cllr. Mason (Chair), Cllr. Stockton, Head of Corporate Resources and Stewardship, Director of Economic Growth and Prosperity and supporting Officers from the Major Projects Team and others when needed.

As well as this core group, external advisors are invited to the EAB to give specific advice or make presentations on specific subjects. The EAB is maturing to act as more of an advisory and scrutiny board to CEE Ltd as its functions are formalised by Cabinet.

The Energy Advisory Board has a Terms of Reference[70] which were amended in July 2014 to include a representative from EMB as a permanent member.

3.2.3 Energy Advisory Board potential external advisors

It has been agreed by the EAB and reflected within the EAB's Terms of Reference that when necessary, external specialist advisors can be co-opted onto the Board. An initial list of candidate advisors was put to the EAB in April 2014 including many leaders and experts from academia, business and third sector.

The expertise and disciplines covered by those nominated stretch across the energy sector and include the nuts and bolts of engineering and the construction sector, techniques for engaging businesses and residents in behavioural change, technology innovation and Government policy and funding cycles.

Those nominated were approached informally to check they were willing to be listed and it is anticipated that they will be formally invited to join the external advisory board once Cheshire East Energy Ltd has been through final Cabinet approval. For a full list of the current external advisors, please contact the Major Projects team.

3.2.4 Other Public Sector Energy Companies

Several other Councils have developed strategies to further their energy-related agendas locally. Some examples are provided below:

Thameswey Energy Ltd[71] (Woking)

Thameswey Energy Limited, a joint venture company, is 90% owned by the energy and environmental services company, which is wholly owned by Woking Borough Council. Danish

[70] This is currently not a public document – please contact the Major Projects team for further information.

[71] www.thamesweyenergy.co.uk

company, Xergi Limited, owns the remaining 10%. Thameswey Energy Limited was first established in July 1999 to own and operate plant for the production and supply of electricity, heat and chilled water to commercial and domestic customers and to develop and implement technologies for the production and supply of energy. Thameswey Energy has assets in excess of £1.3million and is expanding to provide energy services to Milton Keynes.

Bristol City Council[72]

The Bristol Energy Services Company currently appears to be a City Council construct with no registered private company structure. It has a governing structure that brings together all the Council's internal and externally facing energy functions. It plans to establish a city-wide energy services company to spearhead renewable energy and energy efficiency projects worth up to £140 million and helping to create up 1,000 jobs. Bristol was the first local authority in the country outside London to receive a £2.5 million grant from the European Investment Bank (EIB) to meet most of the costs of developing an energy services company and investment programme. It intends to secure half of its funding – around £70 million - from the European Investment Bank, the rest from private sector investment. It would be an arms-length organisation and generate income through energy savings and energy generation. Current plans include insulating 6,000 homes and installing 7,000 renewable energy systems, mainly solar/biomass and 6 small scale district heat schemes.

West Mercia Energy[73] **(Marches Councils)**

West Mercia Energy (WME) offers energy procurement and management on behalf of its four owning authorities and a number of outside bodies including Cheshire East Council. The contracts cover electricity, natural gas, petroleum fuels and liquid petroleum gas. Formerly a division within West Mercia Supplies this Local Purchasing Organisation is jointly owned by Shropshire County Council, Herefordshire County Council, Telford & Wrekin Council and Worcestershire County Council. WME reports to a Joint Committee with representation from the four owning authorities and all staff are employees of Shropshire County Council whom appear to be the legal entity for WME. It had a turnover of £66 million in 2013/14.

3.3 Business Plan

A detailed Business Plan for Cheshire East Energy Ltd is currently under development by the Major Projects Team.

[72] www.bristolenergynetwork.org/sites/default/files/BCC_Energy_Service_Overview%20_July_2014.pdf
[73] http://westmerciaenergy.co.uk

4 Cheshire East Assets Investment Programme

The Council's asset base presents a significant opportunity for cost savings and income generation from energy-related projects in line with the Energy Vision. The assets investment programme seeks to review the "top 25" list of Council-owned "high energy user" buildings and land assets to see which would be feasible, from a technical and economic viewpoint, as sites for implementation of renewable energy generation and other energy-related projects. It is essentially an enabling project to all other projects and is a key project to be overseen by the Energy ASDV with advice from academic and industry advisors on the external Energy Advisory Board panel.

4.1.1 The Council's asset base

Cheshire East Council owns a wide portfolio of over 2800 building and land assets across the region with over 600 individual land holdings. This includes Council buildings, leisure centres, libraries, schools and many other properties that are privately rented out, as well as land assets used both for Council-provided services such waste management and rented out to agricultural and rural businesses.

4.1.2 Strategic Asset Management Plan

Over the last three years the Council's Facilities Management team has been responsible for the ongoing management of key assets in conjunction with the Assets team. The plan has used a combination of asset disposals, office consolidations and energy efficiency measures to achieve carbon emissions reductions in line with the Council's Carbon Management Plan, a 2011 report jointly written by the Carbon Trust and Officers of the Council. Implementation of the report's recommendations was planned to enable the Council to achieve carbon emission reductions of 25% by 2016.[74]

To move forward with the Council's Energy Vision, the Council has commissioned an initial review of its top five buildings by energy usage to understand the scope for energy projects on these buildings. The Major Projects team will lead assessment work on these buildings.

4.1.3 Potential to reduce emissions and generate income

The asset base represents an opportunity for the Council to reduce energy use (and therefore carbon emissions) and to generate considerable income over the next twenty to twenty five years. The potential reduction in energy use and carbon reductions would arise from energy efficiency measures and local renewable and low carbon energy generation projects. The income generation would arise from taking advantage of Government incentives in place to encourage the implementation of distributed renewable and low carbon energy generation and

[74] Carbon Trust / CEC Carbon Management Plan, 2011.

to take demand side measures to reduce energy usage, particularly at key peak times, by switching to local energy generation alternatives.

In completing this assessment, many different factors will need to be taken into consideration, including, for example, the longevity of the asset on the Cheshire East asset register considering planned disposals, etc, the expected lifespan and planned maintenance activities required on existing heating for space and light, tenants and tenants' rights, if relevant. For example, the boilers are due for replacement in the Macclesfield Town Hall buildings.

Cheshire East Council's top 25 buildings by energy usage used a combined total of 7,853,061 kWhs of electricity and 20,669,579 kWhs of gas during the year to 31st March 2014.[75]

Initial feedback from building assessments on the top five Council buildings (by energy usage) is being completed by a M & E engineering consultancy and is expected to indicate that at least three of these buildings are suitable for renewable energy generation projects (electricity and heat).

4.1.4 Interaction with Cheshire East Energy Ltd (CEE Ltd)

Continual reassessment of the Council's asset base will be required to ensure maximum energy-related income and savings can be made by utilising them for different projects. This is a function that could become part of CEE Ltd's responsibilities as new energy-related projects are explored.

[75] Cheshire East Council Assets team internal datasets – not published.

5 Project assessments

Cheshire East possesses multiple opportunities for low carbon energy generation and energy saving measures. The potential for renewable energy generation is highlighted in the report *Cheshire East Climate Change & Sustainable Energy Planning Research: Technical Report*.[1] Taking this strategic view into account and reviewing the opportunities for ***Affordable*** and ***Independent Energy*** and ***Growing Energy Businesses***, Cheshire East Council is beginning to assess a number of projects which could be developed with Cheshire East Energy Ltd. Initial assessments may discount certain projects and others may go ahead, but these may take tens of years to reach full fruition.

Energy Supply Scheme - The establishment of Fairer Power™ in conjunction with an energy supplier to deliver ***Affordable Energy*** to residents of Cheshire East.

Deep Geothermal District Heat - Exploitation of the geothermal resource initially beneath council owned land in Crewe. The initial project would be based on selling heat via a decentralised district heat network to the large users in Leighton West thus creating an ***Independent Energy*** network.

Building-Mounted Solar PV - Use of Council-owned buildings to host solar PV arrays. This project would generate ***Independent Energy*** for local usage, create ***Affordable Energy*** and an income for onward investments in renewable and low carbon energy generation and energy efficiency measures.

Large-Scale Solar PV - Similar to building mounted solar PV, this could utilise existing Council-owned land and property to mount large-scale solar PV arrays of an appropriate scale for that location as ***Independent Energy***.

Biomass Crops - The use of council-owned land assets to grow a woody biomass crop to be used as a fuel to assist with ***Independent Energy***.

Energy from Waste – The use of Cheshire East's residual household waste stream as a fuel to generate heat or power to assist with ***Independent Energy.***

Dry Anaerobic Digestion - A long term solution for dealing with the 40,000 tonnes of domestic green waste collected each year and the estimated 8000 tonnes of food waste that will need to be separated from residual waste in the near future. A plant would generate biogas as an ***Independent Energy*** fuel.

Off Gas Grid Heating – Looking at ***Affordable Energy*** heating solutions for residents and businesses that are not connected to mains gas.

Combined Heat and Power (CHP) – Identifying locations and policies where CHP could become an ***Affordable*** and ***Independent Energy*** solution.

LED Street Lighting – Putting together a long-term solution for an ***Affordable Energy*** and future proof street illumination project.

Cheshire East Assets Investment Programme – A detailed assessment of where Cheshire East assets can best contribute to the Energy Vision.

Energy Efficiency and Demand Response - Reducing energy demand through energy efficiency and demand side measures thus giving ***Affordable Energy.***

Ground Source Heat Pumps - An assessment of where this technology could best be utilised for ***Affordable Energy***.

Hydroelectric - Assessing the potential for ***Independent Energy*** generated from Cheshire East's water resources.

Community Energy Schemes – How Cheshire East Energy Ltd can best assist in developing community funded ***Independent Energy*** projects.

Underground Energy Storage – How Cheshire East's unique geology can best assist with temporary storage to contribute towards ***Independent Energy***.

Business Rate Retention – Looking to use powers recently granted to Local Authorities to retain incremental local business rates attributable to energy efficiency and renewable energy generation improvements made to the business property. This income stream would be recirculated to deliver the Energy Vision.

6 Summary and Conclusions

Cheshire East Council has developed a bold Energy Vision in order to place the region in an excellent position to prosper from changes taking place as the UK moves towards a low carbon future.

This Energy Framework has set out the evidence base for taking forward the Council's energy aspirations within the context of the ***Energy Vision***.

All aspects of the ***Energy Vision*** are strongly supportive of EU and national Government legislation and policy.

Even in these economically difficult times, not only is the funding environment good for Cheshire East Council to develop energy projects but the outlook for commercial companies linked to this sector is positive. ***Growing Energy Businesses*** will bring in additional business rate revenue.

The creation of Cheshire East Energy Ltd (CEE Ltd) as a vehicle to take forward projects in the future fits in well with the Council's Strategic Commissioning strategy. Already schemes like Fairer Power™ are showing that the Council is committed to ***Affordable Energy*** and is ***Putting Residents First***.

The success in exceeding its own carbon reduction target is not making the Council complacent. It is now reviewing its own assets to install significant ***Independent Energy*** technologies.

The main conclusion is that the foundations are excellent. The priorities for Cheshire East Council to achieve its ***Energy Vision*** are summarised in this section.

6.1 Future priorities

6.1.1 Further external consultation on Energy Vision

It is now a priority for Cheshire East Council to consult more widely in the external environment on the Council's Energy Vision, not only to raise awareness and buy-in from key groups but also to ensure that all sources of possible funding and co-funding are made aware of investment opportunities. The following groups should be consulted.

1. Cheshire and Warrington LEP
   Cheshire East Council needs to highlight the importance of its Energy Vision to the LEP in order that emerging funding themes and streams are shaped to take its proposals on board, thus maximising the share of funding and support coming into Cheshire East.

2. Local Residents and communities
   Consultation should be carried out through the Cheshire East Residents First Community Forum and other groups representing householders in the Borough. This will enable households to take advantage of schemes the Council plans to deliver to help combat fuel poverty and reduce energy bills, for instance the Fairer Power announcement. It will also help to focus the Council's plans for community investment

vehicles linked to CEE Ltd as well as identify potential individual and community investors for energy projects.

3. Business Community
   Consultation with the business community in Cheshire East will also help to focus the Council's plans for specific energy-related projects. Consultation with groups such as local Chambers of Commerce and the Federation of Small Businesses as well as charitable organisations are recommended. The consultation exercise may help to identify local businesses who are willing to co-invest in energy projects, have their factory roof used for a project or provide advice and guidance for a local community energy scheme. It will alert businesses in energy-related sectors to the Council's plan and help them with their own business planning. It is also an opportunity for the Council to explain and sign-up businesses to implement renewable energy generation to help reduce their energy costs and benefit the Cheshire East region through increased levels of business rates being retained for local use.

4. Potential Financial Investors
   Many varied forms of funding and financing may help launch and develop some of the energy projects that may arise to fulfil the Energy Vision. In addition to Government-based incentive and grant schemes, public and private investors will be a key to the success of some projects. The Energy Vision should be shared and consulted on with Equity Finance schemes, local community interest groups and specialist community interest groups, Local Authority Pension funds and any local wealthy individuals interested in local investment opportunities.

6.1.2 Council plans and policies

Several plans and policies of the Council should be updated or amended quickly to support the Energy Vision. These are described below.

1. Draft Local Plan
   This should be updated before it is finalised with the changes highlighted in the recommendations listed within the Regional and Local Policy and Planning section, above.

2. Supplementary Planning Documents
   These should be produced covering district heating / decentralised energy, community energy, renewable and other energy technologies to assist developers

3. The Waste and Minerals Plans
   These Plans in development, should be reviewed to strengthen their support for the Energy Vision objectives, including, for example, support for energy generation from waste streams and on-farm Anaerobic Digestion.

4. The Carbon Management Plan
   This should be amended to:

   - Include plans for renewable power and heat projects going forwards

- Bring forward renewable energy projects highlighted in Cheshire East's Asset Investment Programme, especially those involving the Feed In Tariff or Renewable Heat Incentive
- To establish a regular review of new energy-related technologies, techniques and services reaching the market which might offer enhanced energy efficiency opportunities and for incorporation of these in the Carbon Management Plan

6.1.3 Council processes

It is a priority for the Council to develop new or enhance existing processes to support decision-making and the delivery of projects under the Energy Vision. The following have been highlighted as priorities:

1. Community Infrastructure Levy
   It is the Council's intention to implement the Community Infrastructure Levy (CIL) in Cheshire East. CIL policy should be developed quickly and it should include elements that support the development of independent / decentralised energy infrastructure.

2. Business rate retention
   Resources should be focused to finalise and implement an agreed process with the local Valuation Office to share appropriate information to update the new rate book with rateable values for renewable energy projects that will enable Cheshire East to retain more business rates collected locally.

3. Decision making with regards to assets
   The planning process surrounding Council-owned assets involves many departments including planning, assets, facilities management, existing Council tenants and others. In order to speed up decision-making around the use of Council assets for energy-related project, it is important that processes are streamlined across departments quickly and a senior council officer assigned to help resolve any issues.

4. Business support services
   A business support plan to help local businesses implement energy efficiency measures and renewable energy generation should be developed. This can drive up the level of business rates that can be retained locally. It could also help local businesses in energy-related sectors expand their businesses.

5. Updating the Energy Framework
   Resources should be assigned to take responsibility establishing a process for keeping the framework up to date in terms of legislation and policy for future ***Energy Vision*** projects to refer to.

6.1.4 Projects

The following projects are highlighted as a priority for action, development and delivery. It is also a priority to match funding and finance appropriately to ensure that finite sources are utilised now for the right projects. For example FiT and RHI are subject to digression; therefore these funding opportunities need to be seized.

1. Cheshire East Energy Limited (CEE Ltd)
   CEE Ltd must be signed off quickly in order for the Council to further develop the concept and plans for the Energy Company. This includes developing the corks of the

hat such as specific ways in which the wider interested community can invest, whether that is through Community Interest Companies or other specialist investment vehicles.

2. Asset Investment Programme
   The prioritisation of Council assets is a prerequisite to other projects because it will inform which projects can happen and by when. Key to prioritising assets is to consider finite sources of funding and finance such as FiT and RHI and the types of projects that these could support now.

3. Energy supply scheme – FairerPower (TM)
   This project should be completed as soon as possible to enable the delivery of fairly priced energy to Cheshire East residents during this winter, when energy demand is at its highest. The project provides a route for local renewable power generators to sell their energy under Power Purchase Agreement, which may encourage further local investment in decentralised energy projects. Finally, this project is anticipated to bring extra energy company obligation funding to the area, which will enable further implementation of energy efficiency measures to those most in need.

4. Off-Gas Grid Heating
   With large areas in the Crewe and Nantwich districts off-gas grid, winter heating costs will be very difficult for some of these households every year. Initiating projects to communicate alternatives to traditional heating oil and LPG gas solutions and to encourage roll-out of renewable alternatives using available government funding will bring real benefit to these Cheshire East residents.

5. Heat networks
   Heat networks enable heat generated from a central point to be distributed for use in large housing developments and businesses. In the long term, deep geothermal heat may provide the heat source but developing the heat networks in advance of geothermal well development creates confidence amongst geothermal developers to encourage their investment in exploratory drilling work.

6. Dry AD
   Dry Anaerobic Digestion is a safe and proven technique that makes use of bio-degradable wastes, (which must shortly be diverted from waste going to landfill) to generate a low carbon bio-gas and a soil improver by-product, both of which can be sold. The projects has very good potential savings and income streams for the Council. Owing to the forthcoming EU regulations and waste contract expiry in 2016, this project should be completed urgently.

Cheshire East Council is well placed to further its energy aspirations via the ***Energy Vision***. With strong political leadership, it is working within a supportive national and local policy framework. By completing projects in line with the ***Energy Vision***, Cheshire East Council will be able to take its place next to other Councils such as Bristol and Nottingham City by bringing benefits to itself and domestic and business residents, now and in the long term. Those benefits are expected to include energy security, business resilience and growth and ***affordable energy*** for all.

Glossary of terms

This section provides a Glossary of the many and often confusing terms and acronyms used in the energy sector and within EU and UK legislation and policy.

AD Anaerobic Digestion - Fermentation of organic materials in the absence of oxygen.

ASDV Alternative Service Delivery Vehicle - Name for a group of wholly Cheshire East Council-owned companies which deliver a range of Council Services.

ATT Advanced Thermal Treatment - Heating of wastes to produce a syngas via a process of gasification or pyrolysis.

BIS Department for Business Innovation and Skills - Government department tasked with economic growth through investing in skills and education to promote trade, boost innovation and help people to start and grow a business.

BRR Business Rate Retention - Local retained business rate.

Cabinet - Executive Councillors board. Meets monthly to make decisions.

CBM Coal Bed Methane - Hydrocarbon gas held within coal measures.

CCA Climate Change Agreements - Agreements that allow energy-intensive sectors to receive up to 90% reduction in CCL.

CCGT Combined Cycle Gas Turbine - An electrical generation technology that uses both a gas and a steam turbine in the same operation.

CCL Climate Change Levy – A tax on energy delivered to non-domestic users in the United Kingdom.

CD Competitive Dialogue - Procurement process involving a stage of dialogue between a potential supplier and the buying organisation.

CHP Combined Heat and Power - Generation of both heat and electricity with a single technology.

CHPQA Combined Heat and Power Quality Assurance Scheme - A scheme designed to demonstrate that CHP plants meet certain energy efficiency criteria.

CfD Contracts for Difference - UK Government's replacement for ROCs involving a guaranteed price for a set period.

CIL Community Infrastructure Levy - A locally imposed levy on new developments to allow for locally relevant and appropriate community infrastructure improvements.

CLB Corporate Leadership Board - Decision body comprising of Chief Executive, Chief Operating Officer and Directors of Services.

COP Coefficiency of Performance - The efficiency of a heat pump expressed as kW of heat output for unit of electricity inputted.

CPRE Campaign for the Preservation of Rural England - Campaigning membership group.

CRC Carbon Reduction Commitment Energy Efficiency Scheme - Carbon tax scheme aimed at large and medium sized businesses and organisations.

DCLG Department for Communities and Local Government - Government department tasked with creating great places to live and work, and giving more power to local people to shape what happens in their area.

DECC Department for Energy and Climate Change - Government department tasked with making sure the UK has secure, clean, affordable energy supplies and promoting international action to mitigate climate change.

Dimming and Trimming streetlights – A strategy of dimming streetlights and reducing their lighting up time in order to save energy.

DNO Distribution Network Operator - The operator of the electricity distribution networks.

EAB Energy Advisory Board - Advisory and review body comprising of CEC Councillors and Senior Officers that meets monthly.

ECO Energy Company Obligation - Requires energy supply companies over a certain size to undertake and fund energy efficiency and carbon reduction improvements in low income households and in hard to treat properties.

EfW Energy from Waste - Production of heat or power from a waste or residual material. Includes AD and combustion.

EMB – Executive Monitoring Board – a Council member-led governance group

Energy Hierarchy - A prioritised list of options regarding energy decisions that might be made to reduce energy usage, costs and related environmental damage. At the top of the hierarchy is avoiding the need to use e.g. by designing building in a certain way. The next priority is to install highly energy efficient appliances for space and water heating. The final priority is to install as much renewable energy generation capability as possible to minimise the building's demand for energy from the National Grid.

EPC Energy Performance Certificate - Assessment of a buildings energy efficiency, which is then rated on a scale of A-G.

ESIF European Structural and Investment Fund - Amalgamation of several previous EU funds to be delivered locally via a Local Enterprise Partnership (LEP).

ESTA Environmental Sustainability Technical Assistance - North West England-based project helping LEPs achieve environmental sustainability and economic growth.

ESCo Energy Supply (or Services) Company - A company with supplies heat or power or energy services to customers.

EU ETS European Union Emissions Trading Scheme - A carbon tax for very large companies and organisations.

FiT Feed in Tariff - An incentive to produce electricity from smaller scale renewable technologies.

Fuel Poverty - Measured by the Low Income High Costs definition, which considers a household to be in fuel poverty if they have required fuel costs that are above average (the national median level) and, if they were to spend that amount on fuel, they would be left with a residual income below the official poverty line.

Gasification - Heating or part combustion of materials in a low oxygen environment to produce a syngas.

GIB Green Investment Bank - Government backed bank investing in energy and low carbon projects.

Green Deal - A Government-backed financial package to pay for energy efficiency improvements to a property, which is then paid for via savings on the electricity bill.

GW Giga Watt - One thousand million Watts.

HNDU Heat Network Development Unit - A section of DECC charged with developing decentralised heat delivery networks.

Horizon 2020 - EU research and innovation programme.

Informal Cabinet - Non-public, weekly (Tuesday) discussion by Cabinet.

IPPC Integrated Pollution Prevention and Control - EU Directive covering emissions.

JEREMIE Joint European Resources for Micro to Medium Enterprises - European funding programme.

JESSICA Joint European Support for Sustainable Investment in City Areas - European funding programme.

kW Kilo Watt – One thousand Watts.

LCEGS Low Carbon Environmental Goods and Services - A sector of the economy also known as Cleantech or Greentech.

LED Light Emitting Diodes - Solid state low energy lighting.

LEP Local Enterprise Partnership - Local enterprise partnerships are partnerships between local authorities and businesses. They decide what the priorities should be for investment in roads, buildings and facilities in the area. The local LEP is known as Cheshire and Warrington Economic Partnership.

LGF Local Growth Fund – A Government fund that provides Growth Deals to LEPs) for projects that benefit the local area and economy.

NOx Nitrous Oxide - An atmospheric pollutant at high level and produced by the combustion of fuels.

MCS Microgeneration Certification Scheme - A list of pre-screened renewable energy products and installers of these products. MCS-approved products and installers must be used to be able to claim FiT and RHI.

MW Mega Watt - One million Watts.

MSW Municipal Solid Waste - Household waste.

Ofgem Office of Gas and Electricity Markets - Regulates energy markets as well as managing FiT and RHI.

ORC Organic Rankin Cycle - An electrical generation technology that uses another liquid instead of steam to drive a turbine.

PM Particulate Matter - An atmospheric pollutant at high level and produced by the combustion of fuels.

PV Photovoltaic - Solar electrical generation equipment.

Pyrolysis - Heating or part combustion of materials in the absence of oxygen to produce a syngas.

RDF Refuse Derived Fuel - A part processed fuel made from MSW.

RGF Regional Growth Fund - A fund to support the generation of jobs in the regions run via BIS and DCLG.

RHI Renewable Heat Incentive - A financial incentive to generate and use heat from renewable resources.

ROCS Renewable Obligation Certificates - The Renewables Obligation is effectively a carbon tax scheme on energy suppliers validated by 'Certificates' from renewable energy generators.

RSPB Royal Society for the Protection of Birds - Organisation concerned with the protection and promotion of wild birds.

SME Small and Medium Sized Enterprises - Firms with less than 250 employees and an annual turnover less than 50 million Euros.

SOx Sulphur Dioxide - An atmospheric pollutant at high level and produced by the combustion of fuels.

Spark Spread – The difference between the cost of the input fuel and operational expenditure of an electrical generation plant and the sale of the electricity.

SPD Supplementary Planning Document - Gives detailed advice or guidance on the policies in the Local Plan.

SPV Special Purpose Vehicle - A company delivering a specific set of goods or services. In this case companies sitting below the Energy ASDV such as Energy Supply or Geothermal.

SRF Solid Recovered Fuel - A higher specification waste derived fuel than RDF.

Supply Margin – The amount of excess energy generation capacity over energy demand at peak usage times on a national level, which the System Operator manages closely

Syngas - A flammable gas produced mainly by gasification or pyrolysis.

TEG Technical Enabler Group – Senior CEC Services Representatives who meet monthly as part of the Project Management gateway process.

W Watt - Unit of energy.

WEEE Waste Electrical and Electronic Equipment - An EU directive concerned with the management and disposal of electrical and electronic equipment at the end of its life.

WID Waste Incineration Directive - EU Directive covering combustion of wastes.

Gyron LLP
Company registration number: OC381387
Registered office: Suite 47, 792 Wilmslow Road, Didsbury, M20 6UG.
www.gyronllp.co.uk