



# **Summary Update: ESS Evidence Base**

Environmental Sustainability Strategy  
(2016-2020)

Version: September 2017

Version Control table	
<b>Version number</b>	Update/ Review (version 4)
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## A. Introduction

The [Environmental Sustainability Strategy \(ESS\)](#) was adopted in 2015 and set out how Colchester Borough Council (CBC) intends to progress towards a more sustainable way of working; as well as support the building of resilient communities. The following document provides the reader with updates to the ESS evidence base in delivery of the Strategies third year.

## B. Focus Areas for updates in the ESS Evidence Base

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 Quality and flooding.
11. Climate Change.
12. Health & Well-being.

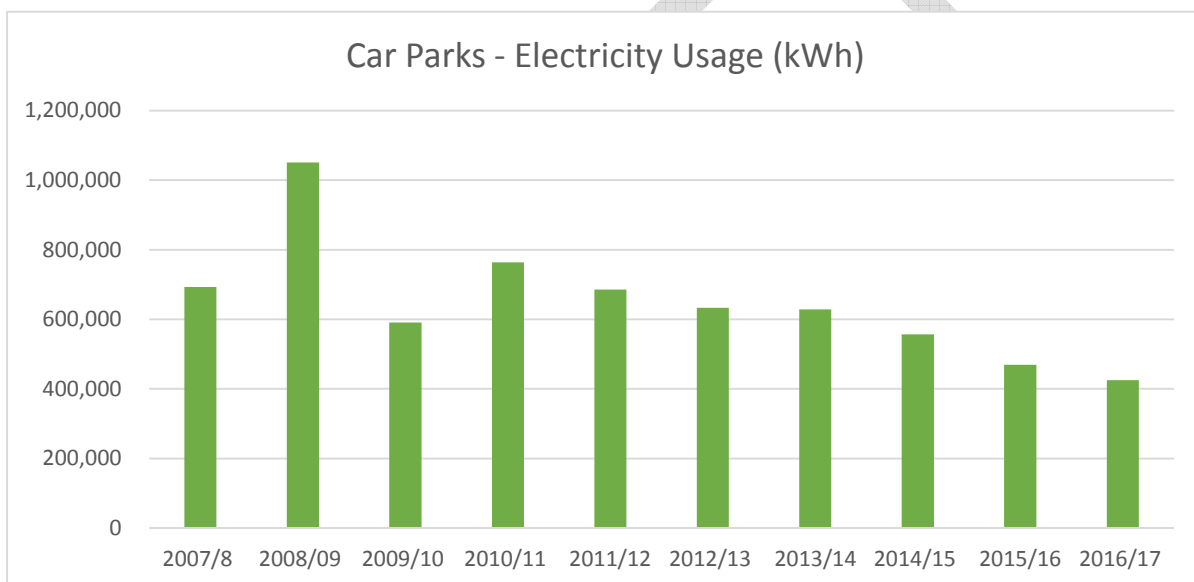
## Updates by Focus Area

### 1. Community energy and energy efficiency

#### Reduced Energy Use in Council owned buildings

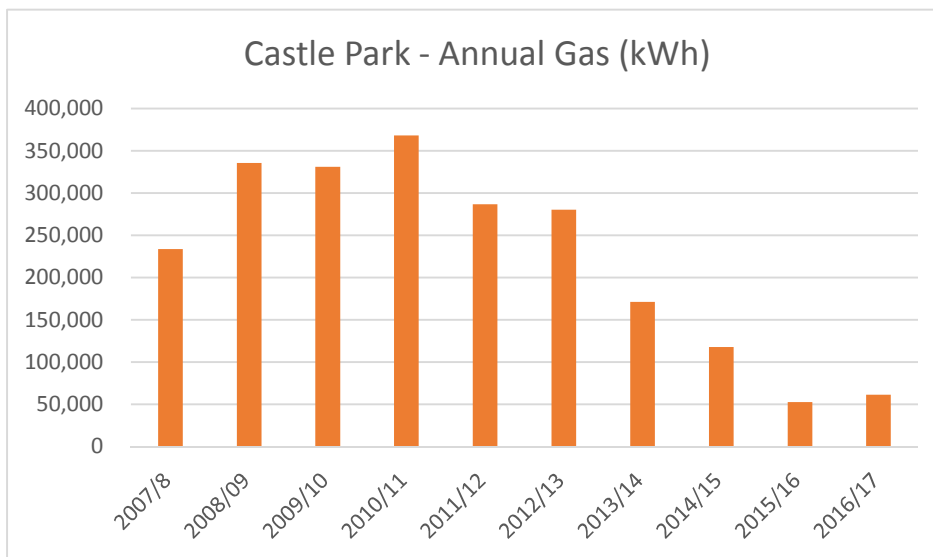
During 2016/17 some analysis was done to look at energy use in key locations across the borough over the last 10 years. The Council started to record and monitor energy use in 2007/08 for the purpose of statutory reporting on greenhouse gas calculations. In some locations 2007/08 energy use is particularly low, this may be due to an incomplete record of energy use data being available in all locations, rather than actual full meter reading data being available.

An area showing significant reduction in electricity use since 2008/09 is Council Car Parks, reducing consumption from 1,051,079 kWh in 2008/09 to 425,551 kWh in 2016/17.



As demand for services at Leisure World have increased and the site has expanded to meet demand for recreational facilities, so has the energy use. At its peak in 2012/13 the electricity use increased to 2,019,525 kWh. Thanks to the energy efficiency measures installed on site this had decreased to 783,938 kWh by 2016/17.

Areas showing significant reduction in gas use include Castle Park (all buildings) and the Cemetery & Crematorium (all buildings). At its height of gas use the Castle Park buildings were consuming 368,262 kWh collectively in 2010/11, this has been reduced to 61,590 kWh in 2016/17. Much of this reduction in consumption can be attributed to the energy efficiency works to the Castle itself.



The Cemetery and Crematorium is traditionally a high energy user, at its peak in 2009/10 it was using 1,886,711 kWh, but by 2016/17 had reduced gas consumption to 810,063 kWh.

One location where both electricity and gas use increased was the Town Hall. Although projects to look at installing energy efficiency measures were included in the Council's Local Authority Carbon Management (LACM) Plan 2016-2020, all projects so far for this site have proven unviable, mainly due to planning restrictions and restraints from Natural England because it is a historic building.

At its lowest point of electricity consumption the Town Hall used 167,201 kWh in 2012/13, unfortunately this has increased to 553,037 kWh in 2016/17. This can be accounted for to some degree due to the move of some high energy using services into the Town Hall. In addition to that the location is a venue for day time and evening events so it is likely that the Town Hall will remain a high energy user.

### **The Home Energy Conservation Act 1995**

In 2017 Q1 the Council detailed the progress made since the last HECA report published in March 2015. This showed that the Council has carried out a wide range of actions to increase energy efficiency including:

- Upgrading sheltered accommodation so electricity consumption is reduced from communal lighting.
- Rolling out a borough wide offer with a commercial partner to improve the energy efficiency of homes in the private sector.
- Implementing a new Local Authority Carbon Management (LACM) Plan to reduce the Council's energy use and decrease carbon emissions from Council owned buildings.
- Working with community partners to secure external grant funding to deliver projects which fill in gaps in provision, including helping vulnerable residents with energy switching; informing our tenants and Colchester residents on the benefits of smart meters; highlighting how smart technologies work in the home through a Green Open Homes Network event; and work to ensure residents vulnerable to fuel poverty are well supported, particularly through cold weather spells.

### Influencing factors:

- **The CCC's report "The Next Steps for UK Heat Policy"** published in 2016 highlighted the urgent need for new policies by the UK Government to enable households to meet their needs for heating and hot water whilst at the same time reducing the contribution these make to greenhouse gas emissions (currently 20% of the UK total) and energy consumption (currently 40%). Initiatives listed in the report include the use of hydrogen and biofuels as a heat source, improved building standards and the use of heat networks and heat pumps to reduce emissions.
- **Update on The Energy Company Obligation (ECO) (2013 – 2017)** The latest changes to the scheme occurred in 2017, and apply to measures installed from 1 April 2017. The latest version of the scheme has been termed as ECO2t. A summary of the changes made to the scheme in 2017 are available on the [Department for Business, Energy and Industrial Strategy's website](#). The main obligations include:
  - **Carbon Emissions Reduction Obligation (CERO)** Under CERO, obligated suppliers must promote 'primary measures', including roof and wall insulation and connections to district heating systems. Some CERO must also be delivered in rural areas.
  - **Home Heating Cost Reduction Obligation (HHCRO)** Under HHCRO, obligated suppliers must promote measures which improve the ability of low income and vulnerable household to heat their homes. This includes actions that result in heating savings, such as the replacement or repair of a boiler.
- **Update on Fuel Poverty England Regulations (2014)** In 2014 Government introduced the Fuel Poverty (England) Regulations. These regulations gave effect to the fuel poverty target to ensure that as many fuel poor households as is reasonably practicable have a minimum energy efficiency rating of Band C by 2030. In 2015 Government published "Cutting the cost of keeping warm: a fuel poverty strategy for England". The strategy included two interim milestones that will help keep Government efforts on track. The milestones are to ensure that as many fuel poor households as is reasonably practicable achieve a minimum energy efficiency rating of Band E by 2020, and Band D by 2025.

## 3. Resource management and waste

### Case study: reducing paper and printing 'Paperchase Project 2016/17'

A key aim of the Digital Challenge Strategy was to shift outgoing correspondence to email where possible, with the remainder sent by hi-mail. A review of 2016/2017 franking machine usage revealed that the Council sent 224,000 items of post by Royal Mail. Reduced printing and copying - during the months that hi-mail demonstration workshops were being conducted (January-March 2017), total paper consumption for 20 teams was 170,037. In comparison, during the months that immediately followed the workshops (April-June 2017) total paper consumption for all teams was 136,210. This produced a volume difference of -33,827 and a percentage difference of -19.89%.

## New Waste Strategy for Colchester in 2017

A new recycling and rubbish collection service was launched on the 20th of June 2017 to boost recycling rates and to cut down on what goes to landfill. There has been a change of collection day for 18% of households.

## Colchester Borough Council's commitment to reducing carbon emissions

The Council is committed to tackling the causes and effects of climate change and as such has progressed a number of projects and initiatives since the last Greenhouse Gas report was published:

GHG emissions data for 1 April 2008 – 31 March 2017									
Scope	Tonnes of CO <sub>2</sub> e								2008/09
	2016/17	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11	2009/10	Baseline year
Scope 1 (Fleet & Gas consumption)	3,001	3,098	3,163	3,039	3,361	3,815	4,205	4,473	5,285
Scope 2 (Electricity)	2,583	3,036	3,326	3,224	3,484	4,390	4,603	4,516	4,798
Scope 3 (Business Travel)	47	41	45	49	50	48	58	65	67
Total Emissions	5,631	6,175	6,533	6,313	6,845	8,253	8,866	9,054	10,150
Decrease	4,519	3,975	3,617	3,837	3,305	1,897	1,284	1,096	10,150
Carbon reduction towards target	55%	39%	36%	38%	33%	19%	13%	11%	0%
Intensity measurement 'Tonnes of CO <sub>2</sub> e per full time equivalent'	4.77	5.31	5.84	4.89	6.62	8.18	8.36	8.57	9.87

The Council has reduced its carbon emissions from 10,150 tCO<sub>2</sub> in 2008, to 5,631 tCO<sub>2</sub> in 2016/17. This means that Colchester Borough Council have achieved a 55% carbon reduction target which means Colchester retains its position as one of the leading carbon cutting Councils in the UK. The Council recognises that there will be challenges ahead to maintain this result, and cutting carbon in the future will become increasingly more challenging.



## Influencing factors:

- **New [Litter Strategy for England](#)**
- **Reducing plastic waste:** [legislation will be introduced this year](#) to ban the sale and manufacture of microbeads – tiny pieces of plastic that are easily swallowed by marine life – in cosmetics and personal care products such as toothpastes and shower gels.
- **New Emissions Reduction Plan** was due for publication by the end of 2016. The plan has been delayed to 2017, with the only commitment from government that it will be published during 2017. Any further delays will likely result in legal action from Client Earth who have already successfully won a legal case brought against the UK Government for repeated breaches of air pollution levels.

## 4. Engaged communities

### Case study: Building Resilient Communities (BRC)

The Council led event took place at the Mercury Theatre on 11<sup>th</sup> November 2017. The event was designed to promote action within the Environmental Sustainability Strategy (ESS) priority 2: Building Resilient Communities. The BRC Event was designed to engage:



1. At a local level: Delegates will be residents and people working with an interest in Colchester with shared objectives in building community resilience. This will include people/volunteers that represent community groups; representatives from town and parish councils (Clerks and Cllrs); local business networks, Local housing providers; and local schools.

2. At a County level, to share good practice through provision of Delegate places for other Councils in Essex. This will help support a more collaborative

approach to issues such as emergency planning and carbon management. This target group may be more challenging as there has been a shift in the focus on carbon reduction work by Councils.

3. At a national level by bringing in Speakers from organisations such as the Carbon Trust and the Sustrans and the Soil Association, who are able to pitch resilience work at a national level, and the impact this has with a national and global context.



159 people took part on the day. Dr Stephen Garvin from the BRE Centre for Resilience Chaired the event for CBC. During the morning speakers from national organisations including the Carbon Trust, Sustrans and the Soil Association spoke about what

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national programmes are available and how more joined up thinking across all sectors could help to improve resilience. Local organisation Mersea Island Harbour Protection Trust provided a local perspective and outlined the threats to Colchester coastline. In the afternoon 5 workshops were delivered for Housing, Business, other Councils, Education and Community sectors. In total 28 presentations were delivered with interactive sessions. The presentations can be viewed on the Councils website at [www.colchester.gov.uk/brc](http://www.colchester.gov.uk/brc)

## 5. Low carbon economy

### Local Authority Carbon Management (LACM) Programme

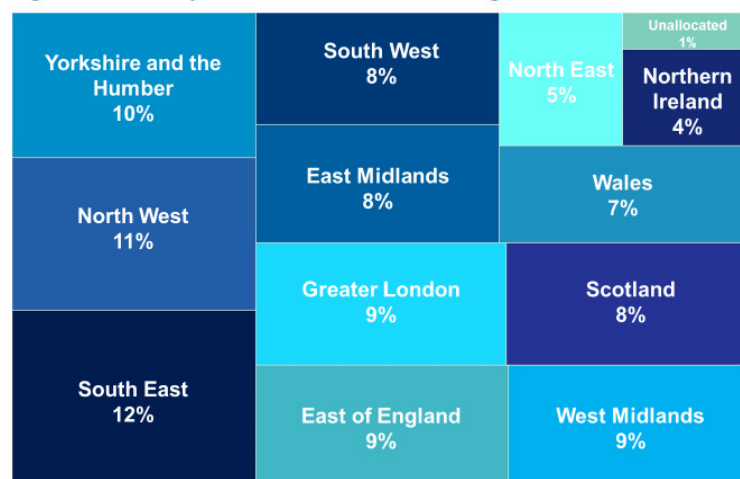
#### Summary of Phase 1

The LACM Project Team have estimated that Phase 1 could produce an annual saving of just over £100k and 400 tonnes of CO<sub>2</sub>. To quantify savings from all Phase 1 LACM projects the 2016/17 greenhouse gas report showed that we had a dramatic reduction in energy use in our buildings, achieving 55% carbon reduction from our 2008 baseline year.

This suggests that projects delivered in the first year of the LACM Plan are already paying back, contributing to a total annual saving of 544 tonnes of CO<sub>2</sub> in 2016/17, which is an early outcome for the LACM Plan. This is a staggering 15% ahead of where the Council expected to be by 2020.

**The Local Authority Carbon Dioxide emissions estimates 2015** statistical release was published by BEIS in June 2017. This provides a look back on carbon emissions across regions and the decrease in Council carbon emissions since 2005. The table below is taken from the report. With a 35.5% decrease in carbon emissions in Colchester by 2015 this places Colchester Borough Council with 17 other Councils out of 391.

Figure 4: 2015 Proportion of emissions across regions



Source: [2005 to 2015 UK local and regional CO<sub>2</sub> emissions –data tables](#)

### Influencing Factors:

- **The Energy Prices and Bill's Report 2017** was the Climate Change Committee's fourth independent assessment of the impact of UK carbon budgets on household and business energy bills.
- **UK Business Opportunities of Moving to a Low-Carbon Economy Report 2017** provides an analysis of the opportunities to UK businesses to supply global markets with low carbon materials and goods and services.
- **Update on the Carbon Emissions UK Targets** shows that UK emissions were 38% below 1990 levels in 2015. The first carbon budget (2008 to 2012) was met and the UK is currently on track to outperform on the second (2013 to 2017) and third (2018 to 2022). However, it is not on track to meet the fourth (2023 to 2027). To meet future carbon budgets and the 80% target for 2050, the UK will need to reduce emissions by at least 3% a year, from now on.
- **Building Our Industrial Future, UK Government Green Paper (2017)** is built around 10 pillars for growth. This includes development of capacity to deliver affordable energy and clean growth, and has two priority areas: the affordability of energy for households and businesses, and securing the industrial opportunities for the UK economy of energy innovation.
- **Update to the Carbon Plan: Delivering our low carbon future (2011)** The UK is currently in the second carbon budget (2013 – 2017) which aims to reduce emissions by 29% below the base year.

## 6. Development and the built environment

### Emerging Local Plan 2017-2033

The new Local Plan is an important document which will set out the built environment strategy for Colchester Borough, informing the future growth of our district up to 2033 and beyond. The Local Plan sets out the Council's ideas for the long term aims and aspirations of the borough taking into account national guidance and evidence as well as a Sustainability Appraisal. It will include policies and land allocations that help to deliver them. The Publication Draft Local Plan is on consultation from 16th June - 11th August 2017 and consists of two parts:

- Section One includes strategic policies covering housing and employment, requirements and proposals for new Garden Communities.
- Section Two includes policies and allocations for meeting the needs throughout the rest of the borough as well as Development Management Policies which are used for considering planning applications.

### The Council's Strategic Plan 2015-18

The Strategic Plan is the Council's most important document because it sets out how the Council will play its part in making Colchester a place where people want to live, learn, work and visit. [The Strategic Plan Action Plan - Half Year Report](#) has been published covering 1 April – 30 September 2016

## Colchester Borough Homes Stock Improvement

Colchester Borough Homes have carried out the following works to Colchester Borough Council's housing stock:

- The first phase of the project installed around 600 PV installations to Council housing stock. The forecast was for 1,000 installations overall.
- By 2016/17 CBH had completed 4 different PV projects resulting in 47% of the stock, 2895 homes, benefiting from installations.
- By end of 2016 3,600 Council homes had been improved and were more energy efficient.

## Sheltered Accommodation Works

Following on from the Worsnop House refurbishment the Enoch House project expanded the footprint of the building adding an additional 10 sheltered flats for a total of 46.

A district heating system employing two Gas Absorption Heat Pumps (GAHP) provides heat and hot water. While the use of mechanical ventilation with heat recovery, low energy lighting, solar PV and solar thermal panels, triple glazed windows & doors and an energy meter are all working together to produce a comfortable home while cutting energy usage.

Much of the boiler replacement programme is driven by the age of the boiler, which comes from Colchester Borough Homes Asset Management Database.

Part of the project saw Council homes 'Fuel switch' 30 properties from electric night storage to high efficiency gas central heating systems to provide affordable and controllable heating 20 properties switched to more sustainable sources of heating air source heat pumps

In the rural off gas areas of the Borough CBH have replaced inefficient and highly polluting oil boilers with Air Source Heat Pumps (ASHP). As of the end of 2016 CBH had installed 160 ASHPs, each of these heating upgrades were installed on thermally sound homes with double glazed windows, insulated doors and loft & cavity wall insulation. All have been installed on properties which have solar PV thus producing, at least in part, the electricity needed to heat the home.

External wall insulation (EWI) has been installed at two properties. Key deliverables on our own housing stock are carried forward by the Colchester Borough Homes Asset Management Team.

## Influencing Factors:

- **Sustainable Development Goals**  
Governments, businesses and civil society together with the United Nations have started to mobilize efforts to achieve the Sustainable Development Agenda by 2030. Universal, inclusive and indivisible, the Agenda calls for action by all countries to



improve the lives of people everywhere.

- **New Urban Agenda** has been adopted by world leaders which sets a new global standard for sustainable urban development, and will help us rethink how we plan, manage and live in cities, providing a roadmap for building cities that can serve as engines of prosperity and centers of cultural and social well-being while protecting the environment.

Source: <http://www.un.org/sustainabledevelopment/blog/2016/10/newurbanagenda/>

- **The Heritage Lottery Fund (HLF)** has created new guidance to help applicants understand the environmental and conservation issues that may affect their projects. Source: <https://www.hlf.org.uk/building-environment-and-performance>

## 7. Natural resources

### Influencing Factors:

- **A UK Government 25 Year Environment Plan** was part of a list of recommendations from the Natural Capital Committee's third report, which was due in 2016 but has been delayed, with no update on an expected date for publication as a result of the vote to leave the EU which was not factored into the original plan's publication.
- **Monitor of Engagement with the Natural Environment (MENE) 2015 to 2016** provides data on how people use the natural environment in England. The data enables Natural England, its partners and data users to understand how people use, enjoy and are motivated to protect the natural environment; Monitor changes; Inform on-the-ground initiatives to help them link more closely to people's needs; and evaluate and measure the impact of and inform policy relating to the natural environment.

Source: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/614353/mene-headline-report-2015-16.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/614353/mene-headline-report-2015-16.pdf)

- **The 2015 Natural Capital Accounting Project Roadmap.**
- **UK Habitat Ecosystem Accounts**, July 2017; contains updated woodland, farmland and freshwater habitat accounts and improved estimates for valuing the role vegetation has in removing pollution from the atmosphere. Annually the ONS and Defra publish [UK level accounts](#) and more detailed habitat accounts for eight board habitats.

Source: <https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/ukenvironmentalaccounts/2017#fuel-use-energy-consumption-and-greenhouse-gas-emissions>

## 8. Open space

The [Air Quality Action Plan & Low Emissions Strategy](#) was completed in 2015 and with the publication in May 2017 of the UK Government's plans to tackle poor air quality this will be of increasing importance in Colchester as it seeks to increase economic development without adversely affecting the lives of residents.

**The Local Plan for 2017 – 2033** includes a number of detailed reports which will inform the Local Plan:

- [The Coastal Protection Belt update](#)
- [The Green Orbital Study](#)
- [Sustainability Appraisal \(SA\) and Strategic Environmental Assessment \(SEA\)](#)
- [Local Wildlife Reviews](#)
- [Draft Water Cycle Study](#)
- [Draft Strategic Flood Risk Assessment](#)

### Influencing Factors:

- Six years into the UK Government's **Biodiversity 2020 strategy**, originally published in August 2011, the mission to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people, remains as important as ever.
- In 2016, the government began payments to farmers as part of the **New Environment Land Management Scheme (NELMS)**, with the overall priority of the scheme to promote biodiversity.

## 9. Food and farming

### Influencing Factors:

- **The UK Climate Change Risk Assessment 2017 Evidence Report** outlines the substantial risk to the vital goods and services provided to people by the natural environment. There are also potential opportunities that could arise from a modest level of climate change, through extended growing seasons and improved productivity in agriculture and forestry. These opportunities will only be realised, however, if limiting factors such as water availability, soil health and pests and diseases are managed.
- **Update on the Rural Development programme** outlines how Britain needs to ensure a sustainable supply of food for the UK market and export. Supporting and developing British farming, and encouraging sustainable food production (including fisheries) will ensure a secure, environmentally sustainable and healthy supply of food with improved standards of animal welfare.  
*Source:* <https://www.gov.uk/topic/farming-food-grants-payments/rural-grants-payments>
- **Update on Fisheries Convention.** A [Fisheries Bill](#) will be introduced to control access to the UK's waters and set fishing quotas once we have left the EU. In the coming months and years, the government will be working with the industry and marine scientists, as well as the devolved administrations, to preserve and increase fish stocks for their long-term sustainability, and secure prosperity for fishermen across the UK when we leave the European Union.



## 10. Water and flooding

The Coast Protection Act 1949, Land Drainage Act 1991, Flood Risk Regulations 2009 and the Flood and Water Management Act 2010 provide the primary legal framework for flood and coastal erosion risk management in England (as well as Wales).

In addition to damage to property and risk to life, flooding from heavy rainfall has significant impacts on travel in Essex with many individuals commuting from Colchester to London on a daily basis affected by cancelled or slow running trains.

### Bathing Waters

Colchester's coastline includes sites for designated Bathing Water in the UK. Councils only provide information at 'waters'. The Environment Agency provides updates to local councils from its national database of [bathing water profiles](http://environment.data.gov.uk/bwq/profiles/).

Source: <http://environment.data.gov.uk/bwq/profiles/>

### Influencing Factors:

- [The Groundwater \(Water Framework Directive\) \(England\) Direction 2016](https://www.gov.uk/government/publications/the-groundwater-water-framework-directive-england-direction-2016) sets out instructions to the Environment Agency on obligations to protect groundwater (water found below the surface)

Source: <https://www.gov.uk/government/publications/the-groundwater-water-framework-directive-england-direction-2016>

Environment Agency Bathing Water Quality

Find Get the data Glossary Help

### 2017 Bathing Water Profile for West Mersea

Essex, England

Current water quality classification is **Good**, based on samples taken from 2013 through to 2016. There are no water quality warnings in force today.

**About**

West Mersea is a small island connected to the mainland by a causeway. It is situated between the estuaries of the Colne and Blackwater rivers. The beach has sand and pebbles and is backed by grassland and beach huts. At low water there is a large expanse of mud. There are views over the Blackwater estuary.

Here you can see the recent results from water quality assessments under the Bathing Water Directive. For historical measurements, [view the detailed water quality data](#).

**Water quality**

Daily pollution update	pollution forecasts are not available at this site
Samples taken	weekly between May 1st 2017 and Sep 30th 2017
Most recent sample	was taken 8 days ago Jul 3rd 2017 08:15
2016 classification	★ ★ ☆ good
2015 classification	★ ★ ☆ good
2014 classification	★ ★ ★ excellent
2013 classification	★ ★ ★ excellent

**Site details**

Local authority	Colchester
Bathing water controller	Colchester
Year of designation:	1991

## 11. Climate Change

### Influencing Factors:

- **The second UK Climate Change Risk Assessment** published in January 2017 and outlines the six priority areas needing urgent further action over the next five years:
  1. Flooding and coastal change risks to communities, business and infrastructure
  2. Risks to health, well-being and productivity from high temperatures
  3. Risk of shortages in the public water supply, and for agriculture, energy generation and industry
  4. Risks to natural capital, including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity
  5. Risks to domestic and international food production and trade
  6. New and emerging pests and diseases, and invasive non-native species affecting people, plants and animals

## 12. Health & Well-being

### Health Profile 2017 for Colchester

The most recent [Health Profile](#) for Colchester was produced in June 2017. This provides an overview of Colchester's health in summary; details about life expectancy; child health; adult health and local priorities which include supporting vulnerable people, increasing levels of physical activity, and addressing homelessness.

#### Influencing Factors:

- **The UK Climate Change Risk Assessment 2017: Evidence Report** highlights five main areas where people's health is directly impacted by climate change:
  1. Risks from flooding and storms
  2. Emerging infections
  3. Heat and cold related mortality
  4. Air pollution
  5. Food and water safety
- **Update to COP21 (2016)** The Paris Agreement aims to limit warming to well below 2°C and to pursue efforts to limit it to 1.5°C. To achieve this aim, the Agreement additionally sets a target for net zero global emissions in the second half of this century.
- **The UK Climate Change Act (2008)** and associated carbon plans are UK-based legislative Acts and so should not be affected by the vote to leave the EU – although the methodologies to achieve these legal commitments may change. The 38% reduction in the UK's greenhouse gases to date have been the result of a wide range of factors, including UK-specific policies, policies agreed by the UK in partnership with other Member States at the EU level, and changes in wider market conditions. Overall, the CCC estimate that policies agreed by the UK at EU-level have contributed around 40% of the reduction in UK emissions since 1990:
  - Power emissions have fallen by 50%
  - Buildings emissions have fallen by 17%
  - Industry emissions have fallen 49%
  - Transport emissions have been broadly flat.
  - Agriculture, land use and forestry emissions have fallen by around a third
  - Waste emissions have fallen by 74%
  - F-gas emissions are broadly at 1990 levels.

