Evidence Base

Environmental Sustainability Strategy (2015-2020)

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ESS Evidence base

A. Introduction

In the Environmental Sustainability Strategy (ESS) we set out how we are going to achieve our aims, and some of the milestones that will help us monitor our progress. The following document provides the reader with supporting information; information that evidences the need for the work we are doing, and evidence that proves we are delivering on sustainability across the borough.

The Council has a number of existing strategies to which this new strategy will relate and actions will be delivered through them, this includes but is not exclusive to:

- ➢ Local Plan Policies – Core Strategy, Development and Site Allocations Documents.
- ➢ Allotment strategy.
- ➢ Green space strategy.
- ➢ Tree policy.
- ➢ Air Quality (LAQM).
- ➢ Open space, sport and recreation study.
- ➢ Environmental protection.
- ➢ Open space policy.
- ➢ Waste collection policy.
- ➢ Financial assistance policy (for energy efficiency loans).
- ➢ Housing Strategy.
- ➢ Procurement Strategy.

The Council is continuously developing, refreshing and replacing strategies and policies. Once the new Environmental Sustainability Strategy is in place it will play an important part in the work that we do as a Council, it will influence the policies and strategies already mentioned when under review, and it will assist other service areas to consider the impacts of their work on the environment.

B. Consultation

Staff Consultation

Initial consultation with staff across the Council took place to identify recommendations for action. Officers and Managers fed back from services across the Council, this included:

- ➢ Strategic Housing Team.
- ➢ Park Ranger.
- ➢ Air Quality Manager.
- ➢ Planning Team.
- ➢ Transport Manager.
- ➢ Building Management Team.
- ➢ Communities Manager.
- ➢ Private Sector Housing Manager.
- ➢ Regeneration Officer.
- ➢ Travel Plan Club Officer.
- ➢ Waste Management.
- ➢ Recycling Officer.
- ➢ Behaviour Change Officer.
- ➢ EU Funding Co-ordinator.

External consultation

- ➢ Colchester Borough Homes.
- ➢ Environmental Charity (En-form).
- ➢ Abberton Rural Training (ART).
- ➢ Colne Housing, Sustainability Officer.
- ➢ Community Groups (including new Energy Group and Transition Town).
- ➢ Essex County Council (Energy Officer).
- ➢ Mersea Island Harbour Trust.
- ➢ Local Fishermans Association.

Online Consultation

An online consultation was carried out 4 September – 9 October 2014.

91% of responses were from residents; and 9% came from organisations including third sector, local businesses and schools.

Residents felt the most important issues facing our communities were:
- ➢ Delivering a sustainable transport system;
- ➢ Provision of warmer greener homes;
- ➢ Improving recycling performance;
- ➢ Improvement of Council housing stock;
- ➢ Looking at opportunities to reduce costs and save energy use in our communities.

67% of organisations said they were already undertaking carbon reduction measures, with 17% planning to, but had not yet set timescales to carry this action forward.

Some of the comments that came from the consultation included suggestions and observations as follows:

- ➢ Schools should have strong environmental policies
- ➢ There needs to be emphasis on rooftop solar, particularly farm buildings, schools, community buildings, commercial and residential build.
- ➢ More emphasis should be given to encouraging wildflower plantings for pollinators as part of the Government's National Pollinator strategy. This should include things like encouraging and supporting community wildflower projects.

Comments relating specifically to **waste and recycling** included:
- ➢ Enable recycling for flats
- ➢ Education for households that only put black sacks out and no recycling

Comments relating specifically to **transport** included:
- ➢ Alterations and improvements to traffic flow would help to reduce fuel consumption and congestion which will improve air quality.
- ➢ Improve transport plans.
- ➢ Improve and publicise bus services to encourage residents to leave cars at home.
- ➢ Promote sustainable transport.
- ➢ Reduce fuel use, improve air pollution and less congested roads would be nicer to cycle on.
- ➢ Improve and promote all pedestrian routes.
- ➢ Prioritise cycling and walking in all planning schemes.
- ➢ Remove more traffic, including buses and motorbikes from the town centre.
- ➢ Build housing estates for people with no cars but easy access to bus or cycling routes.

Comments relating specifically to **housing** included:
- ➢ Planning applications should include green options such as solar panels on all roof areas; planning should not be considered without every attempt to include a high level of sustainability, especially on all new builds.
- ➢ Improvements can be made at a local level if houses are built with adequate local infrastructure services which make car ownership less important. The Greenstead Estate does this extremely well because it has a good infrastructure in place.
- ➢ Make every effort to help all residents improve the energy efficiency of their homes.

The data collected helped to fill in gaps in the evidence base where a more detailed local focus was needed, and gather opinion on the content of the strategy.

C. Focus Areas

A range of focus areas emerged from consultation and was used to help develop the Environmental sustainability strategy. These focus areas have been split into sections as follows:

1. Community energy and energy efficiency.
2. Transport and accessibility.
3. Resource management and waste.
4. Engaged communities.
5. Low carbon economy.
6. Development and the built environment.
7. Natural Resources.
8. Open Space.
9. Food and farming.
10. Water and flooding.
11. Climate Change

To further evidence these focus areas we provide an additional section within the evidence base that provides links with national strategies and put the work we are doing into legislative context.

1. Community energy and energy efficiency

1.1 How we manage energy efficiency

There is a stronger emphasis on efficient use and renewable sources. In the strategy delivery plan, key actions will allow us to support community energy schemes, improve the energy efficiency of existing housing stock, support new green business and third sector enterprise, introduce better energy education, and engage partners in planning for energy reduction.

Key delivery of community energy and efficiency will be achieved through:

- ➢ Local Authority Carbon Management Programme (LACM)
- ➢ Energy study (ECC)
- ➢ Procurement Strategy (CBC)
- ➢ Annual Report S00121 on Fleet Vehicle emissions (CBC)
- ➢ Housing Strategy (CBC)
- ➢ CBH Resident Officer engagement
- ➢ CBC Zone Team engagement and events
- ➢ Implementation of new projects throughout the services (as illustrated within the Delivery Plan).

This can be further supported by:

- CBC Financial Assistance Policy (Private Sector Housing Team providing access to energy efficiency loans).
- The new Housing Strategy is currently under review following a housing visioning workshop in 2012. This resulted in a number of key objectives for the Council's housing service, one of which was to '*Work to ensure that existing and new homes are healthy, safe and energy efficient'*. The new Housing Strategy is expected to be adopted in 2015.

The impacts of Climate Change have influence on how we look at the future and the way we use energy, a more detailed look at the evidence surrounding Climate Change is summarised in section 11 of this evidence base.

1.2 Drivers

Changing attitudes towards energy efficiency

Household electricity survey (HES)
The Household Electricity Survey HES (9 July 2014) was the most detailed monitoring of electricity use ever carried out in the UK and helps to provide evidence and analysis to inform energy and climate change policies.

Electricity consumption was monitored at an appliance level in 250 owner-occupied households across England from 2010 to 2011. Extensive analysis has been undertaken on appliance ownership, labels, and actual efficiencies, potential for savings in different social groups and the potential to reduce peak electricity demand. "Powering the Nation 2" summarises the main findings and recommendations from the project.

The main findings from the first phase of the project can be found on the Energy Saving Trust website.

In March 2012 the Department of Energy and Climate Change (DECC) launched a tracking survey to understand and monitor public attitudes, below are a summary of findings:

➢ Four fifths of the public (80%) said they supported the use of renewable energy to provide the UK's electricity, fuel and heat, unchanged over the past two years (82% in March 2013 and 79% in March 2012).

➢ Six in ten people (59%) said in March 2014 they would be happy to have a large scale renewable energy development in their area, consistent with 56% in March 2013 and 55% in March 2012.

➢ The UK generated almost 15% of its power from renewable sources in 2013, an increase of almost one third from 11.3% in 2012, according to Government statistics. Wind power produced 9% of UK electricity, up from 6% in 2012.

These findings suggest that there is a change of attitude and people across the UK are acknowledging that renewable power is necessary for the future of energy security in the UK. Our online consultation showed that 25% of residents agreed that there is consistently strong support for renewable energy within Colchester.

Since 2010 Colchester has seen a significant increase in the number of homes with solar insulations and cavity wall insulations, these are illustrated in the tables on the next page.

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Figure1: Domestic Solar Insulations in Colchester

Domestic Solar Insulations in Colchester

Year	Colchester	GB Mean
2010	20.4	30.6
2011	368	368
2012	1684	882
2013	2010	1112
2014	2132	1179
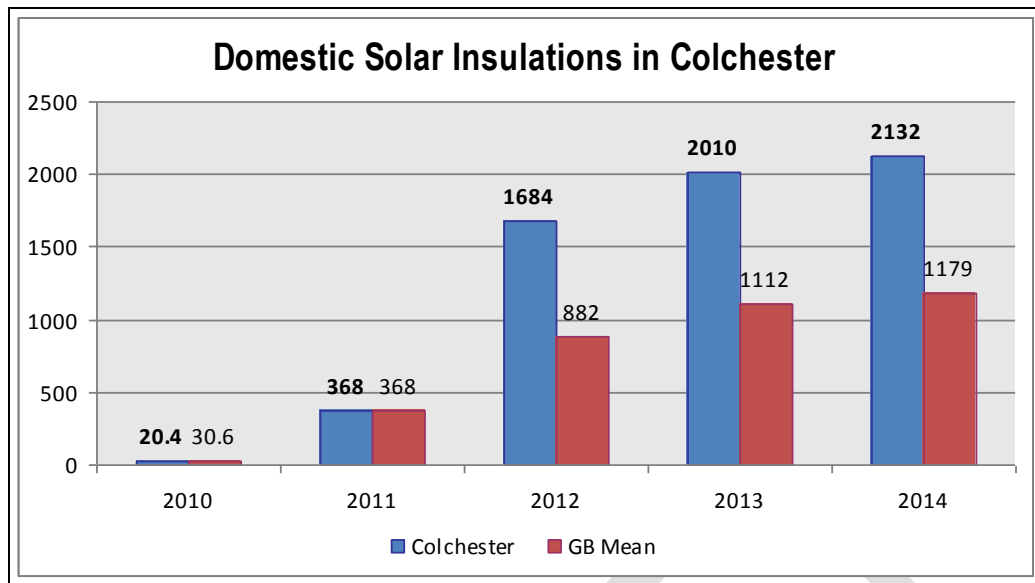
Figure2: Cavity Wall Insulation in Colchester

Cavity Wall insulation in Colchester

Year	Colchester	GB Mean
2008/9	1469	1391
2009/10	2768	2733
2010/11	4170	3873
2011/12	5410	5204
2012/13	6498	6317
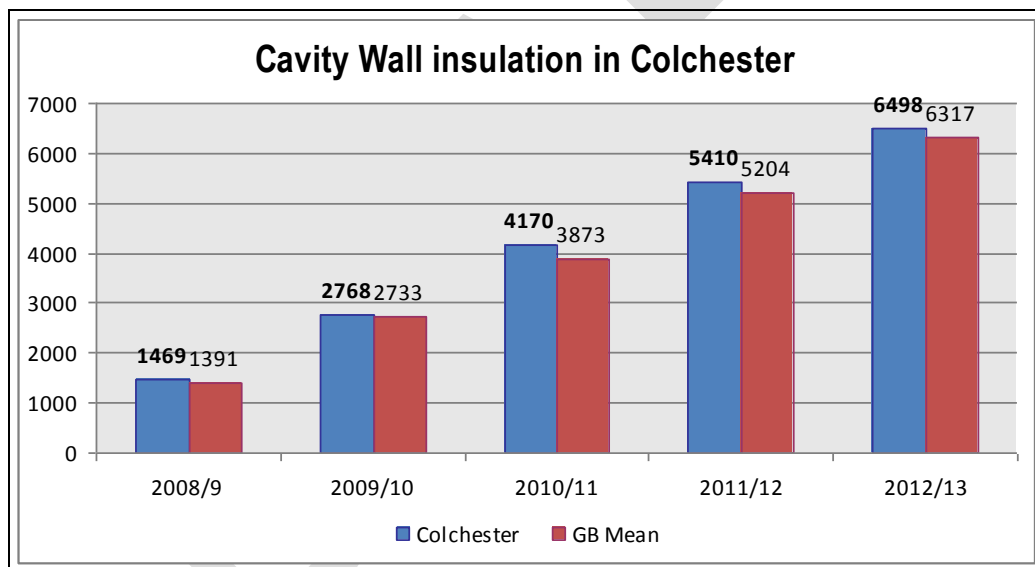
Loft insulation continues to increase, home owners have been aware of the benefits in saving on energy costs for a much longer period of time.

Figure3: Loft Insulation in Colchester
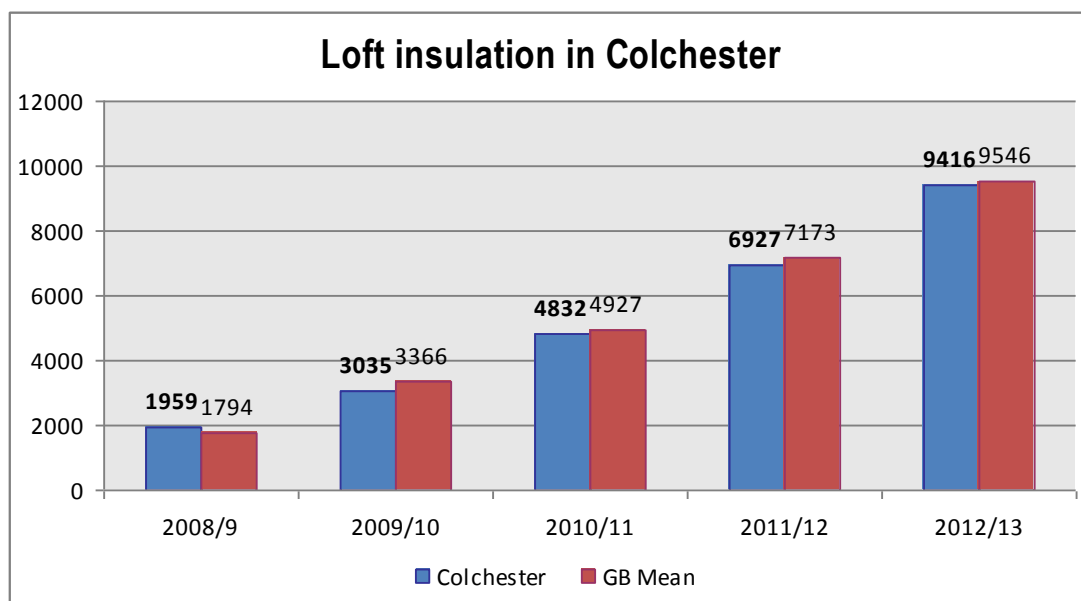
Climate change and energy security

Energy security and climate change are now ranked joint fourth in a list of the biggest challenge facing the UK today, up from eighth and ninth places respectively in March 2012. In March 2014 8% of households said security of energy supply and climate change were the biggest challenges facing the UK, significantly higher than 3% (energy security) and 2% (climate change) in March 2012.

Concern about the future cost of energy remains high when the question is asked directly. In March 2014, more than eight in ten (85%) households were very or fairly concerned about steep rises in energy prices in the future, consistent with March 2013 (88%) and July 2012 (84%).

In March 2014 two thirds of people (68%), when asked directly, said they were very or fairly concerned about climate change, a similar proportion to March 2013 (66%) and July 2012 (65%). There has been a significant decrease in the proportion of people who attribute climate change to human activity, from 38% in March 2013 and July 2012, to 35% in March 2014.

Fuel Poverty

Since 2006 we have seen an increase in fuel poverty in Colchester, at its peak rising to 15.1% in 2009. Latest DECC figures for 2011 showed a slow decrease to 12.8% of our residents, which indicates fuel poverty in Colchester is lower than the GB mean (14.6%).

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Colchester's Big Community Switching scheme which offers 3 auctions per annum will help support residents to reduce energy bills.

In 2014/15 a new housing stock survey will collate demographic and property data to allow us to target specific community groups and/or property types. We will also work with the Department of Energy and Climate Change DECC to secure funding which will enable us to look at the development of heat maps for specific areas in Colchester which will enable a greener and more sustainable approach to delivering housing needs.

Figure 4: Fuel Poverty in Colchester
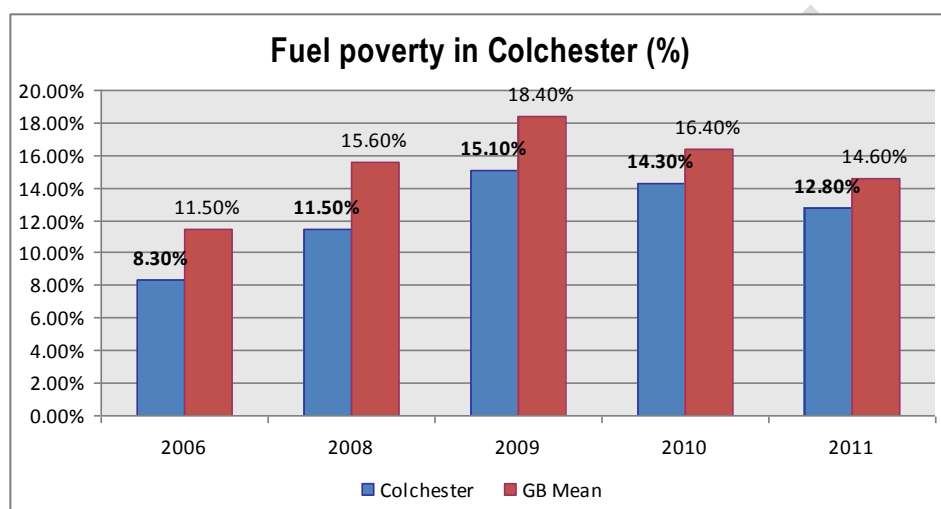
Essex Insight

Although Fuel Poverty appears to be decreasing, according to the latest Adult Health statistics 'excess winter deaths are worse than average' in Colchester

Figure 5: Fuel Poverty Statistics (DECC 2011)	All Households	Fuel Poor Households	Percent Fuel Poor
Basildon	72,359	4,997	6.9%
Braintree	60,447	5,520	9.1%
Brentwood	30,708	3,144	10.2%
Castle Point	36,789	3,493	9.5%
Chelmsford	70,896	6,347	9.0%
Colchester	**73,275**	**7,666**	**10.5%**
Epping Forest	53,235	5,257	9.9%
Harlow	35,191	2,196	6.2%

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In 2011 Essex Insight was launched to provide a local information system and data observatory. This tool provides a single location for all JSNA data that can then be shared with colleagues, partners and the public. Council Officers dedicated to reducing fuel poverty within Colchester have a responsibility to ensure they monitor this data closely, and develop services and projects to meet the needs identified.

Home energy use and energy saving

46% of households said they leave the heating on when they go out for a few hours, a significant decrease since March 2013 (52%) but consistent with March 2012 (47%). In March 2014 fewer people (48%) said they leave lights on when they are not in a room, down from 52% in both March 2013 and March 2012.

Awareness of smart meters is rising, with two thirds of households (62%) saying they have one or have heard of them in March 2014, up from 53% in March 2013 and 47% in March 2012. In Colchester since 2005 energy use per household has declined as shown in Figure 5.

Figure 6: Electricity & Gas consumption in Colchester
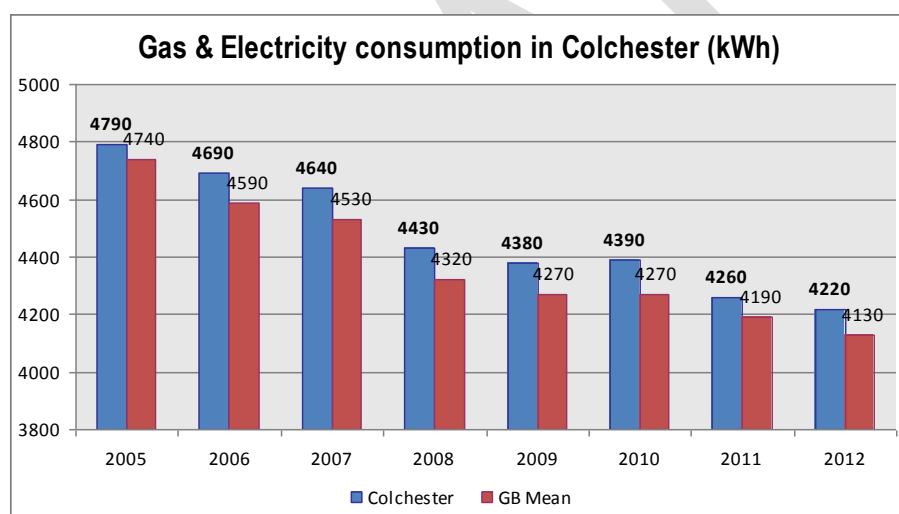
Data source: DECC statistics (taken from interactive maps)

Rising fuel bills and energy switching

The proportion of people very or fairly concerned about paying their energy bills was significantly lower in March 2014 (49%) than in March 2013 (59%) and March 2012 (56%). This is likely to be partly attributable to the milder winter in 2013-14, however concern about all areas of expenditure surveyed has fallen since March 2013.

38% of people said they will or may switch energy supplier in the next 12 months, compared with 35% in March 2013 and 33% in March 2012. A third of people (32%) had heard of collective switching, up from 27% in March 2013

and 21% in March 2012. Four in ten (40%) expressed an interest in joining a collective switching scheme in March 2014, compared to 42% in March 2013 and 34% in March 2012.

Increased energy costs are a contributing factor to excess winter deaths and fuel poverty. Making homes more energy efficient is the most robust long-term solution, making living less expensive whilst reducing the level of CO_2e into the atmosphere. Increasing the energy efficiency of homes needs a long-term view and considerable planning. In the interim cutting fuel costs so residents can afford to keep warm becomes a priority. The Council operates seasonal auction via iChoosr to offer residents a chance to switch energy providers for better deals on energy bills. The Big Community Switch started in April 2013; results from the June 14 auction showed that the average saving per household was £191 and 91% of people would save by accepting the Energy providers offer.

Figure 7: iChoosr Auction information

June 10th Auction Overview

- 61 Local Authorities involved throughout Great Britain

- 18,005 sign-ups with approx. 2,000 paper registrations (12%)

- 3 schemes with 3 websites:

  1. The Big Community Switch: 12,974
  2. The Big London Energy Switch: 2,812
  3. Ready to Switch: 2,219

Autumn & Winter Auctions

Autumn Auction

Launch – Tuesdays from 5th August
Auction – 14th October 2014
Offers – 24th October
Closure – 24th November

Winter Auction

Launch – Tuesdays from 2nd December
Auction – 3rd February 2015
Offers – 13th February
Closure – 16th March

Our website provides a wide range of energy saving advice and support for local residents; here are 2 areas of specific support available in connection to 'housing'

http://www.colchester.gov.uk/article/13773/Energy-efficiency-and-affordable-warmth

And 'business support'

http://www.colchester.gov.uk/article/13793/Energy-saving-for-businesses

1.3 Energy efficient buildings

Housing Stock

There are approx 72,000 homes in Colchester and Colchester Borough Homes manage 6,103 homes and 974 leasehold properties (May 2014).

The housing portfolio they manage equates to 8% of Colchester's overall housing, The housing stock is a mixture of traditional and non-traditional properties.

Our strategy identifies ways in which we address environmental issues in relation to these properties, and also how we work across the borough to address issues such as fuel poverty.

Building Management

Seven building management staff operates from Leisure World and we are responsible for maintaining 47 buildings. A key part of our strategy is aimed at ensuring that all these buildings are as environmentally friendly as is viable.

The following list of properties is managed by Colchester Borough Council property management team.

11 Public toilet facilities
3 Office buildings
3 Community Centres
5 Sports Centres/Pavilions
5 Museums
3 Harbour/Hythe buildings
8 Car parks
2 Cemetery buildings
1 Bus depot
1 Lift
1 Business Incubation Centre
1 Theatre
1 Skate Park
1 Church
1 Bus station waiting room

In addition to this we maintain 35 other sites (mainly office or leisure facilities), including Allotment sites, Castle Park, Highwoods Country Park and Wivenhoe Town hall.

Financial assistance policy (for energy efficiency loans)

The current policy states that applications for financial assistance may qualify to bring dwellings up to the Decent Homes Standard:

Support may also be given to owners of dwellings, who are defined as vulnerable, for the specific purpose of bringing private sector dwellings up to the Decent Homes Standard. .In cases where the property is established as 'non decent' for assistance purposes, then other essential repairs may also be grant eligible. Where the property is established as having category 1 hazard(s) and the household is not defined as 'vulnerable' the owner may also be required to carry out other work at their own expense to bring the property up to the Decent Homes Standard.

During our online consultation 97% of residents were not aware of the Council's Financial Assistance Policy so further action has been incorporated within the delivery plan to ensure highlight the following sections within the policy, although this policy will be reviewed in 2015.

'To increase thermal efficiency of homes that are already decent homes'

The Council wishes to make sure that the residential properties within its district are as thermally efficient as possible. HRL will therefore be given to top-up Warm Front grants, and for the provision of extra thermal insulation (including the provision and fitting of up to 270mm loft insulation, cavity or solid wall insulation and draught proofing).

'To assist with the cost of environmentally sustainable methods of heating/hot water generation'

Consideration may be given to environmentally sustainable methods of heating/hot water generation (including but not restricted to solar heating, ground or air source heat pumps). Where appropriate, the applicant must have applied for and gained the relevant government grant first. Assistance for these measures is limited to £1000.

This policy is due for review in 2014/15, and will be updated taking into consideration opportunities with Green Deal financing and access to ECO grants, once this is completed the policy will be more widely publicised.

The Warm Home Discount (WHD) scheme

For winter 2014 to 2015, people could get a £140 discount on their electricity bill through the Warm Home Discount Scheme. The discount won't affect their Cold Weather Payment or Winter Fuel Payment.

In Colchester the Warm Homes Project (WH) was set up in 2001 with the aims of reducing cold-related illness and reducing fuel poverty. It provides

advice, information, and referral to grant schemes, installers or other services including Staying Put; Helpline; and health or social services if required. More information about how the Council supports residents to improve energy efficiency of their homes, and detail of the on-going provision of the WHD is outlined in 1.4 Case Study 4 (Energy) section.

1.4 Case Studies (Energy)

Case study 1: 'Green Energy in Nayland'

Green Energy Nayland (GEN) is a community enterprise that aims to bring renewable energy to the local area. Priorities were that;

- there is an increase in the use of renewable energy sources
- we increase our energy independence
- Everyone able to participate in the benefits arising from the Government Feed in Tariffs, not just those with the money to install their own system. Our minimum investment is just £250.
- everyone in the community can take part in reducing our overall carbon footprint

Ferrier's Barn Day Centre

This successful project was completed in August 2012 at Ferrier's Barn Day Centre, in Bures. The system capacity is 9.6kWp and will provide a large proportion of the electricity needs as the barn only operates during the daytime.

Nayland Primary School

This project was completed with a formal opening ceremony on 11th May 2011. In the first year of operation they saved an estimated £1,000 for the school while also generating an income of over £4,000 - this means members get a very healthy level of interest on their investment.

The installation consists of 84 panels with a peak capacity of 15.54kW; data collected confirms that even on a winter's day they can generate enough electricity for all the school's needs as long as the sky is relatively clear.

On a clear day in the summer months the PVs generate more than 100kWh, with the excess being exported to the grid to be used by surrounding houses.

Suffolk County Council supports GEN as part of its ambition to create the Greenest County. This is a pioneering project which is expected to be replicated with other communities across the country.

"Local energy generation is one of the cornerstones of building local resilience. This project brings so many benefits to Nayland, for the school, the wider community and the individual investors."

Case Study 2: DECC staff behaviour change

It is nationally recognised that behavioural change is a fundamental aspect of achieving the UK's Kyoto commitment to reduce CO_2 emissions by 80% by 2050 against a 1990 baseline.

The target relies in part on people taking ownership of energy and understanding that the majority of energy we use still comes from finite carbon based products (i.e. natural gas, coal and oil).

Other technologies (i.e. nuclear) have embedded carbon through the construction and storage process and present long term storage issues for waste materials.

The Department for Energy and Climate Change began a trial in 2008 to change behaviours within their London head office.

They installed 'smart' meters throughout the building; the meters provide real time data on energy usage which is linked to the IT network.

Staff are able to view energy usage online at any time and the data is updated every five seconds.

The DECC report that staff have questioned why energy usage peaks during the day at certain times (i.e. early morning as the building is heated or cooled), and what they can do to minimise it.

Staff are also able to view energy usage for other sites, cross reference energy usage and interpret differing trends.

We will assess the success of schemes operated by other companies and regional partners to assess the overall impact of the schemes and adopt best practice.

Case study 3: Opportunities for Businesses

Solar Energy generation opportunity for UK Business

UK businesses could save over £5bn a year in electricity bills by installing "fully-funded" PV systems on the roofs of commercial buildings concludes a new study.

The report, compiled by Kingspan Energy's technical team, uses government figures and performance data from existing UK PV installations. It shows that the average British business with a half-hourly meter - effectively any medium-sized business or larger - could save £31,147 on annual electricity bills and that by installing PV panels on just 61% of the country's 2,500km2 of south-facing commercial roof space would meet the total current electricity demand of UK plc.

"The economic case for solar PV is clear, especially with the removal of the capital cost barrier from the equation."

Gilbert McCarthy, managing director of Kingspan Insulated Panels said: "The economic case for solar PV is clear, especially with the removal of the capital cost barrier from the equation. The immediate savings produced by adopting commercial rooftop PV can only increase the competitiveness of UK businesses. When you consider the increased savings over time compared with the grid, the opportunity becomes even more compelling".

Amber Rudd MP, Minister for Energy and Climate Change, said: "Our solar strategy sets out our ambition for the growth of solar on roofs and brownfield sites and, as Kingspan has identified in its own research, the benefits from solar to business are huge."

Rudd was speaking at the launch of the UK's largest rooftop solar renovation project at Kingspan Insulation's manufacturing plant in Selby, North Yorkshire. The 2.5MWp system was installed as part of a wider programme of energy efficiency measures designed to make Kingspan Insulation a Net-Zero Energy business – one that generates as much electricity as it consumes over the course of a year - by 2020. The measures, which include a new energy-efficient roof and an LED lighting upgrade alongside the PV system, are expected to save 79.2GWh at the site over 25 years; enough to power almost 7,000 homes.

Case study 4: Helping tenants get Warm Home (WH) discount and improving access to energy efficiency.

Keeping people warm in Colchester

In 2007-08 North East Essex PCT provided WH with a one-off grant which has been used to purchase extra equipment for the WH emergency heating scheme. This scheme, which was started with a small lottery grant in 2003, providing electric heaters on short-term loan to households with no heating and where there are related risks to the occupants. The scheme is often accessed by social services and hospital discharge teams.

Between January and June 2008 WH assisted over 400 households to access grants and to get a good service from contractors. Project statistics showed that, as total customer numbers increased, the number of customers being assisted to claim welfare benefits had decreased slightly.

Colchester Fuel Poverty Pilot Project 2008 – 2009

The NHS partnered with Colchester Borough Council to deliver a one-year fuel poverty pilot project during 2009, targeting patients in New Town with known respiratory or circulatory disorders. The project enabled residents to access a wide range of home improvement measures, including services to improve warmth and well-being.

Colchester Fuel Poverty Project May 2010

In order to progress the work to reduce fuel poverty Colchester Borough Council identified, with GP Practice support, patients on low incomes with illnesses that was caused or exacerbated by cold, damp housing and offered them advice, grant assistance and access to services that improve home safety, warmth and improve general wellbeing.

During this period 78 households, which would not otherwise have been visited, received support and benefitted from home improvement grants; loft and wall insulation; repairs and safety improvements; benefit advice and claims; referrals to other health and social care services.

Healthy Homes Partnership Pilot September 2010

Was set up to improve the health and well-being of vulnerable people living in households in Colchester and Tendring, we achieved this by facilitating access to a range of local support services which enabled us to:

- Increase engagement of vulnerable households through partner organisations;
- Improve local housing stock by increasing the number of households accessing appropriate grants;
- Increase the income of households by facilitating access to welfare benefits and debt management services;
- Increase numbers of vulnerable people accessing the falls prevention service and receiving fire safety advice.

Warm Homes Healthy People Initiative 2013

The NHS Cold Weather Plan established the Warm Homes Healthy People fund. The aim of the fund was to improve public health by reducing the levels of death and morbidity due to cold housing. The funding was available to assist local authorities to support vulnerable people at risk of suffering harmful effects to their health from severe cold, especially arising from cold housing. The expectation was that other local partners, especially from the voluntary and community sector, would be involved in the project proposal.

Essex County Council, working in partnership with NHS North East Essex and all the Essex Citizens Advice Bureaux (CAB), successfully bid to deliver an initiative based on the CAB Tendring Reach Out project model of 'taking advice to the door'. This furthered our objectives to:

- Target identified deprived communities;
- Provide information about energy efficient homes, Green Deal and ECO;
- Provide the most appropriate intervention through advice-giving, signposting, referring to other agencies.

2. Transport and accessibility

2.1 How we manage Transport

The focus is on the enhancement of localised and integrated systems of public transport in conjunction with cycling and pedestrian infrastructure to encourage people to travel more efficiently using less carbon based fuel. Additionally, strategies are being developed to improve the emissions of the Colchester vehicle parc. Measures include the careful planning of new developments, coordination of travel planning by major employers, and activities to engage communities in local cycling and walking opportunities. Key delivery of transport and accessibility will be achieved through:

> - Annual Report S00121 on Fleet Vehicle emissions (CBC)
> - Local Authority Carbon Management (LACM)
> - Local Air Quality Management (LAQM)
> - Colchester Low Emission Strategy (LES)
> - Colchester Interim Air Quality Action Plan
> - Local transport plan
> - Transport strategy (new for 2015)
> - Procurement Strategy (CBC)

2.2 Drivers

Meeting Co2 targets

Whilst the local population is predicted to rise, carbon emissions from domestic, commercial and transport sources must reduce. The UK has committed to reducing carbon dioxide emissions by 20% by 2020 and seeks an 80% reduction in emissions by 2050. For more detailed information on Climate Change please see Part 2 of the evidence base.

Improving Air Quality & Health

Transport emissions are the most significant cause of elevated pollution levels in Colchester which exceed the binding EU Limit Value for Nitrogen Dioxide (NO_2). The UK is currently being infracted by the EU for breaching the Limit Value and any fines imposed can be transferred to local authorities under the reserve powers of the Localism Act 2011. Colchester has 4 Air Quality Management Areas (AQMA) where the Limit Value is exceeded and there is public exposure.

The World Health Organisation (WHO) has classified diesel exhaust emissions as carcinogenic and Public Health England has calculated that exposure to fine particulate matter (PM 2.5) in Colchester, of which road transport is the most significant source, accounts for 5.5% of all deaths, equating to 811 associated life years lost per annum.

Colchester Air Quality Management Areas (AQMA)
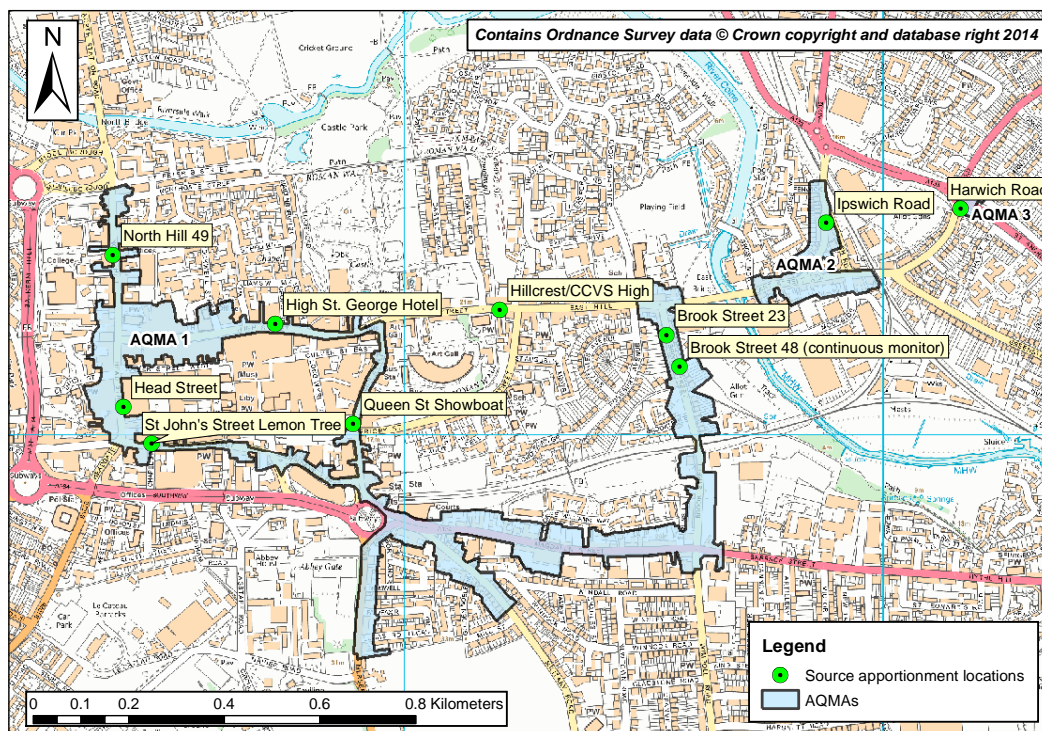
The Colchester Low Emission Zone Feasibility Study & Low Emission Strategy (LES) Development

With Defra funding, Colchester is undertaking a Low Emission Zone Feasibility Study to provide a current evidence base for targeting cost effective measures capable of reducing road transport emissions. These measures will form part of the Colchester Low Emission Strategy (LES) to be published in 2015. The LES will seek to optimise all municipal policy areas that are capable of influencing emission reductions and promote projects with key stakeholder partners. While the focus of the LES is on reductions of Oxides of Nitrogen (NOx) and particulate matter, it also seeks win-win opportunities to simultaneously reduce road transport carbon emissions through the uptake of low emission fuels and technologies.

An additional aim of the LES is to provide a platform for inward investment.

Figure 8 shows the preliminary modelling of the contribution of different vehicle types to NOx emissions in the AQMAs. Bus idling accounts for 47.9% of NOx concentrations on Head Street.

The Council is currently modelling business as usual predictions of air quality and carbon emissions from road transport for 2018 to compare with the predicted changes in concentrations arising from the introduction of cleaner fuels and technologies. This data will underpin the development of

the LES and allow Public Health to look at the impact of air pollution on health and deprivation in Colchester.

Figure 8 - Source Apportionment of NOx Emissions per Vehicle Type / Location (2014)
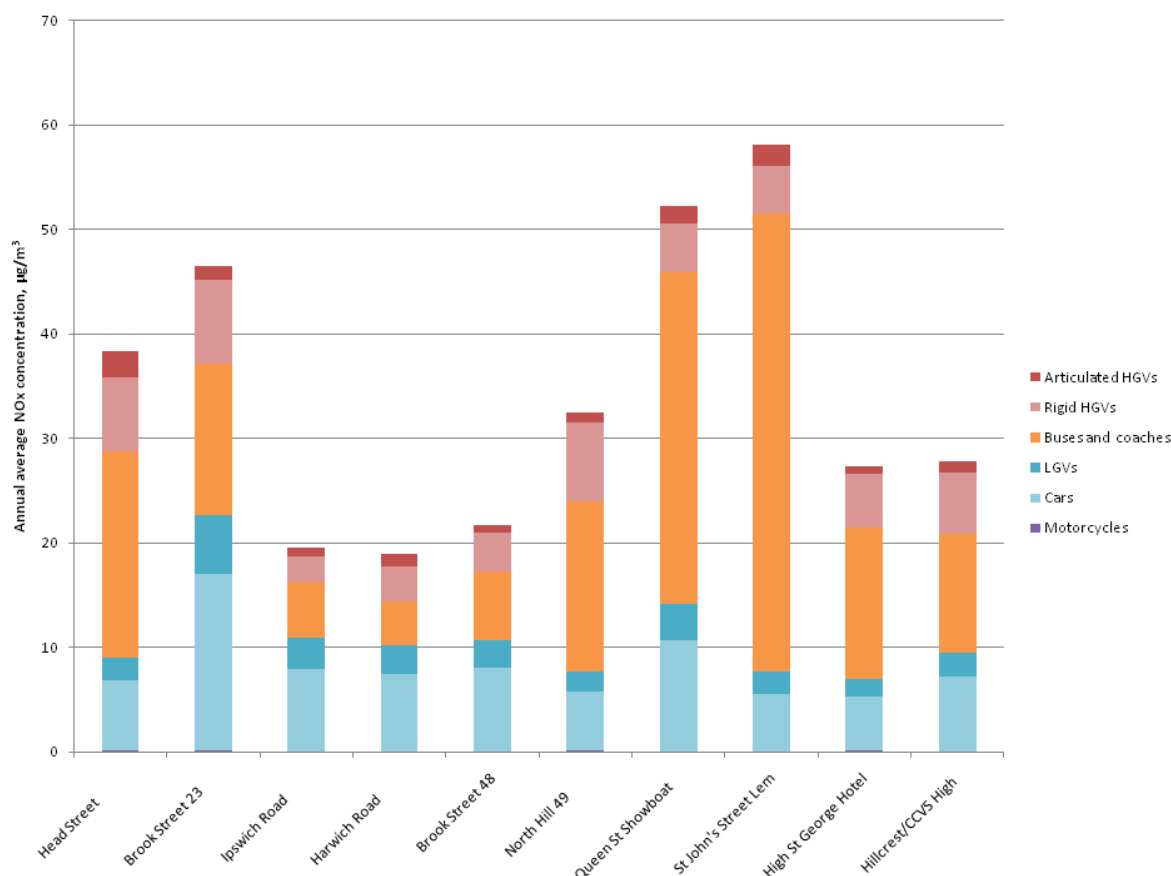
The Colchester Low Emission Strategy will includes the following key elements:

- Robust air quality and health data.

- Low Emission Planning Guidance, focussing on designing mitigation as standard, specification for EV re-charging and the consideration of damage costs.

- Low Emission Procurement Guidance, focussing on sustainable procurement, Social Values, Local Sourcing and consideration of Whole Life Costs in vehicle purchasing decisions.

- Passenger Car Emission Strategy.

- Taxi Emission Strategy.

- Freight Emission Strategy.

ESS Evidence base

- Bus Emission Strategy.

Buses have been identified as a major source of pollution in the urban AQMAs and the Colchester Bus Fleet is known to be older than the national average – see Figure 8.

Colchester has already begun working in partnership with the bus operators to improve emissions – see 2.3 (Case Study 1)

Figure 9 – National and Local Bus Fleet by Euro Standard (2012)

Bus type	Euro Standard	NAEI 2012 Urban (England) bus fleet (%)	Borough of Colchester bus fleet (%)
Single-decker	Pre-Euro I	0.1	0.0
	EURO I	0.4	0.0
	EURO II	3.4	14.8
	EURO III	11.0	54.1
	EURO IV	5.9	0.0
	EURO V	10.7	1.6
Double-decker	Pre-Euro I	0.3	0.0
	EURO I	0.8	6.6
	EURO II	7.3	6.6
	EURO III	24.0	16.4
	EURO IV	12.8	0.0
	EURO V	23.4	0.0

The LES will provide a platform for inward investment. The Office for Low Emission Vehicles has just announced funding of £500m towards low emission vehicles, including plug in cars and vans, low emission buses and taxis, gas refuelling infrastructure and Go Ultra Low Emission Cities.

Management of fleet vehicles & staff travel

We have a fleet of 145 vehicles and the CO_2 emissions from the vehicle fleet equates to 2.65% of our total emissions.

Our vehicles are fitted with trackers which allow us to look at the routes being taken, and all of our staff who travel outside the area ensure that vehicle fuel and their time are effectively used. Most of our vehicles use ULSD diesel and run on ad blue additive to help improve emissions of NOx and particulate matter. The Council fleet is currently looking at adopting a whole life cost model that takes into account energy consumption and environmental performance into purchasing decisions. The fleet has trialled alternatively fuelled vehicles and will continue to assess opportunities to increase take up.

ESS Evidence base

Our staff use their own vehicles to travel to and from meetings during the day and at present we cannot accurately report the CO_2 emissions generated by their vehicles but we do record the mileage. In an attempt to reduce the emissions from staff travel we lease tax band A (less than $100gCO_2/km$) pool vehicles for Zone Wardens, and use electric vehicles in Castle Park and Highwoods Country Park.

We have also bought into the regional agenda to install charging outlets near the strategic network (A12).

The North Colchester Travel Strategy, Forecast Modelling Report September 2012

This strategy covers traffic in the modelled area which in this case is urban Colchester and the A12 from Junction 26 to Junction 29.Vehicle emissions data was calculated using a carbon model developed using equations associated with the DMRB air quality screening method for regional assessment.

The converted flows, speeds, distances and road types were entered into the carbon model and the following annualised emissions data was calculated:

2007 - Base Model				
Carbon Monoxide CO (kg/year)	Total Hydrocarbons THC (kg/year)	Nitrogen Oxides NOx (kg/year)	Particulate Matter PM (kg/year)	Carbon (tonnes/year)
3360255	473089	3429616	108833	248190
2023 - Without NCTS Infrastructure (Do Minimum)				
CO (kg/year)	THC (kg/year)	NOx (kg/year)	PM (kg/year)	Carbon (tonnes/year)
3546533	489153	2129937	65580	269144
2023 - With NCTS Infrastructure (Do Something)				
CO (kg/year)	THC (kg/year)	NOx (kg/year)	PM (kg/year)	Carbon (tonnes/year)
3511327	483637	2091035	64208	264910

Figure 10 – Carbon emissions summary table

The table above shows that in the Do Minimum forecast year scenario, Carbon Monoxide and Total Hydrocarbon emissions are modelled to increase, leading to an overall rise in carbon pollutants in the atmosphere. This would be caused by:

   1) an increase in the number of vehicles on the road network;

   2) a rise or fall in vehicle speeds away from a low emissions range of between 40-60kph;

   3) an increase in average vehicle trip length through trip reassignment away from congested areas.

Pollution

Colchester Council monitors air quality at 58 locations in the Borough, including a real-time, authmatic monitoring station in AQMA 1.

The monitoring data shows that air quality is not improving in line with predictions due to new European Vehicle Emission Standards not performing under real world driving conditions as well as expected and a significant increase in diesel cars which have higher emissions than petrol cars.

Air quality tends to be worst during the Summer months when steady anti-cylonic conditions draw pollution from Northern Europe into the South East of England and also in Spring and Autumn when temperature inversions prevent dispersion.

Further details of the Air Quality Management Areas (AQMA) in Colchester are outlined in section 11 of the Evidence base.

Public attitudes to climate change and the impact of transport

The Department of Transport published the Public attitudes to climate change and the impact of transport in 2011 this report covers:

> ➢ Attitudes to climate change and the perceived contribution from transport.
> ➢ Personal transport behaviour and willingness to change behaviour to limit climate change.
> ➢ Support for policy options to help encourage such a change in behaviour.

Public attitude to Electric Vehicles

The Department of Transport carried out a public attitudes survey published in June 2014. A summary of findings identified that:

> ➢ Only 5% of respondents said that they were thinking about buying an electric car or van, 56% said that they had not thought about buying one with an additional 14% saying that they had thought about buying one and decided not to.
> ➢ Drivers reported that the most important things they considered when buying a car or van were, cost (85%), reliability (78%), safety (66%) and comfort (53%).
> ➢ Drivers reported that the most important factors putting them off buying an electric car or van were recharging (40%), and the distance travelled on a battery (39%) followed by cost (33%) and lack of knowledge (16%).
> ➢ Drivers reported that the most important factor that would encourage them to buy an electric car or van was cost (37%). Other factors included distance travelled on charge (20%), recharging (17%) and environmentally friendly (16%).

Some background information on respondents travelling patterns was also collected. This included:

➢ Over 80% of respondents reported travelling by car as a driver or passenger at least once or twice a week: of which 51% travelled at least once a day, 19% at least 3 times a week and 13% once or twice a week.
➢ A third of respondents reported travelling by public transport at least once or twice a week: of which 12% travelled at least once a day, 9% at least 3 times a week and 12% once or twice a week. In addition, 16% reported travelling by public transport less than once a year or never.

Factors deterring people from buying an electric car or van:

➢ Drivers reported that the most important factors putting them off buying an electric car were recharging (40%), and the distance travelled on a battery (39%) followed by cost (33%) and lack of knowledge (16%)
➢ Of those reporting that costs were a deterrent, the most important costs were purchase, and maintenance fuel/recharging followed by resale value and insurance.
➢ Of those reporting recharging as a deterrent, the most important factors were the availability of charging points or lack of charging points combined with distance travelled and concerns about running out of charge.
➢ There were also concerns about the time taken to recharge and the frequency of needing to recharge the battery.
➢ Women were more likely than men to say that they had a lack of knowledge of electric cars.

The latest statistics from the Society of Motor Manufacturers and Traders (SMMT) show 9,955 Alternatively Fuelled Vehicles (AFV) were registered in September 2014, a 56% rise on the same time last year.

This accounted for 2.3% of the total market - a 44% year on year rise - in a month that saw a 5.6%rise in overall registrations compared to September 2013. Diesel and petrol vehicles saw registrations grow just under 6% and 4% respectively, but diesel's market share remained static, while petrol fell one percentage point as a result of the growth in registrations.
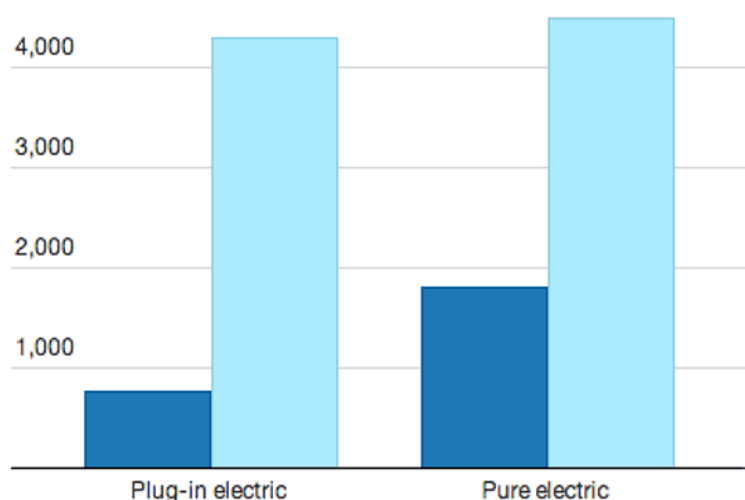According to the SMMT, 37,842 AFVs have been sold during 2014, a more than 50% increase on the same point a year ago, while market share has also grown from 1.4% in 2013 to 1.9% this year.

Figure 11 shows the latest year on year sales of Plug –in Electric Vehicles

Figure 11 – Year on Year Sales of Plug-in Electric Vehicles

2.3 Case studies (Transport)

Case study 1: Colchester Low Emission Bus Project

Colchester Council has secured £200k from the Clean Vehicle Technology Fund (CVTF, DfT) 2014/15 to retrofit 10 buses with Selective Catalytic Reduction and Particle Trap (SCRT) in partnership with First Bus. The buses will also be fitted with a micro-hybrid electric fan that will help improve fuel efficiency.

All of the buses retrofitted access the AQMA and the project will reduce NOx emissions by 63 tonnes over 5 years, 4.5 tonnes of particulate matter and 92 tonnes of Carbon Dioxide over the same period

Case study 2: Colchester Travel Plan

The Colchester Travel Plan Club was formed in 2004 by the local strategic partnership Colchester2020 as part of its commitment to tackle local traffic congestion. The aim of the club was to work collectively with Colchester's largest employers to influence travel behaviour, encourage the use of sustainable transport and reduce the reliance on single occupancy car journeys particularly for the journey to work. The founding members who also funded the club were:

- ➢ Essex County Council
- ➢ Colchester Borough Council
- ➢ University of Essex

ESS Evidence base

> Colchester Hospital University Foundation Trust
> North Essex Primary Care Trust
> Colchester Garrison

The Travel Plan Club coordinator worked with these organisations to introduce Travel Plans, which include car park management and charging to park at work, bus and train discounts, cycle to work schemes, car share schemes and ongoing marketing campaigns.

Colchester Institute joined the club as a paying member in 2007. An Associate Member category was formed in 2010. Associate Members do not pay to be part of the club. They benefit from the discounts and marketing promotions however do not receive any bespoke assistance on their travel plans. There are 8 Associate Members who have joined over the last few years including Colchester 6th Form College and 2 new town centre businesses that joined in 2014.

The Colchester Travel Plan Club also worked with the Highways Agency on an area wide Travel Plan for North Colchester Business Park in 2010/11. Since then the project has been dormant but the Travel Plan Club is now reviving the project and have 12 businesses they are communicating with about sustainable travel. Annual surveys to measure progress have been undertaken since 2008. Since 2010, the club has been working closely with Essex County Council to help the Travel Plan Club members achieve Essex County Council Sustainable Business Travel Plan accreditation to bronze, silver or gold. In 2012 Colchester2020 disbanded however members continued their commitment to funding the club.

Case study 3: Rapid charger installation

Colchester Borough Council applied for funding through an Essex County Council led initiative to have a rapid electric charger installed close to the strategic network. The aim of the project was to ensure people coming to, from and past Colchester could pull off the A12 and easily recharge their vehicles.

The new Siemens charging station is located at the Weston Homes Stadium, providing free parking and quick re-charging facilities. The charging station is expected to become self-sustaining within the first 12 months.

3. Resource management and waste

3.1 How we manage waste

The importance of both the use and recycling of materials locally, reductions in the use of non-recyclable materials and design for low energy consumption must be embedded in all our activities, supported appropriately by awareness-raising campaigns. Key delivery of resource management and waste will be achieved through:

- ➢ Local Authority Carbon Management Plan (LACM)
- ➢ Waste Strategy (new for 2014/15)
- ➢ Local Air Quality Management (LAQM)
- ➢ Colchester Interim Air Quality Action Plan
- ➢ Procurement Strategy (CBC)
- ➢ Annual Report S00121 on Fleet Vehicle emissions (CBC)
- ➢ Castle Park Management Plan

Managing waste is an integral part of our service delivery. In Colchester, 470kg of residual waste was recorded per household in 2011/12. This is less than the waste per household in the East of England Region (525kg). From 2010/11 to 2011/12, the amount of residual waste in Colchester reduced by 9kg per household. With the introduction of food waste caddies into all households across the borough we hope to see substantial reductions in household waste for future years. In particular will be a major result in the reduction of household waste going to landfill.

Figure 12: Residual household waste per household

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
	kg per household	kg per household	kg per household	kg per household	kg per household	kg per household	kg per household
Colchester	631	605	619	569	507	479	470
East	776	733	676	617	571	541	525
England	845	798	735	669	625	598	568
Essex County	803	763	701	644	583	548	516

Source: Department for the Environment, Food and Rural Affairs

Almost 40% of waste in Colchester goes for recycling, composting or reusing, which is an increase of 10% over a period of 6 years. Changing behaviour plays an important part in managing what we throw away, and behaviour change projects will play a significant part in helping local residents to think more responsibly about recycling rubbish to generate new resources for future generations.

3.2 Drivers

Diminishing resources

We need to support the development of renewable sources; both water and oil will be in short supply so we need to take this into consideration when looking at how we might save resources or use them more wisely

> **Water scarcity**

The annual rainfall in the East of England is only 70% of the national average, and the region faces significant water challenges as the impact of climate change is only to exacerbate this.

> **Peak oil**

Now we are getting very close to having used, over half of all the oil in the world. This means we will be much more restricted in our ability to consume petrol and oil-based products which has serious implications to our current way of life.

Organisational CO2e and carbon emissions

Figure 13

Carbon Savings for Colchester Borough Council 2008-2014		2013/14	2012/13	2011/12	2010/11	2009/10	Baseline Year 2008/9
total emissions		6,313	6,895	8,253	8,866	9,054	10,150
savings made		582	1,358	613	188	1,096	tonnes of Co2e

Our target is to reduce our CO_2 emissions every year and we are achieving this as the table above shows. The most significant savings made were in 2012 when the actions from the LACM plan were completed. This provides strong support for a refreshed plan to be rolled out as part of the delivery plan for this strategy.

Since our baseline year of 2008 we have achieved significant savings in the amount of fuel, electricity and gas we use.

Scope 1 - Fuels

In 2008/09, our baseline year we were producing 5,285 tonnes of CO2e in comparison to 2013/14 where we had reduced scope 1 to 3,039.

Scope 2 – Electricity

In 2008/09, our baseline year we were producing 4,798 tonnes of CO2e in comparison to 2013/14 where we had reduced scope 2 to 3,224.

Scope 3 – Travel

In 2008/09, our baseline year we were producing 67 tonnes of CO2e in comparison to 2013/14 where we had reduced scope 3 to 49.

The total emissions in 2008/09 were 10,150 tonnes of CO2e, in 2013/14 we had reduced this to 6,313 which evidences a significant reduction in the way we operate. This amounts to 4.89 tonnes of CO2e tonnes of CO2e per full time equivalent; this is known as the Councils intensity measurement.

To allow accurate comparison of our CO_2 emissions over the last six years it has been assumed that our transport usage and vehicle emissions have remained consistent over that period.

The Greenhouse Gas Emissions report shows that the Council takes ownership of its environmental impact and aims to reduce our emissions through on-going investment and behavioural change.

CO2 Variances

To ensure that we achieve reduction in CO_2 emissions it is important that we understand the variances in our CO_2 emissions over the last six years.

Analysing the usage data collected from utility company information allows us to monitor increases and reduction in energy use which helps to clarify effectiveness of measures taken and where installation of measures are needed.

Our staff

We employ 274 Part time and 661 Full time staff to provide services to our customers.

In 2012/13 our staff mileage was recorded as165, 524 miles

Promoting more environmentally friendly behaviour and practices among our staff contribute to our strategic objectives to provide a quality workforce. In addition, our staff, and the way they operate and behave, contributes to our overall carbon footprint.

Making staff aware of environmental issues is an integral part of our Environmental Strategy and delivery plan. Following good practice such as switching off monitors, lights and reducing use of air conditioning becomes natural behaviour, and is embedded into an induction process for all new staff.

4. Engaged communities

4.1 How we engage communities

Transport and resource restrictions will lead to greater emphasis on local arrangements and the need to provide more personalised support services to an increasing population. Communities and individuals should be encouraged to take responsibility for their own needs, with public agencies becoming catalysts and facilitators rather than just providers. Steps towards empowerment include support for low carbon groups and promoting participation in protecting the biodiversity through local projects linked to local heritage, rural skills and safeguarding the natural environment for future generations.

Key delivery of engaged communities will be achieved through:

- ➢ Housing Strategy (new for 2015)
- ➢ Castle Park Management Plan (CBC)
- ➢ Castle Park Restoration and Development Plan (CBC)
- ➢ Climate Change Risk Assessment 2010 (CBC)
- ➢ Carbon Action Management Plan
- ➢ Economic Development Strategy (CBC)
- ➢ The Colchester Borough Council 2012-15 Local Plan
- ➢ Economic Development Strategy (ECC)

4.2 Drivers

The Deregulation Bill

The Deregulation Bill proposes a wide range of measures to reduce burdens on businesses, voluntary organisations and public bodies. The scope of the legislation takes in 'the environment' and included in the Housing Standards – Clauses 28 and 29 proposes to implement the Government's technical housing standards review which would prevent local authorities going beyond the building regulations in setting local energy efficiency standards. This change is being made as part of the Government's policy in implementing the new 2016 Zero Carbon Homes Standard. (Clause 29).

Environmental scorecard for Colchester

The environmental 'scorecard', shows how Colchester stands nationally, within its region and sub-region. The 'scorecard' assesses the state of Colchester in terms of the composite environmental and quality of life measures. The scores represent the quintile where the district falls on each of the measures ('A' representing the strongest performance, ranging to 'E' representing the weakest).

Composite measure	Sub-region score	Region score	National score	Summary
Housing affordability An 'A' represents areas with the most affordable residential property	E	E	E	Colchester is ranked 362 out of 375 districts on our affordability score, indicating that the area is in the bottom 20% of districts nationally in terms of affordability.
Commercial Floorspace An 'A' represents areas with the highest rate of growth in commercial and industrial property	E	E	E	Colchester is ranked 324 out of 375 districts on our floorspace change score, indicating a level of growth in the bottom 20% of districts nationally.
Transport and connectivity An 'A' represents areas with the most rail, motorway and transport links	D	C	C	Colchester is ranked 188 out of 408 districts for its overall connectivity score, indicating an area that performs in the middle 20% of districts nationally on levels of connectivity to intercity rail, motorways and airports.
Amenities An 'A' represents areas with the highest access to local cultural and leisure amenities	B	A	B	Colchester is ranked 118 out of 376 districts on our overall score, indicating a standard of local amenities that is in the top 40% of districts nationally.
Natural Environment An 'A' represents areas with the highest natural environment score	A	A	B	Colchester is ranked 98 out of 354 districts for its overall natural environment score, putting it in the top 40% of districts nationally.

Figure 14: Environmental Scorecard
Summary Profile Colchester
February 2010 www.localfutures.com 034

Economic Development Strategy Delivery Plan 2010 to 2015

Within the Economic Development Strategy Delivery Plan 2010 to 2015 a priority to support retention of rural skills and grow the local green economy is identified.

Figure 15: ENHANCING QUALITY OF LIFE

Priority
Develop and implement initiatives to support rural businesses to sustain and develop the Borough's rural communities

4.3 Case studies: Community action

Case study 1: East Colchester

East Colchester contains three of the Borough's four Wards with the highest levels of deprivation. The majority of projects in East Colchester are centred around creating a new sustainable community at the Hythe, the site of the town's former port. This area was particularly affected by the closure of the port and the loss of many traditional jobs associated with it.

The first of development in East Colchester focused on tacking a range of issues. The programme included:

➢ The development of a new enterprise centre.
➢ Two new community centres.
➢ A new children's nursery.

Community based activities have been organised at the Hythe to bring together new residents, and the area's existing residents, to ensure there is a shared ownership of the area and an understanding of the area's heritage and sustainable vision for the Hythe.

➢ **Arts Projects** have helped to improve the look and feel of the Hythe, whilst encouraging an understanding of the area's history.

➢ **Clean Up events** have been supported by Local Councillors, residents and local groups. The Sea Cadets who are based at the Lightship on the River Colne, have used their skills and expertise to support the Clean Up events by focusing on clearing rubbish from the River Colne. The Garrison have also been active in assisting this work along with Community Payback Working Groups

➢ **Hythe Fun Day and Hythe Forward Events** are run in conjunction with a national Heritage Day; more recently Hythe Forward, working with Hythe Community Centre and other local groups, have organised community based events.

➢ **The Moors Movement** is a local group of volunteers who look after the important wildlife habitat in an area known locally as the Moors. The Moors is a hilly green area between the River Colne and Hythe Hill

➢ **Town to Port Trail** launched the *'wayfinding'* and interpretation project in May 2013 a public event was held on King Edward Quay including music, Guided Walks, historic talks, community stalls and was attended by over 5000 people

Case study 2: Community Action to address coastal erosion accelerated due to effects of climate change.

Residents have come together to develop a climate change adaption recharge project. Members of the group include local fishermen, oystermen, sailing clubs, boatyard owners, individual landowners and the coast road association. The group have engaged local experts to help develop a proposal, working with the National Trust, Natural England, Essex Wildlife Trust and RSPB. This will ensure the work they are doing will protect species highlighted within the Biodiversity Action Plan (BAP) while building defences to stop the erosion of the local harbour area on Mersea Island.

The group have achieved charitable status 'The Mersea Harbour Protection Trust' so that they are eligible to apply for external funding, and have set a target to raise in excess of £467,000 between 2015-2018.

A strategic approach and plan has been developed so suitable materials that are already being dredged will be sprayed along specific coastal locations to protect areas which could otherwise be lost within 30 years. Dredged materials are waste and would otherwise be dumped out at sea. The mitigating action, led by the new community group, will impact on the security of local employment, international importance for conservation; local infrastructure and coastal housing.

The Business Case, Project Plan and Executive Summary is available on the web site http://savemerseaharbour.wordpress.com/

Case study 3: Green Open Homes

Colchester Borough Council helped local environmental charity En-form to secure external funding from the National Network for Low Carbon Open Homes to enable volunteers to co-ordinate a month of open days at homes where energy efficiency measures had been installed. The project meant that Colchester residents could go and see for themselves how the technology worked and how effective it was.

18 home owners signed up to the programme of open days during the month of May 2014, and over 300 visitors took up the opportunity to visit and explore making energy efficiency changes to their own homes.

The Council were able to help promote the scheme as well as offer advice and support in raising the funds to make the project a reality.

http://colchester.greenopenhomes.net/

5. Low carbon economy

5.1 Building a low carbon economy

Central to the creation of a sustainable, low carbon economy is the local re-circulation of money. This will help to fund community regeneration, local services and further local job creation. The reliance on the internet for business is likely to grow. Promotion of the use of natural resources, re-use and repair businesses will be important.

Key delivery of low carbon economy will be achieved through:

> - Local Authority Carbon Management Plan (CBC)
> - Economic Development Strategy (CBC)
> - Procurement Strategy (CBC)
> - Annual Report S00121 on Fleet Vehicle emissions (CBC)
> - Housing Strategy (new for 2015)
> - Economic Development Strategy (ECC)

5.2 Drivers

The Colchester Economic Growth Strategy (2010-15)

Identifies the need to develop growth sectors, within this are identifies opportunities within Environmental Industries *'to contribute to the country's global obligation to manage the environmental impact of human activity'.*

In addition to this the Economic Growth Strategy intends to develop and implement initiatives to support rural businesses to sustain and develop the Borough's rural communities

Economic Development Strategy Delivery Plan 2010 to 2015

Within the Economic Development Strategy Delivery Plan 2010 to 2015 it was identified that a priority to support retention of rural skills and grow the local green economy would be achieved by supporting priority sectors; improving business performance and stimulating investment.

Figure 16: SUPPORTING PRIORITY SECTORS

Priority
Develop growth sectors: Environmental Industries - to contribute to the country's global obligation to manage the environmental impact of human activity
Promote procurement opportunities to sustain and improve local productivity

Figure 17: IMPROVING BUSINESS PERFORMANCE

Priority
Increase environmental sustainability to manage the environmental impact of Colchester's economic activity
Develop new markets to sustain and develop local employment and encourage entrepreneurship
Support and retain key companies to preserve key skills in the economy and manage the local impact of globalisation
Secure funding and/or investment for initiatives to improve business performance

Figure 18: STIMULATING INVESTMENT

Priority
Promote Colchester as a destination for business to develop a resilient local economy and provide future employment opportunities

Local Authority Carbon Management (LACM) Programme

The Council successfully completed the LACM in 2012/13 and expired in 2013. The Carbon Trust has asked us to consider plans for future carbon reduction, and is currently engaged in supporting:

- Review of carbon management progress to date and scope out potential next steps;
- Re-engage the organisation with carbon reduction (including senior management and behaviour change);
- Re-baseline of carbon footprint and/or broaden your scope (e.g. scope 3 - procurement, transport);
- Help set a new carbon reduction target, taking into account projects already implemented;
- Identify and quantify more carbon reduction projects to hit targets
- Re-establish the business case for action on carbon reduction, and look at funding models.

ESS Evidence base

A LACM action plan identified specific areas for delivery as follows:

Figure 19a: LACM Phase 1:

Phase 1 Project	Start Date	Completion Date	Total Cost	Estimated Annual Energy Cost Savings	Estimated Annual CO2 Savings	Current Status
Fitness Pool Refurbishment	Phase 1 01/2009 Phase 2 07/2009	Phase 1 02/2009 Phase 2 11/2009	£522k	£86k	570 tonnes	Phase 1; replacement of existing AHU complete. Specialist Contractor now expects annual CO2 savings to be 570t as opposed to 412t as previously thought. Phase 2 works including the replacement of the fitness pool roof have now been tendered and will start on site in July.
Replacement Heating Castle	10/2011	12/2011	£367k	£4.5k	18 tonnes	Works to be funded by heritage Lottery grant and undertaken during planned redisplay scheduled for 2011. First stage of lottery bid process now complete.
Rowan House Lighting	TBC	TBC	£150k	£9k	36 tonnes	Project remains unfunded.
"Snooze" Button	02/2009	05/2009	£1.5k	N/A	N/A	In-house solution developed by Serco incompatible with CBC flexible working IT and therefore abandoned as agreed at CRC meeting 29/04/09. Product may still be used by BDC and CBH.
Vending Machine 7 Day Timers	07/2008	07/2008	£0.09k	£14k	56 tonnes	Complete. Energy usage in Angel Court, Town Hall and Rowan House being monitored for quantification.
Power - Perfector Voltage Optimisation	02/2009	08/2009	£133k	£83k	240 tonnes	Equipment now operational at Crematorium and St John's MSCP. Installation at Castle and MRC programmed. Remaining sites to follow.
Town Hall Fuel Conditioning	07/2008	07/2008	£1k	£1.5k	6 tonnes	Complete. Gas usage between October 2008 and May 2009 to be evaluated to check equipment has performed as expected and may be put forward for use elsewhere.
Draught Sealing Town Hall Windows	Phase 1 07/2009 Phase 2 03/2010	Phase 1 08/2009 Phase 2 03/2010	£10k	£4k	23 tonnes	Phase 1 to start on site July 2009. Phase 2 (Moot Hall) to be undertaken in March 2010.
Replacement of Cremators	TBC	TBC	£750k*	£23k*	167 tonnes*	Supplier for new cremators selected and order to be placed shortly. Works to commence on site in 2010.
Awareness Campaign	09/2007	Ongoing	£0	£14k	85 tonnes (to date)	Campaign to be re-launched when Angel Court Staff move into Rowan House.
TOTAL	**-**	**-**	**£1934.59k**	**£239k**	**1201 t**	**-**

* Estimated

ESS Evidence base

Figure 19b: LACM Phase 2:

Phase 2 Project	Start Date	Completion Date	Total Cost	Estimated Annual Energy Cost Savings	Estimated Annual CO2 Savings	Current Status
Sheltered Housing Heating Overhaul	TBC	TBC	TBC	TBC	TBC	Formal instruction to proceed with project received from CBH. BSM and consultant to begin survey in late August 2009.
Sheltered Housing Voltage Optimisation	TBC	TBC	TBC	TBC	TBC	Formal instruction to proceed received from CBH. Site data sent to PowerPerfector for initial analysis.
Multi-storey Car Park Lighting	TBC	TBC	TBC	TBC	TBC	Feasibility study complete. BSM to discuss report with Parking Services Manager.
Uplift of Moot Hall inc. roof insulation and lighting	01/2010	05/2010	£70k*	£7k	9 tonnes	Project funded and tender package being built by Framework Consultants. Works due to commence in January 2010.
Upgrading BEMS within Operational Bldgs	TBC	TBC	£180k	£37k	189 tonnes	Project currently unfunded. Possible future funding via Building Maintenance Programme.
Extension of Highwoods RC inc. Bio-mass htg system	09/2009	12/2009	£239k*	£2k	9 tonnes	Project due to go out to tender in July 2009. Project will form pilot for CBC to produce woodchip fuel from local coppicing which may fuel future boiler plant at other sites. Works due to start on site Summer 2009.
Replace bus. mileage with electric pool cars	TBC	TBC	TBC	£115k**	45 tonnes	Project being explored via Travel Plan Committee.
Replacement of Roof & Heating/ ventilation at Mercury Theatre	TBC	TBC	TBC	TBC	TBC	Initial feasibility complete. BSM to discuss proposals with Framework Consultants on 18th June. Window for works to be undertaken in 2011.
Replacement of Heating at Natural History Museum	05/10	07/10	TBC	TBC	TBC	Funding available from Building Maintenance Programme. New system to form pilot for Castle heating project. Project currently being designed, works due to commence on site May 2010.
North Colchester Wind Turbine	04/09	TBC	N/A	N/A	N/A	PfR have visited Cuckoo Farm and have confirmed that site is suitable for 2MW turbine. However, turbine position likely to clash with proposed P&R site which may be a problem. BSM to pursue with Regeneration and PfR. GIS data for other pieces of CBC land to be sent to PfR for consideration.

* This is the cost of the project as a whole and not solely the cost of the energy saving element within the project
** Saving is average annual business mileage cost less electric car running costs rather than value of energy saved

Plans will start in April 2015 to refresh the Colchester Borough Council Local Authority Carbon Management (LACM) plan for delivery of carbon savings up until 2020. This will assist the Council in achieving the challenging 40% reduction target by 2020.

5.3 Essex Employer and Business Survey 2010

According to the Essex wide survey just over a third of businesses are already undertaking carbon reduction measures within their business (35%), while a further 1 in 10 plan to and a further 4% plan to but need some advice. Just under half of all Essex businesses have no plans to undertake carbon reduction measures (46%).

Figure 20: Whether businesses plan to undertake carbon reduction measures within their business (All respondents)
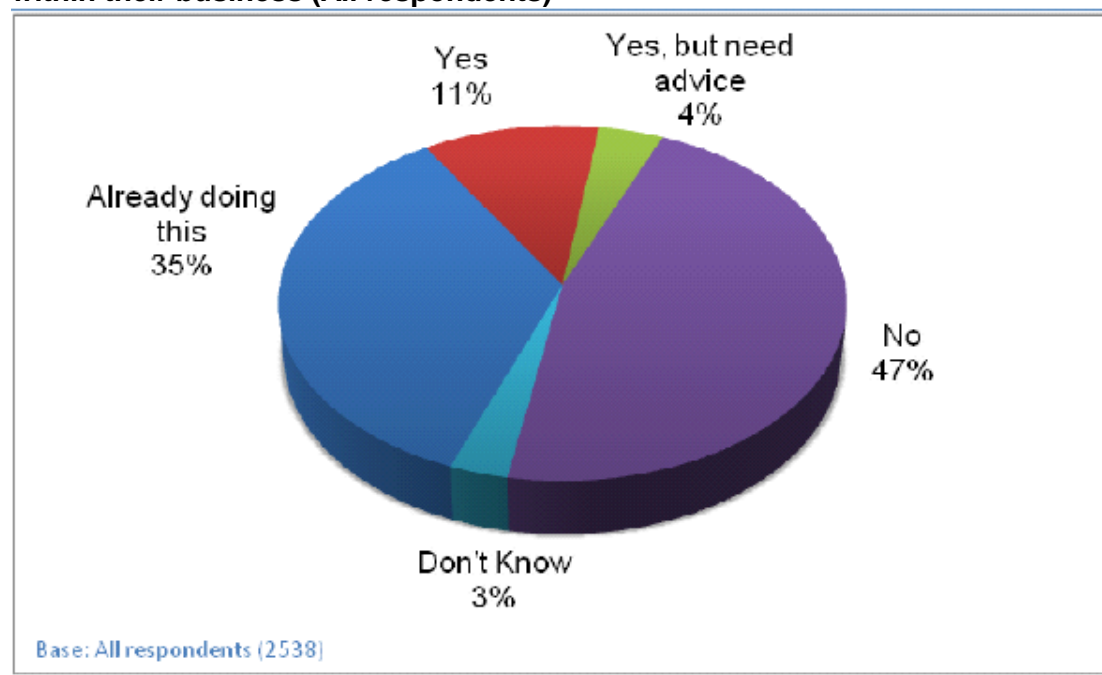
Businesses within the financial and insurance activities sector are most likely to say they have no plans to introduce carbon reduction measures (66%). Smaller companies are more likely than larger companies to say they have no plans at all (53% of businesses with 1-4 staff, compared with just 2% of businesses with 100+ staff), whilst the largest businesses are most likely to have already undertaken such measures (95% of businesses with 100+ staff, compared with 55% of companies with 25-99 Employees, 42% of companies with 11-24 employees, 41% of companies with 5-10 staff and 31% of companies with 1-4 staff).

By district Colchester (47%) and Tendring (48%) businesses are most likely to have already undertaken carbon reduction measures, while Rochford businesses are most likely to have no plans to implement any measures (57%; 46% on average).

By sub-region businesses within Haven Gateway are significantly more likely than any other sub-region to have already undertaken carbon reduction measures (47%; 35% on average). Overall 1 in 5 Essex businesses believe climate change will have a negative impact on their business (22%).

Of the sources of sustainable energy suggested to businesses, the highest proportion, of just over two-fifths, is interested in using solar energy (42%). A third of businesses are interested in using wind energy sources and at least a fifth express some interest in ground source heating, tidal energy or local wood fuel or straw.

Overall just over half are interested in at least one sustainable energy source (52%), while two fifths are not interested (43%) and a small proportion are unsure (5%).

Figure 21: Proportion of businesses interested in using each source of sustainable energy (All respondents)
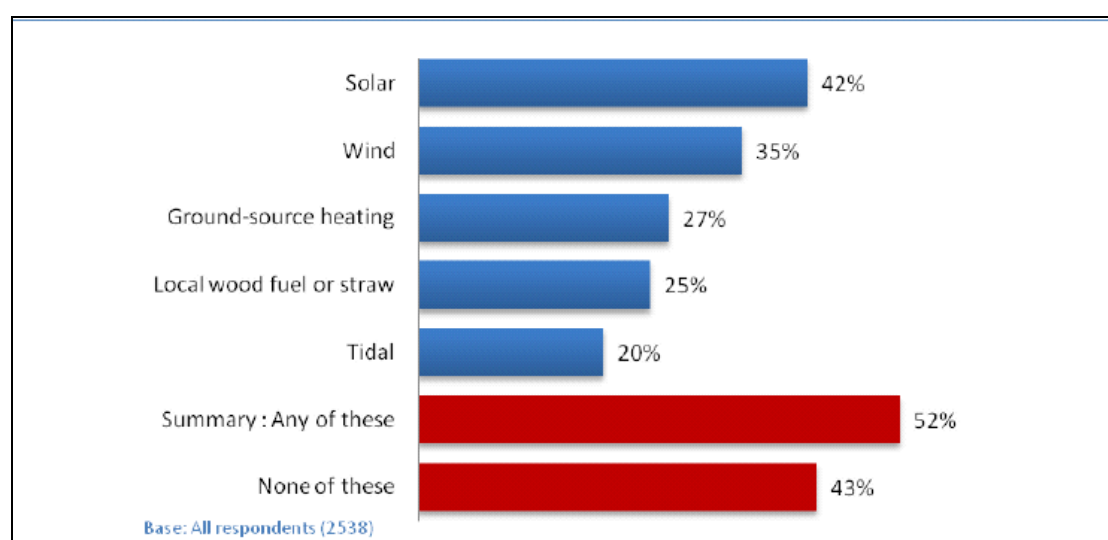
Just over two-fifths of all businesses have already implemented measures to improve energy efficiency in their buildings (44%). The human health and social sector (62%), followed by the accommodation and food sector (57%) are most likely to have done so. The likelihood also increases with the size of the establishment.

With over half of businesses interested in using any of the sustainable energy sources, it would suggest that providing access to better information to enable this action would help companies to progress what they aspire to achieve.

5.4 Case study: CBC Staff initiatives

Since 2007 Colchester Borough Council's Green Awareness Campaign has been rolled out to staff, the 'Colchester Big Clean up!' aimed to educate CBC officers on Climate Change issues and ways to save energy. As a result much of the way we now behave is just part of everyday good practice and is embedded into new staff induction processes, this includes:

- ➢ Switching off computer and computer monitors when not in use;
- ➢ Use the computer's 'Snooze Button' when stepping away from their desks e.g. for meetings/lunch/to make drinks etc;
- ➢ Switching off printers/photocopiers and other electronic equipment when not in use;

- ➢ Switching off lights and air conditioning when leaving a meeting room or empty office;
- ➢ Opening windows instead of using air conditioning where possible, and switching off air conditioning when the windows are open;
- ➢ Use more sustainable modes of transport when travelling to and from work and/or meetings;
- ➢ Reducing printing;
- ➢ Recycling, using office facilities; and
- ➢ Setting a good example to colleagues and at home wherever possible.

The Local Authority Carbon Management Programme (LACM) helps local authorities look at how services and operations impact on the environment internally and externally which helps to identify ways to reduce emissions. As part of the LACM programme we have been running a staff awareness campaign since August 2007 and to date this has allowed the Council to save 50 tonnes of Carbon Dioxide (CO2) (approximately £8,500 in energy costs).

It is recognised that raising staff awareness across an organisation can produce large energy savings as individuals learn to take responsibility for their own Carbon Footprint.
Our main methods of communicating good practice to staff are set out below:

- ➢ Posters
- ➢ Incentives
- ➢ The Hub (intranet)
- ➢ Monthly update
- ➢ Climate Change Survey/competition
- ➢ Meetings
- ➢ Carbon Reduction Champions.

Renewing a revitalising tried and tested initiatives will help support the Councils task ahead to reduce CO2e emissions every year.
Between 2007 and 2012 during the roll out of the LACM programme we were able to monitor the following savings:

- ➢ Saved approximately 50 tonnes of CO_2e;
- ➢ Saved approximately £8,500;
- ➢ Achieved a rate of 92% of staff regularly turning off computer monitors;
- ➢ Recruited 20 Carbon Reduction Champions;
- ➢ Achieved a 30% response rate to the Climate Change Survey; and
- ➢ Received and monitored over 300 environmental pledges from staff and Councillors.

Raising awareness to staff is a rolling process that successfully runs alongside a carbon management programme.

6. Development and the built environment

6.1 Building the future

As resource costs rise and the effects of climate change become evident, innovations in architecture, building construction and standards, energy generation and infrastructure planning need to be accommodated. The use of local materials and recycling will increase. As most of the current building stock and infrastructure are likely to still be in place by 2050, a key concern is identifying adaptation and improvement opportunities.

Key delivery of development and the built environment will be achieved through:

- ➢ Trees and Woodland strategy (CBC)
- ➢ Annual Report S00121 on Fleet Vehicle emissions (CBC)
- ➢ Housing Strategy (new for 2015)
- ➢ Economic Development Strategy (ECC)
- ➢ Essex Bio-diversity strategy
- ➢ Climate Change Risk Assessment 2010 (CBC)
- ➢ Local Authority Carbon Management Plan (LACM)
- ➢ Local Air Quality Management (LAQM)
- ➢ Colchester Interim Air Quality Action Plan
- ➢ Economic Development Strategy (CBC)
- ➢ Asset Management Strategy (CBH)
- ➢ Procurement Strategy (CBC)
- ➢ Castle Park Restoration and Development Plan (CBC)
- ➢ DP14
- ➢ NPPF

6.2 Drivers

The Colchester Economic Growth Strategy (2010-15)

How we conduct our Property Management is identified within the delivery of our **Local Plan:**

- Housing stock maintained to the decent homes standard and are energy efficient ;
- Retrofit appropriate technologies to our own buildings.

Northern Gateway Development Plan

Colchester is a fast growing place and it's important that local people have all they need to enjoy and get the most from their lives here. There are plans in North Colchester for a completely new fun and adventure space for local people and visitors alike. From walking and cycling to extreme sports, the100ha development site around the Weston Homes Community Stadium will fast become a 'must go' place and will create around 3000 new jobs.

DECC Heat Network Delivery Unit (HNDU) Funding has been secured (October 2014) to look at the delivery of heat networks through a mapping exercise. Viability studies will be carried out in the Northern Gateway area to identify how this might benefit the plans.

Standards for improving energy efficiency of new homes

A raft of initiatives launched in 2007 aimed at the energy efficiency of the built environment, particularly the housing sector, designed to implement the duty placed on the Secretary of State by the Housing Act 2004, to take reasonable steps to improve residential energy efficiency.

The Zero Carbon Homes initiative which proposed a progressive tightening of energy efficiency standards in the Building Regulations, rising to a zero carbon target in 2016; proposed changes to Permitted Development Rights for micro-generation to make it easier for householders to install micro-generation technologies; and a new Supplement to Planning Policy Statement 1: *Delivering Sustainable Development* (ODPM 2005), setting out how participants in the planning process should work towards reducing carbon emissions in the location, siting and design of new development.

Code for Sustainable Homes (Communities and Local Government 2008)

The Code for Sustainable Homes is the national standard for the sustainable design and construction of new homes. It aims to reduce carbon emissions and create homes that are more sustainable. The code provides voluntary standards on energy efficiency for the sustainable design and construction of new homes;

The code measures the sustainability of a new home against nine categories of sustainable design, rating the 'whole home' as a complete package. It sets minimum standards for energy and water use and replaces the EcoHomes scheme, developed by the Building Research Establishment (BRE). In April 2014 the government announced its decision to wind down the Code for Sustainable Homes.

Consultation on new sustainable development indicators (Defra – March 2013)

The 2013 consultation provided an overview of the UK's progress towards a more sustainable economy, society and environment. The Environment Audit Committee (EAC) held an inquiry into measuring sustainable development and well being which provided evidence to support the recommendations for sustainable development indicators.

Colchester Borough Homes Stock Improvement

Colchester Borough Homes have carried out the following works to our own housing stock:

The first project two years ago installed around 600 PV installations to our own housing stock. A current project is underway, with perhaps 60 installed to date. Optimistic forecast is for 1000 installations overall.

Mechanical ventilation with heat recovery, Low energy lighting, Solar panels, Tripled glazed windows and an Energy meter have been installed at Worsnop House as part of the refurbishment and we are installing smart electric meters for communal areas.

'Fuel switched' approximately 30 properties from electric night storage to high efficiency gas central heating systems to provide affordable and controllable heating

'Fuel switched approximately 20 properties to air source heat pumps

Much of the boiler replacement programme is driven by the age of the boiler, which comes from Colchester Borough Homes Asset Management Database. We have replaced inefficient boilers with Air Source Heat Pumps (ASHP) to rural properties (focussing initially on properties not on gas mains) ASHP can be less efficient than oil boilers, so the focus is on making the right choice for residents and reducing fuel poverty, rather than purely on energy efficiency.

External wall insulation (EWI) has been installed at one property

Key deliverables on our own housing stock are carried forward by the Colchester Borough Homes Asset Management Team.

Figure 22: The profile of stock by accommodation type (archetype) is:

Archetype	Total
i) Pre-1945 Small Terrace House (<70m2)	480
ii) Pre-1945 Semi House	246
iii) All other Pre-1945 House	40
iv) 1945-64 Small Terrace House (<70m2)	93
v) 1945-64 Large Terrace House/Semi (>70m2)	678
vi) 1965-74 House	216
vii) Post-1974 House	419
viii) Non Traditional Houses	91
ix) Pre 1945 Low Rise (<3 storey)	40
x) Post-1945 Low Rise (<3 Storey)	2,507
xi) Medium Rise (3-5 Storey)	633
xii) High Rise (>5 Storey)	0
xiii) Bungalow (Traditional + Non-Traditional)	833
Total	**6,276**

Figure 23: Colchester Housing, Asset Management Strategy
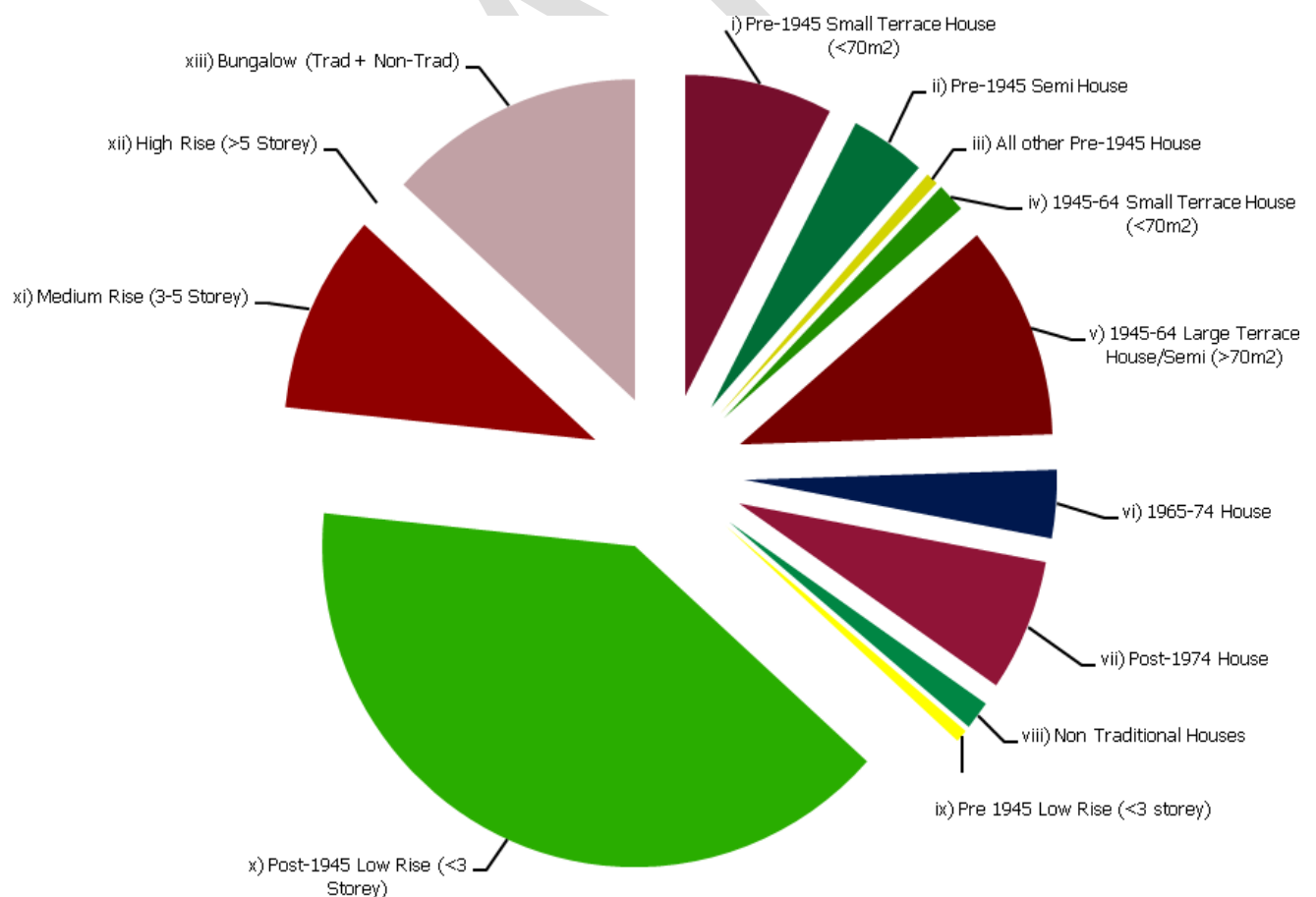
Energy efficiency and traditional buildings

Most of our building stock dates to before 1919. These buildings were constructed to work with the environment – they deal with dampness and heat in different ways from modern buildings, but understanding them properly means we can work with them to enable them to perform as well as possible without losing their contribution to society.

Given the current rate of replacement of the UK housing stock (around 1 per cent per year) we will have to live with our existing homes for a long time to come.

According to the 2007 Housing Green Paper *Homes for the Future: More Affordable, More Sustainable*, the government has calculated that only one-third of the houses being used in 2050 will have been built since 2007, this means that new building can only have a small impact on total emissions. According to English Heritage it is in everyone's interests to ensure that existing buildings are well managed and maintained, and that any changes that affect their function are made circumspectly.

The UK building sector must make a large contribution to any reduction of greenhouse gas emissions: according to figures published by the Government, some 46 per cent of the UK's carbon dioxide emissions come from fossil fuels burnt to provide energy for buildings, and about half of this is attributable to home use.

Although it is often assumed that the older a building is, the less energy-efficient this is not actually the case. About a quarter of all existing buildings are 'traditionally constructed': built using traditional materials and techniques, such as thick solid walls and with plenty of natural ventilation. The results were not always 'best practice', but it should not surprise us that they are often found to be very energy efficient when actually measured. Thick solid construction acts as an excellent thermal buffer, stopping the building either gaining or losing too much heat. Another fundamental difference between modern and traditional buildings is that the modern versions are designed to keep moisture out with layers of impervious materials (such as cement and plastic membranes), whereas traditional buildings work by using solid permeable materials that can absorb a great deal of moisture without damage, and release it slowly back into the environment as conditions become dryer.

Using modern materials and approaches on older buildings can cause severe damage and actually decrease energy efficiency. Ill judged alterations risk making buildings that up to that point were functioning well begin to fail. For example, adding external insulation to a thick solid wall is not only likely to be a waste of resources, but can lead to moisture problems in the wall.

No changes should ever be made that risk long -term damage to the building. To reduce emissions we may need to improve efficiency in all buildings, modern or traditional, but we need to be very sure that any proposed works take account of the unique composition of the building and harm neither its performance nor its historic character. *(Source: English Heritage)*

6.3 Case studies (The built environment)

Case study 1: Considering biodiversity in the built environment

The UK Green Building Council (UK-GBC) has collated a wide range of content in order to help provide the construction and building industry with some clear information on making the most effective provision for biodiversity both in new and existing properties and infrastructure. The resource directs users to the most relevant information in this area, collecting data and information from the Environment Agency, Defra and BIS.

A range on case studies showing how biodiversity can be considered in the built environment can be viewed on the website http://www.ukgbc.org/content/biodiversity

Case study 2: Achieving minimum standards in housing

UK Building Green Council (10 June 14)

This research, conducted by Parity Projects, examined 3,000 properties rated as EPC band "F" or "G" and modeled the improvements that would be needed to reach EPC band "E". It found that:

➢ The average cost of reaching band "E" was only £1,421 per home;

➢ The average annual energy bill saving by reaching band "E" was £409 per annum;

➢ More than 70 per cent of the properties were able to reach band "E" for less than £1,000.

All of the properties examined were also able to comply without resorting to measures which may require planning permission, such as external wall insulation or solar PV. The data summary underlying this analysis is available here. And a Full copy of report can be downloaded here

7. Natural resources

7.1 Looking ahead

Reduced use of imported goods will make home grown materials more valued. Timber and other plants will become increasingly important for use as building materials and in textile manufacture. The economic and environmental benefits derived from ecosystems, for example in water retention and purification will be recognised, and opportunities for re-naturalising land to capitalise on this could be sought. Key delivery of preserving natural resources will be achieved through:

- ➢ Planning & Development
- ➢ Flood Management
- ➢ Green Space Strategy
- ➢ A new Waste & Recycling strategy
- ➢ Trees and Woodland strategy (CBC)
- ➢ Annual Report S00121 on Fleet Vehicle emissions (CBC)
- ➢ Housing Strategy (Review 2015)
- ➢ Procurement Strategy (CBC)
- ➢ Asset Management Strategy (CBH)
- ➢ Essex Bio-diversity strategy
- ➢ Castle Park Management Plan (CBC)
- ➢ Castle Park Restoration and Development Plan (CBC)
- ➢ Economic Development Strategy (CBC)
- ➢ Economic Development Strategy (ECC)

7.2 Drivers

Green Space Strategy for Colchester

This strategy aims to influence the delivery of parks and green spaces within the borough for the benefit of residents and visitors. The strategy aims to:

- Create a comprehensive framework for the protection, enhancement, accessibility and use of parks and green spaces
- Create a framework for the protection and enhancement of biodiversity in parks and green spaces
- Contribute to the development of the Local Development Framework (LDF) and PPG17 requirements
- Ensure green spaces enhance the quality of life of local communities,
- Identify how green spaces can promote civic pride and social inclusion
- Ensure that green space networks meet current and future needs.
- Generate internal and external support for parks and green spaces
- Develop a shared vision by members officers key partners and stakeholders
- Create a framework for participation by the community and volunteer groups in park and green space management.

- Build on previous playing pitch and play area strategies to provide a coordinated approach to the development and provision of outdoor recreation provision.

Biodiversity Duty

The natural environment will change and as a result habitats, species and wildlife will have to adapt. By protecting habitats and recognising the significance of them now may support wildlife in the future. There will no doubt be an impact on some of our traditional industries in Colchester such as fishing and sailing so developing links with local groups such as the Fishermans association will aid local action and adaptation.

Public authorities have a key role to play in the conservation of biodiversity. because the Duty is relevant to a wide variety of public authority functions and services. Defra provides guidance for public authorities on implementing the Biodiversity Duty. the guidance aims to help all staff to have regard to biodiversity in undertaking their work, and to inform senior executives about the opportunities to take account of biodiversity at corporate level.

7.3 Case studies (Natural resources)

Case study 1: Wood recycling service proves viable in Colchester.

In 2014 Colchester Borough Council assisted a newly formed community organisation to apply for viability funding to see if a wood recycling project would work in Colchester. The study was successfully completed and concluded that the project would work and be sustainable. Further funding is being sought to get the new project started.

Case study 2: Garden Bag Project

Colchester Borough Council brought a number of community partners together to look at how they might promote reuse and recycling; address water scarcity issues for gardens; and inspire communities to think about drought resistant planting. The organisations developed a project outline, and with the aid of the Castle Park Ranger we hope to have a display and competition in the Park in 2015. Large construction bags will be used to make the gardens. The bags are traditionally used once, so finding an alternative use for them to promote good environmental practices helps to reduce the waste created by local construction companies.

8. Open space

8.1 How we manage open space

Open space is a capital resource whose careful management can yield a range of benefits. Specifically, the local management of open spaces within residential areas for multiple uses, such as community gardens for recreation, crops, fruit and vegetables, can facilitate provision of a range of societal benefits.

The list of documents which support the Core Strategy, Site Allocations and Development Policies documents through Public Examination in 2008 and 2010 can be found on the Councils website Evidence Base Documents page.

Key delivery of protecting open space will be achieved through:

- ➢ Local Plan (CBC)
- ➢ Allotment Strategy (CBC)
- ➢ Open space strategy (CBC)
- ➢ Essex Bio-diversity strategy
- ➢ Climate Change Risk Assessment 2010 (CBC)
- ➢ Local Air Quality Management (LAQM)
- ➢ Colchester Interim Air Quality Action Plan
- ➢ Castle Park Management Plan (CBC)
- ➢ Castle Park Restoration and Development Plan (CBC)

8.2 Drivers

There are a number of plans and strategies which have been adopted by the council as a matter of choice. These are listed below and all impact on the way we manage and monitor our operations in terms of environmental sustainability.

- ➢ Waste Strategy
- ➢ Genetically Modified Crops Policy
- ➢ Economic Development Strategy
- ➢ Information, Communication and Technology Strategy
- ➢ Risk Management Strategy
- ➢ Strategic Plan
- ➢ Housing Investment Programme

Allotment Strategy

- ➢ Actively work with Spatial Policy team to ensure that land within new developments is being considered for allotment use
- ➢ Identify additional land in suitable condition for potential allotment use to address existing and projected shortfall in provision against agreed standard
- ➢ Improve links with Parish and Town Councils so up-to-date allotment provision records can be maintained
- ➢ Assisting Parish and Town councils with the creation and management of allotment sites including sharing of strategy document
- ➢ Consider using existing Council owned sites for community gardens or allotments with possibility of reduced infrastructure if funding is not available
- ➢ Continue looking for funding sources to install infrastructure for allotment sites

Tree policy

The Policy covers the management of all trees on Council owned land and those trees currently managed by Parks and Recreation Department as part of agency agreements with other organisations and public bodies in the Borough. These include trees on land managed by Colchester Borough Homes and trees on the public highway, which is the responsibility of Essex County Council.

Colchester Parks and Green Space Strategy

Pressure for increasing residential and commercial development within the Essex and the South East creates major challenges for the provision and protection of Colchester's parks and green spaces. The quality and variety of green spaces is a strong factor that establishes the character and attraction of Colchester. With new development come new opportunities. This strategy considers how opportunities can be taken to ensure economic growth is linked to sustainable communities with better quality environment for residents and visitors to Colchester.

Sustainable communities are places that people like living in and want to stay in, neighbourhoods with a real character and a sense of place. These successful places should have well designed green spaces that people want to use and respect.

There are 2 key documents relating to this strategy

- ➢ Colchester's Green Space Strategy

- ➢ Colchester's open space quantity standards

8.3 Study: Natural England 'Our Natural Health Service' (2009)

As a result of a study commissioned by Natural England the 'Natural Health Service' campaign was launched with two main aims:

➢ Recommendations to increase the number of households that are within five minutes walk of an area of green space of at least two hectares;
➢ Recommendations to enable every GP or community nurse to be able to signpost patients to an approved health walk or outdoor activity programme.

The study backing this campaign was undertaken by the universities of Bristol and East Anglia *(E Coombs, A Jones & M Hillsdon: Objectively measured green space access, green space use, physical activity and overweight).*

This study investigated the close links between green space and improving public health and concluded that the nearer people live to green spaces, the less likely they were of being overweight or obese. In fact one statistic concluded from this report was that *'people that lived furthest from public parks were 27 per cent more likely to be overweight or obese compared to people who live closest to parks.'*

The Natural Health Service campaign links the above with the fact 'that people are more active if they live within an attractive natural environment whether through activities such as gardening, jogging, cycling, and family outings to a park, or simply going for a walk.'

The recommendation is that green spaces are linked with schemes which GP's or community nurse can refer patients to, and as a result could save the NHS millions through reduced admissions for aliments such as heart disease and obesity. A Health Walk scheme already runs in Colchester and one allotment plot in Colchester is already being used by the NHS to improve the physical and mental health of the local community, it is essential that these projects remain and develop to meet demand.

9. Food and farming

9.1 How we can support sustainable food production

Supporting local/regional food systems helps support local, sustainably run farms, can help protect our health and the health of our communities, and helps stimulate local economies.

Local food systems should be promoted as they rely upon a network of small, usually sustainably run businesses such as family run farms. They reduce the impacts on the environment in myriad ways (*e.g.*, by reducing the pollution in the air, less surface water, and groundwater, reducing over-consumption of fossil fuel and water resources, less degrading of soil quality, less inducing of erosion, and slowing down the loss of biodiversity).

Conventional food is estimated to typically travel between 1,500 and 3,000 miles to reach the consumer and usually requires additional packaging and refrigeration.

The Council works with the Essex Federation of Small Businesses http://www.fsb.org.uk/essex to 'Keep Trade Local'. This scheme offers practical steps to keeping trade as local as possible by encouraging local businesses to sign-up. Businesses are then supported to address key local issues including local planning; parking charges; business rate relief; crime prevention; post office closures; and public procurement.

The support to local Fishermen and Farmers markets will be important as we move away from a reliance on internationally traded, out of season food. Opportunities for community supported agriculture, in which the public are customers and workers together, should be encouraged and could be further supported by a local rural training centre in Abberton.

Key delivery of work to support production of local food produce and farming will be achieved through:

> - Local Plan (CBC)
> - Economic Development Strategy (ECC)
> - Economic Development Strategy Delivery Plan 2010 to 2015
>   - Improving Business Performance;
>   - Raising skills and reducing & addressing worklessness.

9.2 Drivers

Pollination

A new national pollination strategy is being developed to protect the many pollinating insects which support our food production and the diversity of our environment. Pollinating insects include many different species of bees and other insects such as hoverflies, beetles and flies. The strategy includes proposals for policy actions to support pollinators. It also considers further evidence gathering to provide a sound basis for future policy actions.

Sea fishing in the UK

The Association for Inshore Fisheries and Conservation Authorities (IFCA) manages area byelaw in order to further the conservation objectives of European Marine Sites whilst allowing for the dynamic nature of the East Anglian marine environment and local fishery characteristics. The Byelaw and four Regulatory Notices seek to balance the objectives of managing a sustainable marine environment and inshore fishing industry.

The Blackwater Management Plan

The Blackwater Oysterman's Association has worked with Essex Wildlife Trust for many years to ensure a sustainable oyster fishery that balances social, environmental and economic benefits. The Blackwater Management Plan represents a continued commitment to work in partnership with other stakeholders.

The plan aims to establish and maintain a Marine Conservation Zone in the River Blackwater and surrounding areas, a productive mosaic of habitats with SAC, SPA and SSSI designations. There are three Features of Conservation Importance (FOCI) found here; Eels, Lagoon Sea Slug and the Native Oyster. Of these the Native Oyster is a keystone species (Coen et al.1998) as the shellfish beds form a FOCI habitat as well as being a valued species.

Figure 24

The plan provides a vision to maintain a *'clean, healthy, productive and biologically diverse marine environment delivered and managed through balanced conservation and commercial interests aligned to achieve and enforce their shared objectives'.*

- Maintain and enhance a mosaic of natural habitats;
- Safeguard and encourage notable species;

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ESS Evidence base

- Improved understanding of the FOCI through sound scientific knowledge and understanding;
- Establish a sustainable commercial fishery;
- Identify sustainable practices for the Features Of Conservation Importance (FOCI), species and habitats.

The outcomes will include delivery of both Conservation aims and Socio-Economic gains; a working definition of 'favourable condition' for FOCI and increased understanding of the impact of management on FOCI. The benefits of our approach include process gains from partnership and collaboration of stakeholders acting as joint custodians of a diverse and productive Marine Conservation Zone.

Most significant to Colchester, the Black water Estuary is identified as a Special Protection Area

Viewing our unique coastline and the diverse way in which is it made up can be seen by viewing the National Biodiversity website
https://data.nbn.org.uk/Reports/Sites/TM01/Groups

9.3 Case study

Case study 1: The Marine Conservation Zone Project

The Marine Conservation Zone Project has been established by Defra, Natural England and the Joint Nature Conservation Committee to identify and recommend Marine Conservation Zones to Government.

The Marine Conservation Zone Project is delivered through four English Regional Projects covering the South-West (Finding Sanctuary Project), Irish Sea (Irish Sea Conservation Zones), North Sea (Net Gain Project) and Eastern Channel Balanced Seas Project which is relevant to the coastline for the Colchester borough, as illustrated below.

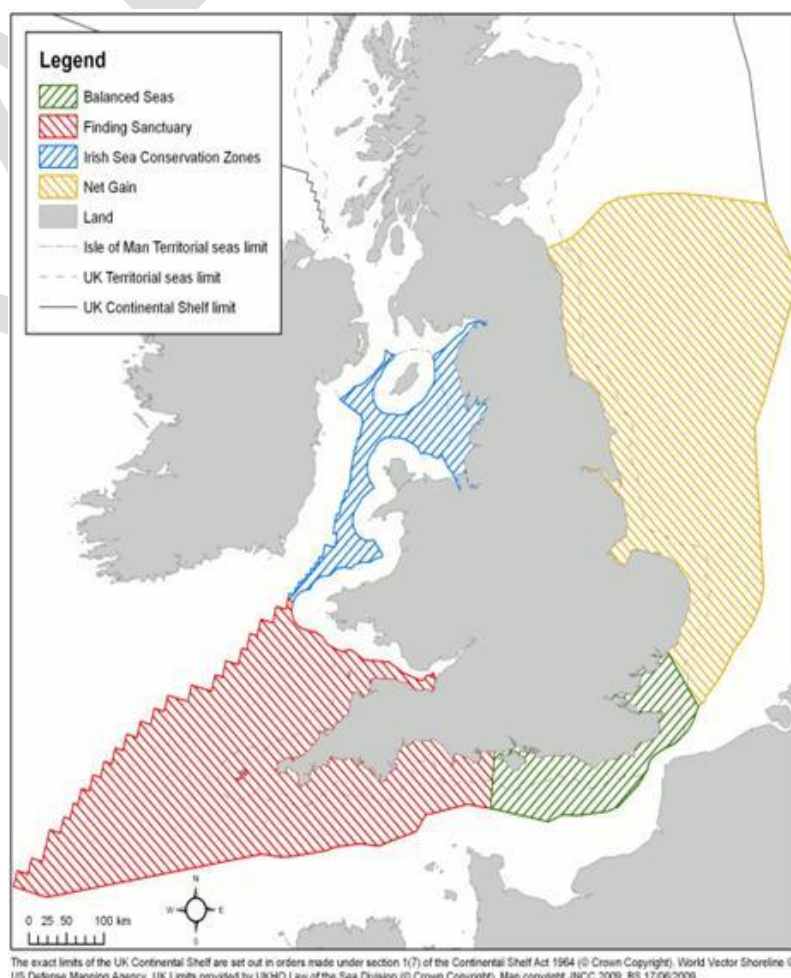Working with sea users and interest groups to identify Marine Conservation

Figure 25

10. Water and flooding

10.1 How we manage Flood Risk

A new policy report. *Managing Floods: Supporting local partnerships* looks at the role of local authorities in coordinating the management of flood risk.

Catchment flood management plans (CFMPs) consider all types of inland flooding, from rivers, ground water, surface water and tidal flooding, but not flooding directly from the sea, (coastal flooding), which is covered in 'shoreline management plans'. They also take into account the likely impacts of climate change, the effects of how we use and manage the land, and how areas could be developed to meet our present day needs without compromising the ability of future generations to meet their own needs.

CFMPs will be used to help the Environment Agency and partners to plan and agree the most effective way to manage flood risk in the future. The North Essex Catchment Flood Management Plan: Summary report mainly affects large urban areas such as Colchester, Braintree and Chelmsford. Many of these are protected by flood defences, but are still considered as being at very high risk if the defences overtop or fail during an extreme flood event. High tide levels can prevent river flows from draining away and this is called 'tidelocking'.

Other causes of flooding include surface water, sewer or groundwater flooding. We cannot reduce flood risk on our own. We will therefore work closely with all our partners to improve the co-ordination of flood risk activities and agree the most effective way to manage flood risk in the future. We work with many organisations, groups and individuals with an interest in how flood risk is managed including other local authorities, Internal Drainage Boards (IDBs), water companies, and conservation bodies such as Natural England, and the public.

Three aspects of water planning: supply, flooding and sewage control are addressed during the planning process and emergency response. Key delivery of the management of water and flooding will be achieved through:

> - Local Plan (CBC)
> - Climate Change Risk Assessment 2010 (CBC)
> - Water Cycle study (2008)
> - Castle Park Management Plan
> - Castle Park Restoration and Development Plan
> - Surface Water Management Plan (2013)

10.2 Drivers

Working in partnership with Essex County Council

Colchester Borough Council is a member of the Essex Partnership on Flood Management which has prepared the Essex County Council Preliminary Flood Risk Assessment.

Colchester Borough Council has two planning policies which set out our position in relation to flood risk management for new developments.

> ➢ Core Strategy Policy ENV2 - refer page 65

> ➢ Development Policy DP20 - Flood Risk and Management of Surface Water Drainage - refer page 48

Essex County Council is the lead local flood authority for Essex. The County Council has a role in overseeing the management of local flood risk, including Groundwater flooding, Surface water (rainfall) runoff and Ordinary watercourses (streams and ditches).

Colchester Borough Council is a member of the Essex Flood Management Partnership which will enables Colchester Borough Council to stay up date with current water and flood management issues affecting the County and Borough.

Extreme weather conditions

Heat waves and flash flooding will affect transport, infrastructure and people.

Extreme weather conditions will influence coastal erosion and rising sea levels which puts much of East Anglia's coastline at risk. A detailed break down of climate change risks is provided within section 11of the evidence base.

10.3 Water Cycle Study

A Water Cycle Study was completed in 2008 with funding from the Haven Gateway Partnership to ensure that water supply, water quality, sewerage and flood risk management issues were properly considered as part of growth proposals identified in the East of England Plan (EEP) and accommodated in a sustainable way.

The Water Cycle Study (Phase 1) covered the period between 2008 -2021. The study included a chapter for Colchester and identified potential water quality, water capacity, sewage and flood risk management issues that could arise from the growth proposed in the Borough under the Local Development Framework (now the Local Plan) The Water Cycle Study was an important document in the Local Plan and supported decision making about where best to direct growth in the Borough. The report also provided important information for water infrastructure providers to identify where capital investment was needed to address water capacity, sewage treatment water quality issues thereby enabling development to proceed in the Borough.

10.4 Surface Water Management Plan (SWMP) for Colchester

A Final draft Surface Water Management Plan for Colchester was completed in July 2013. The SWMP only covers urban Colchester. The report outlines the predicted risk and preferred surface water management strategy for Colchester. In this context surface water flooding describes flooding from sewers, drains, groundwater, and runoff from land, small watercourses and ditches that occurs as a result of heavy rainfall.

A four phase approach has been undertaken in line with Defra's SWMP technical guidance documentation (2010). These are:

> ➢ Phase 1 – Preparation;
> ➢ Phase 2 – Risk Assessment;
> ➢ Phase 3 – Options; and
> ➢ Phase 4 – Implementation and Review.

Phase 1: Preparation
Phase 1 work involved the collection and review of surface water information from key stakeholders and the building of partnerships between key stakeholders responsible for local flood risk management.

Phase 2: Risk Assessment
As part of the Phase 2 Risk Assessment, direct rainfall modelling was undertaken across the study area for five rainfall event return periods. The results of this modelling have been used to identify Local Flood Risk Zones (LFRZs) where surface water flooding affects properties, businesses and/or infrastructure. Those areas identified to be at more significant risk have been delineated into Critical Drainage Areas (CDAs) representing one or several

LFRZs as well as the contributing catchment area and features that influence the predicted flood extent.

Within the study area, nine (9) CDAs have been identified. These are CDA Old Heath, CDA 02, Hythe, CDA 03- Colchester Town, CDA 04 –A12 Colchester, CDA 05 St Anne's, CDA 06 – Colchester Rail Line, CDA 07 – Mile End, CDA 08 – Parsons Heath, CDA 09 - Highwoods The dominant mechanisms for flooding can be broadly divided into the following categories:

➢ Watercourse valleys (current and historical) - Across the study area, the areas particularly susceptible to overland flow are formed by narrow corridors associated with topographical valleys which represent the routes of 'lost' rivers;

➢ Topographical low lying areas - are more susceptible to surface water flooding particularly where downstream obstructions impeded flow;

➢ Road and rail embankments - discrete surface water flooding locations along the upstream side of the raised road and rail embankments;

➢ Topographical low points – areas which are at topographical low points throughout the town which result in small, discrete areas of deep surface water ponding;

➢ Sewer flood risk – areas where extensive and deep surface water flooding is likely to be the influence of sewer flooding mechanisms alongside pluvial and groundwater sources; and

➢ Fluvial / tidal flood risk - areas where extensive and deep surface water flooding is likely to be the influence of fluvial and tidal flooding mechanisms (alongside pluvial, groundwater and sewer flooding sources).

Phases 3&4: Options and Implementation
The Surface Water Management Plan includes preliminary recommendations on how to address flood risk issues in each of the Critical Drainage Areas The document also includes an action plan. This forms a major part of the strategy and outlines a wide range of recommended measures that should be undertaken to manage surface water within Colchester more effectively. This includes recommendations about potential flood management projects to policy formulation for inclusion in the Local Plan

Additional funding is needed to needed to progress the flood projects identified in the SWMP. The SWMP has not yet been signed off by Essex County Council. Once this happens, the document will form part of the Local Plan evidence base and an important document for managing surface water flooding across urban Colchester.

11. Climate Change

11.1 The Stern Review

Sir Nicholas Stern, in his review for the British government of the economic impacts of climate change (Stern Review 2006), concluded that climate change is the greatest and most wide-ranging market failure ever seen, and that the economic analysis of it must deal with long term horizons, using the economics of risk and uncertainty. The Stern Review stated categorically that mitigation of climate change must be viewed as an investment because the consequences of not taking action will be around five times greater than the costs of mitigation. In particular, the report stated,

"Tackling climate change is the pro-growth strategy for the longer term, and it can be done in a way that does not cap the aspirations for growth of rich or poor countries".

In the Environmental Sustainability Strategy we set out how we are going to achieve our aims, and some of the milestones that will help us monitor our progress. The following document provides the reader with supporting information; information that evidences Climate Change and the need for action within the Colchester Borough Council Environmental Sustainability Strategy.

11.2 Background

The call for local authorities to take action to reduce carbon emissions and adapt to climate change is not new. As long ago as 2000 the sector launched the Nottingham Declaration on Climate Change; a decade later more than 90 per cent of local authorities had signed the declaration, which committed them to implementing a set of guiding principles to tackle climate change.

The report acknowledges this progress. However, overall it warns of 'a low level of action':

'There is a significant risk that local authorities will not play the role that we have identified, thus failing to make their contribution to meeting carbon budgets, as well as failing to unlock wider social and economic benefits.'

Prior to the change of government in 2010 local authorities could choose to measure themselves against a range of national indicators (NIs) as part of the local area agreements (LAAs). The NIs relating to climate change included:

➢ NI185: carbon dioxide (CO_2) reduction from local authority operations
➢ NI186: per capita CO_2 emissions in the local authority area, including emissions arising from buildings, industry and surface transport

ESS Evidence base

> NI188: adapting to climate change.

Two-thirds of authorities chose NI186. The Committee on Climate Change (CCC) cites an Audit Commission review of NI186 in 2009 which found that the indicator 'may have resulted in action in many areas'. But it also suggested that stronger levers may be required, and recommended keeping this under review.

Subsequently, as part of its focus on devolving power to local areas (localism), the coalition government abolished these national targets and there is currently no mandatory requirement on councils to achieve cuts in carbon emissions.

The CCC also points out that the government has reduced funding to local councils by a quarter to 2014/15.

Commenting on the incentives for local authorities to tackle climate change the CCC concludes:

'In this context, and given that the full benefits of action on climate change may not occur at or be visible at the local level, there is a question of whether local authorities will prioritise action to reduce emissions going forward.'

11.3 What it means for a historic environment such as Colchester

Many historic buildings, sites and landscapes have already experienced and survived significant climatic changes in the past and may demonstrate considerable resilience in the face of future climate change. However, many more historic assets are potentially at risk from the direct impacts of future climate change. Without action to adapt to a changing climate and limit further changes it is likely that these will be irreparably damaged and the cultural, social and economic benefits they provide will also be lost.

Equally, the significance and integrity of important historic assets can be threatened by poorly designed adaptation and mitigation responses. The non-renewable character of historic features and the potential for their damage and loss should, therefore, always be taken into account when adaptation and mitigation responses are being planned and executed.

Some implications of the direct and indirect impacts of climate change on historic assets:

> Rising sea levels and a possible increase in storminess that endangers historic landscapes, structures, buildings and archaeology in the coastal zone;
> Increased extremes of wetting and drying, that heighten the risk of ground subsidence and accelerated decay of

> stonework and thus poses a threat to many historic buildings;
> ➢ More frequent intense rainfall, that causes increased erosion of archaeological sites and damaging flooding in historic settlements;
> ➢ Changes in hydrology that put buried archaeological remains, including well-preserved wetland archaeology, at risk;
> ➢ Changes in vegetation patterns that threaten the visibility and integrity of archaeological remains and historic landscapes;
> ➢ A warming climate that makes some historically authentic tree plantings difficult to conserve;
> ➢ Changes in the distribution of pests that threaten the integrity of historic buildings, collections and designed landscapes;
> ➢ Possible increases in the frequency or geographical range of extreme weather that could pose an increased risk of damage to some historic landscapes and buildings.

Some adaptive responses to climate change may themselves have an impact on the historic environment, for example:

> ➢ 'Hard' coastal defense is seen as untenable on much of the undeveloped coast and has led to a new emphasis on selective managed realignment and 'soft' defenses (such as salt marsh), posing a possible risk to archaeology, buildings and landscapes;
> ➢ New flood defenses, particularly in historic towns, can cause major archaeological damage along historic waterfronts and may impair the character of historic quaysides and waterside buildings and gardens;
> ➢ The design integrity of some historic buildings and landscapes could be damaged by the need to provide new and more effective rainwater disposal or storage systems or flood protection features;
> ➢ Alteration of agricultural and forestry practices, resulting from changes in crop, stock or species viability, could pose a risk to buried archaeological sites, traditional farm buildings and historic landscapes;

Developments designed to generate renewable energy - like any other infrastructure developments - can have a wide variety of impacts, both positive and negative. The benefits delivered by these new technologies can also vary considerably, particularly when considered on a whole-life basis. It is always important, therefore, to evaluate these benefits and impacts on a case-by-case basis. Among typical issues to be considered will include:

- ➢ The construction of new renewable energy infrastructure, including hydro-electric and tidal plants and onshore and offshore wind farms, may have direct impacts on archaeological remains.
- ➢ Wind farms need to be carefully sited to avoid compromising significant landscapes or the visual setting of important sites or buildings where the integrity of that setting is an important part of their significance.
- ➢ The introduction of new biomass crops may pose a risk to buried archaeology through deeper disturbance and lowered water tables, or it may radically change the appearance of historically significant landscapes. The impact of other initiatives, such as the re-use of existing coppiced woodland, may be entirely positive.
- ➢ Some types of micro-generation equipment, such as mini wind turbines, or micro combined heat and power plants, are unlikely to present problems if sensitively located on historic buildings; others may be more visually intrusive and difficult to accommodate. Consideration should be given to minimising physical impacts on the historic fabric of buildings and ensuring reversibility wherever practicable.
- ➢ Poorly designed or inappropriate energy-saving measures could seriously detract from the historic character and fabric of buildings and landscapes, whereas well designed measures can make considerable savings with little or no damage. Proposals to replace historic buildings with new stock that is ostensibly more energy-efficient could result in serious losses of historic character and diversity.

11.4. Climate Change adaptation and mitigation

The Council is able to review its achievements by looking back at reports and information recording CO2 emissions since 2006/7 (known as the baseline year). The total emissions in that baseline year were 10,150 Tonnes of CO_2e, but since then the Council has worked hard to implement energy saving and fuel efficient methods of working and has reduced its annual Tonnes of CO_2e to 6,895 in 2012/13, which demonstrates the on-going commitment the Council have made to reduce the level of fuels and energy consumption every year.

Estimated per capita emissions of CO2

	2009	**2010**	**2011**
	Tonnes per head (CO2)	Tonnes per head (CO2)	Tonnes per head (CO2)
Colchester	5.8	5.9	5.4
East	7.0	7.2	6.6
England	7.1	7.3	6.7
Essex County	6.5	6.6	6.1

Source: Department of Energy and Climate Change
Figure 26

In 2011 the estimated carbon dioxide emissions for Colchester was 5.4 tonnes per head, in comparison Essex County was greater at 6.1 tonnes.

Since 2009 there has been an annual reduction in carbon dioxide emissions of 0.4 tonnes per head for Colchester.

Following the publication of the CCRA, and building on current policies, the Government have developed the National Adaptation Programme (NAP). The UK Government's programme of work on adaptation is being co-ordinated by the Department for the Environment, Food and Rural Affairs (Defra), and is defined in statute (The Climate Change Act 2008).

The CCRA has identified the following sectors are at risk Click to view key findings, risks and opportunities for each sector:

 ➢ Agriculture and Forestry
 ➢ Business
 ➢ Health and Wellbeing (including local resilience and social vulnerability)
 ➢ Buildings and Infrastructure
 ➢ Natural Environment

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11.5 Reporting on Climate Change

In 2009 the Department for Energy and Climate Change (DECC) estimated that 70 per cent of emissions ($393MtCO_2$) the economy could be influenced by local council policies and actions.
The Committee on Climate Change (CCC) has published a detailed report How Local Authorities Can Reduce Carbon Emissions and Manage Climate investigates the role of local authorities in achieving national carbon targets, how they can be encouraged to go further faster and the barriers achieving this, and measures they can take to adapt to the inevitable climate change.

The CCC recognises that there is enormous potential for local authorities to bring influence to bear on reducing carbon emissions and preparing areas resilient to climate change. The report highlights ten main findings.

National role
Local authorities have an important role in delivering national carbon targets, both as emitters of carbon and as community leaders encouraging others to reduce emissions too.

Local leadership
Local authorities should reduce emissions from their estate and activities – notably through buildings, street lighting, transport and procurement – both because of the actual reduction in emissions and because it legitimates a wider role in reducing local emissions by showing local leadership.

Low carbon plans
All local authority areas should develop a low-carbon plan that has ambitious targets for reducing emissions in ways that councils can influence.

Local benefits
Action on climate change has many local benefits such as lower energy bills, economic regeneration and new local jobs, and better health.
Spatial planning
Planning is key to reducing emissions and adapting places to climate change – planners/plans can:
- ➢ enforce energy efficiency standards in new buildings and extensions
- ➢ reduce transport emissions
- ➢ work with developers to make renewable energy projects acceptable to local communities
- ➢ plan for infrastructure such as low-carbon district heating networks, green infrastructure and sustainable drainage systems
- ➢ Adapt to climate change by locating new development in areas of lowest flood risk.

Home insulation
The most important thing councils can do to improve the energy efficiency of buildings is to insulate homes – the Green Deal and Energy Companies

Obligation (ECO) are crucial but there might be barriers to local authorities getting benefits from these programmes (see discussion below).

District heating
Local authorities have a unique role in developing and making district heating schemes commercially viable, however in the long term they should only pursue low-carbon district heating as gas-fired combined heat and power (CHP) will eventually become incompatible with national carbon budgets.

Transport emissions
The most important way local authorities can reduce transport emissions is to implement sustainable travel programmes, promote low-carbon vehicles (via providing charging infrastructure and incentives), and purchase low-carbon buses.

Waste
Councils have a lead role in preventing waste and managing waste disposal more sustainably using low carbon techniques.

Adapting to climate change
Adapting to climate change should be a crucial aspect of local authority work. Councils can increase the resilience of buildings and infrastructure, manage and extend natural resources to promote biodiversity and reduce the risk of flooding, and protect local people from the health impacts of a changing climate.

Our Local Plan recognises the need to minimise our carbon emissions and this is achieved through our statutory and legal obligations to report on:

Greenhouse Gas Reporting
The Council receives an annual request from DECC called

'SHARING INFORMATION ON GREENHOUSE GAS EMISSIONS FROM LOCAL AUTHORITIES' OWN ESTATE AND OPERATIONS'

Every year we receive links to the publication of the previous year's statistics and a data request for information. Data on gas and electricity use is collated along with fleet data, this data is grouped into scopes and CO2e is calculated using the following conversion factors
http://www.ukconversionfactorscarbonsmart.co.uk/.

Home Energy Conservation Act 1995 (HECA) Reporting

Reports set out energy conservation measures that the Council considers practicable, cost-effective and likely to result in significant improvement in the energy efficiency of residential accommodation in Colchester.

The report is expected to include a range of targets and plans including Green Deal, ECO and fuel poverty activity, local targets such as CO2 reduction, information on housing stock data, activity planned on FITs/RHI, details on

planned area-based approaches, an outline of partners and details of co-funding where appropriate.

Copies of reports on what the Council are doing to tackle Climate Change are available to view on our website:
http://www.colchester.gov.uk/colchestertoptasks/article/13782/Climate-change-and-energy-conservation-reports

Colchester Borough Council has a legal duty to consider biodiversity, climate change in their work, and recognises that UK Government Policies and European environmental legislation will affect how we operate in the future.

Calculating carbon dioxide emissions and our overall carbon footprint

The Council has a statutory obligation to complete this exercise every year. Gregory Barker, Minister of State at the Department of Energy and Climate Change sent the following to Colchester Borough Council on the 14th April 2014

> ➢ A summary of local authorities' emissions for the 2011-12 and 2012-13 financial years has been published at https://www.gov.uk/sharing-information-on-greenhouse-gas-emissions-from-local-authority-own-estate-and-operations-previously-ni-185
> ➢ Request to measure and report emissions data for the 2013-14 financial year by the end of July 2013. This has now been published and can be viewed on the Council website

11.6 Legislation influencing how we manage Climate Change

<u>The Natural Environment and Rural Communities Act 2006</u> (NERC 2006)

The NERC came into force on the 1st October 2006. Section 40 of the Act gives all public bodies a legal duty to consider biodiversity in their work. This affects more than 900 public bodies, including local authorities, parish councils, police, museums and transport bodies. The Council can play a key role in enhancing and conserving biodiversity by providing information on Biodiversity for planners and developers.

<u>The Climate Change Act 2008</u>

The Climate Change Act 2008 sets out the UK legally binding targets. It aims to:

- Improve carbon management and help the transition to a low-carbon economy in the UK.
- Show the UK is committed to taking its share of responsibility for reducing global greenhouse gas emissions

The Committee on Climate Change (CCC) is an expert, independent, statutory public body created by the Climate Change Act 2008 to assess how the UK can best achieve its emissions reduction targets for 2020 and 2050. It also assesses the UK's progress on meeting the statutory carbon budgets.

UK Government policies Contribute effectively to greenhouse gas reduction targets by,

- ➢ Setting carbon budgets to limit the amount of greenhouse gases the UK is allowed to emit over a specified time.
- ➢ Using statistics on greenhouse gas emissions and further evidence, analysis and research to inform energy and climate change policy.
- ➢ Using the EU Emissions Trading Scheme (EU ETS) to deliver a significant proportion of the UK's carbon emission reductions between 2013 and 2020.

One of the key themes within the Climate Change Act is to reduce the demand for energy and help people and businesses to use energy more efficiently.

The Act outlines how we can achieve significant reductions in the UK's greenhouse gas emissions if businesses, the public sector and households reduce their demand for energy by,

- ➢ using smart meters and other energy-efficient measures for industry, businesses and the public sector;

ESS Evidence base

- ➢ reducing emissions by improving the energy efficiency of properties through the Green Deal and ECO;
- ➢ providing incentives for public and private sector organisations to take up more energy-efficient technologies and practices through the CRC Energy Efficiency Scheme;
- ➢ reducing greenhouse gases and other emissions from transport;
- ➢ reducing greenhouse gas emissions from agriculture.

CRC Energy Efficiency Scheme (Environment Agency 2010)

The CRC Energy Efficiency Scheme (formerly known as the Carbon Reduction Commitment) is the UK's mandatory climate change and energy saving scheme. The scheme started in April 2010 and is administered by the Environment Agency. It is central to the UK's strategy for improving energy efficiency and reducing carbon dioxide (CO_2) emissions, as set out in the Climate Change Act 2008. It has been designed to raise awareness in large organisations, especially at senior level, and encourage changes in behaviour and infrastructure.

11.7 European Influences

The European Commission

The European Commission launched two key reviews of environmental legislation in 2013, notably on waste and air.

The Waste Targets Review covers targets currently set under three pieces of waste legislation:

- ➢ The Waste Framework Directive;
- ➢ The Landfill Directive;
- ➢ The Packaging and Packing Waste Directive.

The Air Policy Review looks at:
- ➢ Implement and ensure full compliance with existing air quality legislation up to 2020;
- ➢ Set out a long term "Zero Impact" vision, and concrete intermediate air quality objectives for the period beyond 2020;
- ➢ Identify concrete measures to support the achievements of these objectives, and
- ➢ Ensure that European businesses can tap the full potential of the rapidly expanding market for pollution abatement technology and service.

The environment is one of the key policy areas in which the EU plays a role. The main environmental issues dealt with by the EU include climate change, air, water, soil, waste, nature protection and biodiversity, industry and product policy, biotechnology and chemicals, and civil protection and radiation protection.

Environmental action by the Community began in 1972, and today there are over 700 individual pieces of EU environmental legislation in force. This legislation aims to protect, preserve and improve the environment for present and future generations. Environmental policy is continually expanding. Some of the key pieces of EU legislation and policy in recent years include:

- **'Effort Sharing Decision'** which governs greenhouse gas emissions from sectors not covered by the EU Emission Trading Scheme. These include transport, housing, agriculture and waste. Under the Decision each Member State has agreed to a binding national emissions limitation target for 2020. The targets range from an emissions reduction of 20% by the richest Member States to an increase in emissions of 20% by the poorest.
- **Flagship initiative** – a Resource Efficient Europe - In January 2011 the European Commission published an 'EU 2020 Strategy Flagship Initiative' focusing on resource efficiency. A Resource Efficient Europe seeks to create a framework within which policies can be developed to help the European Union make the shift toward a resource efficient and a low carbon economy. The aims of the initiative will be delivered through a series of coordinated roadmaps addressing issues such as energy efficiency, biodiversity, recycling, climate change, water, transport and many others.
- **Commission's proposal for a 7th Environmental Action Programme** – In November 2012 the European Commission published its proposal for an Environmental Action Programme for the EU up to 2020. Entitled, 'living well within the limits of our planet', the document includes a number of thematic priorities for action including, to protect, conserve and enhance the EU's natural capital; to turn the EU into a resource-efficient, green and competitive low carbon economy; to safeguard EU citizens from environment-related pressures and risks to health and wellbeing; to maximise the benefits of EU environment legislation; to improve the evidence base for environment policy; to secure investment for environment and climate policy and get the prices right; to improve environmental integration and policy coherence; to enhance the sustainability of EU cities; to increase the EU's effectiveness in addressing regional and global environmental and climate challenges.

11.8 Defra

Defra: National Adaptation Programme

July 2013 saw the publication of the first National Adaptation Programme (as well as a Strategy for the second round of the Adaptation Reporting Power). Colchester Borough Council is a member of the East of England Adaptation Network.
Defra - Adapting to Climate Change: ensuring Progress in Key Sectors (2013 strategy for exercising the adaptation reporting power and list of priority reporting authorities)

Section 5.2

'Local Councils play a pivotal role in leading, supporting and driving delivery of actions to increase resilience of local places, communities and businesses'. Recognising that *'Councils are considered first responders to a wide range of civil emergencies, including those related to climate change'*

The government have defined criteria to designate reporting authorities which the Secretary of State invites to produce reports. Additional circumstances in which the Secretary of State may request reports where a future event exposes vulnerability

Through the delivery of the strategy we intend to educate key groups about the importance of adapting to climate change, this includes our staff, our residents/ customers and local businesses.

Defra - Adapting to Climate Change: ensuring Progress in Key Sectors

Section 5.3

The Local Government Association (LGA) has set up the 'Climate Local' initiative, through which local councils are able to sign up to specific local voluntary actions on climate change, mitigation and adaptation. This will work to positively influence staff, customers and residents.

Section 5.5

Research undertaken for Defra by the Carbon Disclosure Project found that 80% of responding FTSE 100 companies identified substantive risks to their businesses as a result of climate change, however fewer than half of these companies incorporate climate change adaptation of equivalent into their business strategies. Councils can filter this down to SMEs by highlighting examples of best practice in adaptation so that business as a whole becomes more resilient. The strategy delivery plan reflects the fact that Colchester Borough Council leads by example and shares its knowledge by delivering projects to support local business.

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Section 6: 'Climate Ready'

The Environment Agency provides advice and support to businesses and public sector in England to help them adapt to the changing climate. This work builds on the work which was previously undertaken by the UK Climate Impacts programme.

11.9. Climate Change Risks, impacts and projections.

The case for human-induced climate change is extremely robust. A demonstrable physical relationship exists between carbon dioxide (CO_2) and temperature, which has been known for over 100 years (Arrhenius 1896). Arrhenius showed that adding CO_2 to the atmosphere will increase the temperature by a known amount. The overwhelming weight of evidence indicates that the warming we are witnessing today is caused by CO_2. No evidence contradicts it, though other factors (such as described by the cosmic ray hypothesis) are believed to modify the amount of warming by a very small proportion.

Evidence collated by the Intergovernmental Panel on Climate Change (IPCC) shows that the recent observed increases are very likely (over 90% likely) due to rising concentrations of greenhouse gases in the atmosphere caused by human activities.

Faced with these uncertainties, but also in the knowledge that our climate *is* changing, and is fundamental to our lives and our livelihoods, the Government's response is outlined the UK Climate Change Risk Assessment 2012, Evidence Report, providing five key steps:

1. Minimise the risk of significant climate change.

2. Accept that despite efforts to reduce greenhouse gas emissions, current and historic emissions mean that a certain amount of warming is inevitable.

3. Better understand vulnerability to our current climate.

4. Use the best science and evidence to understand the range of climate changes we might face, and what effect they might have on our economy, environment and society.

5. Assess – using a risk-based approach – what we can put in place now, and plan for in the future, to increase the resilience of our economy, environment and society.

ESS Evidence base

Source: Climate Risk Assessment

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The 2010 Colchester Borough Council 'Climate Risk Assessment' identifies the following:

- Milder, wetter winters (central estimate shows an increase in mean winter temperature of 1.3^{o}C and 6% increase in winter precipitation);
- Hotter, drier summers (central estimate shows an increase in mean summer temperature of 1.3^{o}C and 7% decrease in summer precipitation);
- More frequent extreme high temperatures (central estimate shows an increase in the mean temperature of the warmest day of 0.9^{o}C);
- More frequent downpours of rain (central estimate shows an increase of 5% precipitation on the wettest day);
- Significant decrease in soil moisture content in summer;
- Sea level rise and increases in storm surge height (central estimate for sea level rise in the East of England shows a 9.7cm increase under the medium emissions scenario and a 11.5cm increase under the high emissions scenario); and
- Possible higher wind speeds.

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Global temperatures are projected to continue rising, which is very likely to cause continued changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather events.

Although it is not identified within the climate risk assessment, extreme weather will bring periods of cold weather to the UK and our own borough. Supporting families through these periods are an essential part of the work that the Communities Team within the Council needs to deliver and this work will continue to reduce the number of vulnerable households affected by Fuel Poverty.

Climate Change Projections

The Intergovernmental Panel on Climate Change (IPCC) reviewed the physical scientific basis, and published its findings in January 2014; the summary provided statements on future global and regional climate change and confirmed that,

'Continued emissions of greenhouse gases will cause further warming and changes in all components of the climate system. Limiting climate change will require substantial and sustained reductions of greenhouse gas emissions'.

HM Government, Defra 2013 strategy entitled 'Adapting to Climate Change: Ensuring Progress in Key Sectors, highlights how the climate is changing and the impacts are likely to affect almost everyone in someway during our lifetime. The strategy recognises that there have always been natural fluctuations in climate, but the current rates of change are far greater than

those experienced in recent history. The strategy suggests that adaptation (or changing behaviour) should be built into planning and risk management; and that all organisations will benefit from considering risks to their operations and consider the actions necessary to adapt to climate change. This strategy confirms that *'bodies with a function of public nature'* and *'statutory undertakers'* (reporting authorities) must be taking appropriate action to adapt to the future impacts of climate change.

The UK Climate Impact Programme has developed the UK Climate Change projections 2009 (UKCP09)

➢ All areas in the UK will get warmer and the warming is greater in Summer than in Winter. Rises in temperature in the 2080s are expected to be between 3-4 °C during June-August.
➢ Changes to the regional average of summer rainfall can be expected to fall between -17% to -23% in the 2080s.
➢ Greater sea level rises are expected to occur in the South, central estimates (taking into account land movement) show that sea level is projected to rise by 18% in London by 2040 and 36cm by 2080.
➢ Across the UK, central estimates of regional average winter rainfall change are projected to be in the region of +14% (NE) and +23% (SW), in the 2080s.
➢ Reaching a peak of global emissions in 2016 and achieving a 4% decrease per year thereafter, a global temperature rise to 1.8°C by 2050 is expected, which would stabilise at about 2°C by 2100.

How Climate Change impacts on our region

The Greater Essex Integrated County Strategy 'Sustainability Report'
mapping within the evidence base shows the locations in Greater Essex which are within flood zone 2 and flood zone 3. The coastline is at risk of flooding as well as river floodplains. As climate change continues, flood risks are likely to increase.

Key predictions for the East of England for the 2080s (based on medium emissions scenario in 2009) are:

➢ Increase in winter mean temperature is 3°C (it is very unlikely to be less than 1.6°C or more than 4.7°C).
➢ Increase in summer mean temperature is 3.6°C (it is very unlikely to be less than 1.9°C or more than 5.9°C)
➢ Change in mean winter rainfall is 20% (it is very unlikely to be less than 4% or more than 44%).
➢ Change in mean summer rainfall is -20% (it is very unlikely to be less than -44% or more than 6%).
(Source: ECC Sustainability Appraisal and Strategic Environment Assessment 2010)

Sea level rise and subsidence will lead to more frequent flooding in coastal areas. Increased temperatures and greater fluctuation in annual rainfall will

further increase pressure on water resources, as Essex is already one of the driest areas in the UK.
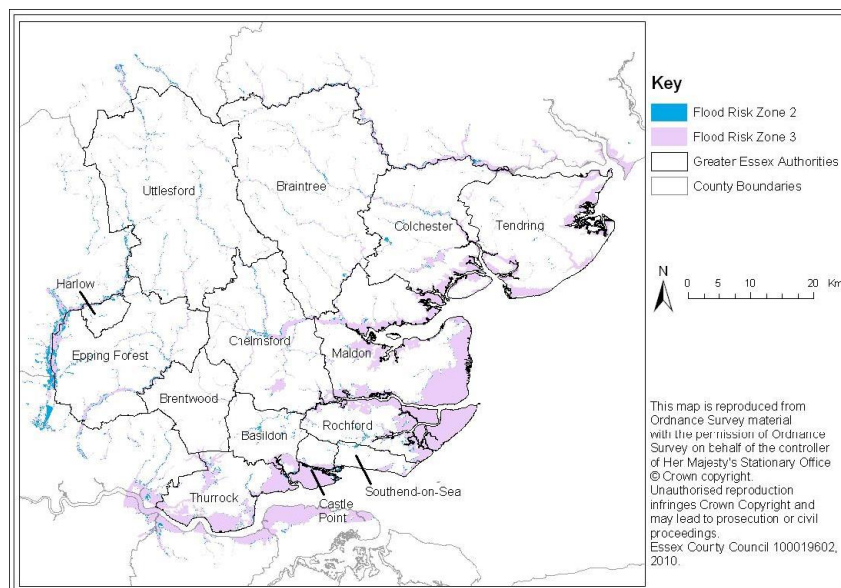
Source: Essex County Council and the Environment Agency, 2010
Figure 27

Climate change will therefore impact on our region as follows:

➢ Water scarcity The annual rainfall in the East of England is only 70% of the national average, and the region faces significant water challenges as the impact of climate change is only to exacerbate this.

➢ Rising fuel bills are a contributing factor to excess winter deaths and fuel poverty.

➢ Extreme weather conditions such as heat waves and flash flooding which affect transport, infrastructure and people.

➢ Co2 targets whilst the local population is predicted to raise, carbon emissions from domestic, commercial and transport sources must reduce. The UK has committed to reducing carbon dioxide emissions by 20% by 2020 and seeks an 80% reduction in emissions by 2050.

➢ Diminishing resources means we need to support the development of renewable sources.

➢ Peak oil we are getting very close to having used, over half of all the oil in the world. This means we will be much more restricted in our ability to consume petrol and oil-based products which has serious implications to our current way of life.

➢ Coastal erosion and rising sea levels puts much of East Anglia's coastline at risk.

➢ Pollution There are around 300 monitoring sites in total across the UK which monitor air quality, changing forecasts can be viewed on the Defra website. Air quality tends to be poorest during the summer months when the temperature is at its highest.

➢ Biodiversity The natural environment will change and as a result habitats, species and wildlife will have to adapt. By protecting habitats and recognising the significance of them now may support wildlife in the future. There will no doubt be an impact on some of our traditional

industries in Colchester such as fishing and sailing so developing links with local groups such as the Fishermans association will aid local action and adaptation.

12 Ways forward

Given the potential gains of action, and the potential risks of inaction, strategic priorities have been set that will allow us to achieve greater reductions in carbon emissions and do more to make communities more resilient to climate change.

The CCC suggests two ways that this can be achieved:

Increase funding

The CCC recommends that the government provides more money for local authorities to become Green Deal partners or providers and to achieve a comprehensive implementation of sustainable travel programmes and electric vehicle charging networks.

The Green Deal is a mechanism for investing in energy efficiency measures that householders pay back over time rather than upfront. It operates on a 'golden rule' that the cost of the payback must be 'cost-neutral' to the householder, that is, that the cost savings of any measure must equal or exceed the upfront costs of installation. The scheme launched in October 2012. Colchester Borough Council has the option of becoming direct providers or partners to other Green Deal providers and this maybe possible once a new Housing Stock Survey has been completed for the borough.

The report warns that funding is only one barrier for more local authorities to become Green Deal providers or partners. Others include a lack of consumer demand and limited information, particularly about opportunities for energy efficiency improvement in the private housing sector, which makes it difficult to design targeted schemes.

Place a statutory duty on local authorities to develop low-carbon plans

This is something that we could see in the near future; this duty would require councils to prepare an area-wide low-carbon plan, report on implementation and prioritise low-carbon activity in their own spending.

It is thought that a national approach would give councils confidence that they are acting together, and make it more likely that they will achieve local economic benefits as well as reducing emissions.

According to a separate study published recently by Oxford Brookes University *'Hotting Up? An Analysis of Low Carbon Plans and Strategies for*

UK Cities' a number of authorities have developed climate change action plans (65 per cent of 52 authorities). Around 25 per cent have developed detailed low-carbon plans that identify targets for reducing emissions in key areas of activity.
Source LGUI May 2012

12.1 Values at stake

The carbon management work we completed during 2008-2012 to reduce our carbon emissions helped us to exceed the carbon reduction target set of 25%. The Colchester 2020 Plan outlined our ambition to reduce our carbon emissions by 30% by 2020, this has already been achieved, and by the end of 2014 we had exceeded our target and achieved 32%. The energy efficiency work we have done on our own buildings and housing stock means we are achieving on-going annual savings financially because energy costs have been reduced permanently as well as maintaining lower carbon emissions.

To enable us to understand the potential carbon savings now available to the Council from 2015-2020 we need to refresh our Local Authority Carbon Management (LACM) Plan, to identify new areas where savings can be made.

A new LACM will provide Colchester Borough Council with 'reduced emissions scenarios' or RES to show opportunities where savings can be made. When RES are compared to business as usual, this provides us with a 'value at stake' or 'VAS'. The VAS figure helps the Council to measure both financial savings and carbon savings, and helps qualify our investments in energy efficiency projects and carbon reduction measures.

In order to achieve our challenging carbon reduction target of 40% by 2020 (from our baseline year 2006/7).we would need the new LACM plan to identify a further 2000 tonnes of carbon savings.

13 National Influences

Local Government Information Unit (LGIU)
Policy briefing: How local authorities can reduce carbon emissions and manage climate risk

Department for Energy and Climate Change (DECC)
DECC are leading the way with eight major renewable electricity projects, unveiled in 2014 as part of the government's world leading electricity reforms, with the intention of giving a massive boost to green growth and green jobs.

DECC Emissions and climate change statistics

DECC publishes official statistics relating to energy, climate change, energy efficiency, fuel poverty, radioactive incidents and coal health.

DECC also produces statistics in accordance with the statutory and other arrangements described in the guide to national and official statistics.

> - UK greenhouse gas emissions statistics;
> - Impacts of climate change in the UK;
> - Sub-national greenhouse gas emissions statistics.

The Committee on Climate Change (CCC)

The Committee on Climate Change (CCC) has published a detailed report called 'How Local Authorities Can Reduce Carbon Emissions and Manage Climate Risk'.

The CCC has highlighted specific opportunities within the buildings, transport and waste sectors which account for 40% of total UK emissions. Suggestions include promoting reduced energy consumption among residents and businesses; enhancing public transport and promoting sustainable travel, plus investment in green vehicles; reducing the overall levels of waste through behaviour change and improved collection and recycling.

The Public Health Outcomes Framework for England 2013 – 2016

Identifies how climate change risks can impact on health, and how homes that are not meeting minimum standards mean an increased demand on the NHS.

The CCRA advises that climate change could have significant implications for the health and wellbeing of the UK population. There are implications for public health, the continuity of health and social care services both within the NHS and beyond, the resilience of local emergency services and the impact on the most socially vulnerable

BREEAM sets the standard for best practice in sustainable building design, construction and operation and has become one of the most comprehensive and widely recognised measures of a building's environmental performance. It encourages designers, clients and others to think about low carbon and low impact design, minimising the energy demands created by a building before considering energy efficiency and low carbon technologies.

Spatial Planning Policies Planning Policy Guidance Notes (PPGs) and Planning Policy Statements (PPSs) provide guidance on planning policy and the operation of the planning system. They explain the relationship between planning policies and other policies with an important bearing on development and land use.

UK Sustainable Development Strategy, *Securing the Future* sets principles that local priorities and policy should respect: living within environmental limits; a strong, healthy and just society; achieving a sustainable economy; promoting good governance; and using sound science responsibly.

UK Climate Change Programme, Action in the UK sets out the former Government's policies and priorities for action in the UK and internationally and provides for an annual report to Parliament on climate change.

National Air Quality Strategy sets out a way forward for work and planning on air quality issues, standards and objectives; introduces a new policy framework for tackling fine particles; and identifies potential new national policy measures.

UK Biodiversity Action Plan (BAP) describes the UK's biological resources and provides a detailed plan for their protection. Includes 391 species action plans, 45 habitat action plans and 162 local biodiversity action plans, with targeted actions.

National Waste Strategy for England sets out overall objective for waste policy as: "protection of human health and the environment by

producing less waste and by using it as a resource wherever possible". Maps out high-level direction of travel and implementation plan.

Renewable Energy Strategy argues for renewable energy as key to low-carbon energy future; the need to radically reduce greenhouse gas emissions and diversify energy sources; and a dramatic change in renewable energy use in electricity, heat and transport.

Environmental protection

There are a number of key documents that support the work of the Council in Environmental Protection. 'Environmental damage' to protected species and natural habitats or in damage to water; or land damage are covered by legislation http://www.legislation.gov.uk/uksi/2009/153/contents/made A full detailed summary of the way in which environmental damage can be reported can be accessed via the Councils website and downloading The environmental damage (prevention and remediation) regulations 2009

National Pollinator Strategy consultation took place March – May 2014, at the time of publishing this evidence base the strategy had not been published, but the aim of the strategy is primarily thought to protect the many pollinating insects which support our food production and the diversity of our environment.

Wildlife and Countryside Act 1981 and Countryside and Rights of Way Act 2000 form the primary legislation in the UK for the protection of flora, fauna and the countryside.

Planning and Compulsory Purchase Act 2004 and Planning Act 2008 and associated Regulations: give effect to the previous Government's policy on the reform of the planning system and strengthens its focus on sustainability, transparency, flexibility and speed.

Natural Environment and Rural Communities Act 2006 established Natural
England as the organisation with responsibility for enhancing biodiversity and landscape and promoting access and recreation. Extended to public bodies duty to ensure due regard to the conservation of biodiversity.

Climate Change Act 2008 introduced legally-binding targets for greenhouse
gas emission reductions; carbon budgeting and use of international credits for carbon budgets; creation of the Committee on Climate Change; requirements for the Government to report the risks of climate change, publish a programme setting out how these impacts will be addressed and issue guidance on the way companies should report their emissions; powers to support the creation of a community energy savings programme; requirement for reporting on efficiency and sustainability of Government estate; and further measures to reduce emissions.

Energy Act 2008, with the Planning Act 2008 and Climate Change Act 2008 ensures that legislation underpins long-term delivery of the UK's energy and climate change strategy.

Energy Act 2010 implements key measures to deliver the Department of Energy & Climate Change's low carbon agenda and introduced a mandatory social price support to tackle fuel poverty; and improve the fairness of energy markets by extending and clarifying Ofgem's powers and objectives.

Energy Bill (December 2010) is designed to provide for a step change in provision of energy efficiency measures to homes and businesses, and make improvements to the framework to enable and secure low carbon energy supplies and fair competition in energy markets.

The Deregulation Bill provides information on 3 key issues relating to this strategy as follows:

➤ Energy and Climate Change - would remove the requirement for local authorities to have regard to energy measures, reports and targets published by the Secretary of State. The last report was in 2007 and the Government says it does not intend to publish any further reports. It requires local authorities in preparing local development plans to have regard to guidance issued by the Secretary of State) and informal arrangements between government and local authorities as sufficient.

➤ Air Quality Standards - Part 4 of Schedule 12 of the Bill would repeal the requirement in the Environment Act 1985 on local authorities in England and in Wales to undertake a "further assessment" of air quality where they find their areas are not meeting air quality standards and are subsequently designated as Air Quality Management Areas. According to the Government local authorities see these "further assessments" as an unnecessary burden that are an impediment to speedy implementation of local air quality action plans, which are required under 1985 Act.

➤ Household waste - Removing the criminal offence (section 46 of the Environmental Protection Act 1990) for failing (without reasonable excuse) to comply with local authority requirements on the presentation for collection of their household waste. Currently people can be liable to a fine of up to £1,000; authorities can also issue civil penalty fines as an alternative to prosecution.

14. The Councils key policies and strategies

As well as the Councils Policies, Strategies and Plans listed within the Environmental Sustainability Strategy, this links with wider Council Plans and Strategies as follows:

The Strategic Plan 2012-15

Colchester Borough Council (CBC) has set out an overarching vision for the borough in The Strategic Plan 2012-2015:

Colchester, the place to live, learn, work and visit

Within this, there are a number of broad aims:

Colchester as a vibrant borough with a bright future wants to be known for:
- Leading for the future
- Creating opportunities for all its residents
- Inspiring and innovating
- Being cleaner and greener
- Listening and responding.

The Strategic Plan - Action Plan Half Year Performance Report April – September 2014 outlines a number of areas where delivery has already begun under environmental sustainability.

➢ Essex-wide Litter Campaign in Colchester.
➢ Consultation with members of the public and key stakeholders for the Low Emissions Strategy and Air Quality Action Plan.
➢ Working with local residents to encourage reductions in household waste and increases in recycling.
➢ Supporting the delivery of a Park and Ride service from North Colchester to the Town Centre.
➢ Working with the public transport operators, bus and rail to improve services in Colchester.
➢ Continue to work with and provide leadership to public and private sector organisations to develop Travel Change Behaviour programmes to help address congestion, air quality and personal health issues.
➢ Development of strategies to increase the level of investment in sustainable transport and infrastructure, to help deliver sustainable development, including transportation in economic, environmental, land use strategies.

Development Policies

The Development Policies DPD was updated in July 2014 as a result of Colchester Borough Council's Focused Review of its Local Plan.

Click here for a copy of the Development Policies DPD

The Development Policies DPD was adopted at Full Council on 13th October 2010. The policies/proposals in the Development Policies DPD supersede the Local Plan policies and are now a material consideration and used in the determination of planning applications.

➢ Adopted Development Policies DPD [569kb].

➢ Adopted Local Plan Focused Review [102kb].

➢ Development Policies Sustainability Statement [65kb].

Procurement Strategy

In support of both its strategic objective to "be cleaner and greener" and the priority area for action to "reduce, re-use and re-cycle", the Council will use its procurement strategy to promote long-term sustainability in its own resource management.

There are a series of actions to support this approach:
➢ Educate, train and encourage internal procurers and commissioners to review their consumption of goods/services, reduce usage and adopt more environmentally friendly alternative products.
➢ Consider the costs and benefits of environmentally preferable goods/services as alternatives.
➢ Investigate the impact of the Council's expenditure on goods and services, via purchase spend analysis, to identify potential environmental impacts.
➢ Investigate opportunities for the recycling and re-use of materials where appropriate.
➢ Ensure, working with the Procurement Hub, that, where appropriate, suppliers' environmental credentials are, as far as legally practicable, considered in the supplier evaluation process and that environmental and equality and diversity criteria are used in the award of contracts.
➢ Assess the environmental and corporate risks to the organisation with a commitment to continually improving sustainable performance related to the supply chain.
➢ Work in partnership with other organisations, such as buying consortia to improve sustainable procurement.
➢ Ensure that consideration is given to inclusion, within all specifications, of a facility for suppliers to submit offers for environmentally friendly alternatives.

- Specify, wherever possible and practicable, the use of environmentally friendly goods.
- Aim to provide goods and services at best value to the Council.
- Address barriers to entry in order that Small and Medium Sized Enterprises (SMEs), local suppliers and the voluntary sector are encouraged to bid for the Council's business.
- Educate our suppliers regarding the Council's environmental, sustainability and equality and diversity objectives.
- Encourage and persuade suppliers to adopt environmentally friendly processes and supply environmentally friendly goods/services.
- Work with key suppliers to make changes and thereby extend sustainability improvements throughout the supply chain.
- Comply with all relevant environmental, health & safety, diversity, disability and employment legislation.

The Colchester Economic Growth Strategy (2010-15)

Identifies the need to develop growth sectors, within this are identifies opportunities within Environmental Industries *'to contribute to the country's global obligation to manage the environmental impact of human activity'*.

In addition to this the Economic Growth Strategy intends to develop and implement initiatives to support rural businesses to sustain and develop the Borough's rural communities.

Economic Development Strategy Delivery Plan 2010 to 2015

Within the Economic Development Strategy Delivery Plan 2010 to 2015 it was identified that a priority to support retention of rural skills and grow the local green economy would link as follows:

Figure 28 IMPROVING BUSINESS PERFORMANCE

Priority
Increase environmental sustainability to manage the environmental impact of Colchester's economic activity
Develop new markets to sustain and develop local employment and encourage entrepreneurship
Support and retain key companies to preserve key skills in the economy and manage the local impact of globalisation
Secure funding and/or investment for initiatives to improve business performance

Figure 29 RAISING SKILLS AND REDUCING & ADDRESSING WORKLESSNESS

Priority
Address barriers to work to release local skills, talent and creativity into the economy
Improve basic skills and employability to facilitate younger people's contribution to the local economy
Encourage local recruitment and employment opportunities to maximise the skills and potential of the local workforce
Retain graduates and highly trained workers to enhance Colchester's economic competitiveness
Improve the links and outcomes between business and education to improve mutual understanding and future employment 'fit'

15. Useful Resources

Both Internal and External Documents were reviewed to aid the development of this strategy and evidence base. This included but was not exclusive to:

15.1 Sustainability
- ECC 'Sustainability Appraisal and Strategic Environment Assessment'
- Joseph Rowntree Foundation: Climate Change, Social Justice and Sustainability

15.2 CO2e reduction
- Nottingham Declaration
- LGA - Climate Local
- LGA – Local Climate Actions: supporting growth, saving money and safeguarding communities (March 2013)

15.3 Natural Environment
- Essex biodiversity action plan
- General guidance for good practice in sea fishing can be accessed from www.seafish.org
- A sea fish environmental toolkit for assessing impact of Marine Protection Areas (MPA) can be viewed by following the link provided:
http://www.seafish.org/about-seafish/ukfen-–-uk-fisheries-economics-network/ukfen-iaguidance
- More information about sea fish environmental protection can be viewed as follows:
http://www.seafish.org/media/sustainability/marine-protection
- The Sea fish Guide to MPAs is available to view here:
http://www.seafish.org/media/754274/seafishguidetompas_201301.pdf
- The link to the UK Marine Protected Areas Centre:
  http://www.ukmpas.org/faq.html
- Defra, 2007. *A Sea Change: A Marine Bill White Paper*. London: Department for Environment, Food and Rural Affairs.

ESS Evidence base

- https://www.gov.uk/construction-near-protected-areas-and-wildlife#mitigation-and-compensation-plans-reduce-damage-to-wildlife

15.4 Energy
- ECC 'Renewable and Low Carbon Energy projects'
- Sustainability East : Building a renewable infrastructure framework
- Climate Energy: Getting ready for 2016
- DECC Energy statistics for local authorities

15.5 Fuel Poverty
- Public Health England, Health Profile 2013
- UK Health Forum, 'Fuel Poverty'- How to improve health and well being through action on affordable warmth
- DECC – The Future of Heating: Meeting the challenge
- DECC - Fuel poverty statistics
- DECC - Interactive maps: trends in fuel poverty, energy use and energy efficiency measures

15.6 Other DECC statistics of interest

- Public Attitudes Tracking Survey

15.7 Energy efficiency statistics

- Green Deal and Energy Company Obligation (ECO) statistics
- Energy Saving Advice Service (ESAS) calls and Green Deal webpage views
- Smart Meters statistics
- Estimates of home insulation levels in Great Britain
- National Energy Efficiency Data (NEED) framework
- Domestic energy fact file and housing surveys
- Other energy efficiency statistics

15.8 Energy statistics

- Digest of UK energy statistics (DUKES)
- UK Energy in Brief
- Energy flow chart
- Energy consumption in the UK
- Energy Trends

15.8 Climate change and your home

Resource provided by English Heritage
http://www.climatechangeandyourhome.org.uk/live/