



2014 - 2019

Draft Energy and Climate Change Strategy

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Torbay Council's Energy and Climate Change policies

Torbay Council's energy and climate change policies (not in order of priority) help to create a low carbon future, resilience to the changing climate and keep resources in the Bay.

Energy and Climate Policy	Description
Energy and Climate Change Policy 1 Torbay's carbon reduction target	Torbay Council will work with the community, businesses and partners to reduce energy consumption and aim to reduce carbon emissions in line with national targets
Energy and Climate Change Policy 2 Economic development	Torbay Council will support the development of a thriving low carbon business sector as part of delivering its Economic Strategy
Energy and Climate Change Policy 3 Energy security	Torbay Council will seek to improve the energy security of the Bay, exploring suitable opportunities for local energy generation and conservation of resources
Energy and Climate Change Policy 4 Community engagement	Torbay Council will promote householder and community action, deliver programmes and seek funding to improve home energy efficiency and reduce fuel poverty in the Bay
Energy and Climate Change Policy 5 Planning and transport	Torbay Council will ensure local planning and transport policies contribute to tackling the causes and effects of climate change
Energy and Climate Change Policy 6 Torbay Council's carbon reduction target	Torbay Council will aim to reduce its energy consumption and carbon emissions in line with national targets whilst delivering council services and efficiently managing its assets and estate

Climate change resilience

In recognition that some amount of climate change will inevitably happen, resilience policies aim to help Torbay adapt to climate change and minimise its disruptive effects.

Climate Resilience	Description
Energy and Climate Change Policy 7 Resilient assets	Torbay Council will work to ensure that infrastructure and services are resilient to the impacts of climate change
Energy and Climate Change Policy 8 Resilience awareness	Torbay Council will seek to raise business and community awareness of the opportunities and threats resulting from a changing climate, and how to adapt to and reduce its impact
Energy and Climate Change Policy 9 Natural environment	Torbay Council will work with partners to explore opportunities for reducing carbon emissions, improve food security and contribute to resilience using the natural environment
Energy and Climate Change Policy 10 Risk management	Torbay Council will consider climate change in the corporate risk register and emergency planning procedures and will aim to improve our resilience to extreme weather events

Foreword



*Cllr. David Thomas –
Deputy Mayor and Executive Lead
on Strategic Planning, Housing and Energy*

I am pleased to present Torbay Council's second Climate Change Strategy. Taking forward our previous strategy (2008 – 2013), it also considers the financial and environmental impact of energy use whilst providing a framework for action on energy security and carbon reduction for the next five years.

Torbay has reduced its emissions by 25% since 1990 but there will need to be considerable activity on an unprecedented scale in order to meet the national targets of a 34% cut in carbon emissions by 2020 and 80% by 2050.

Acting in a community leadership role and driving local economic growth, Torbay Council will support local people, schools, organisations, and businesses in reducing their emissions whilst preparing them for the risks and benefits that a changing climate will bring. We will continue to support energy efficiency improvements in people's homes and local buildings, and help to develop low carbon transport initiatives and sustainable waste management approaches.

As a service provider and estate manager we will reduce costs, minimise emissions and work to protect those who are most vulnerable to the impacts of our changing climate.

As energy prices rise so does the cost of food, goods and services, which in turn impacts on inflation and local economic activity. Conversely, there is also the potential to generate revenue, economic activity and jobs from investment in the low carbon economy such as sustainable energy generation, fuel supply, low carbon infrastructure and technology supply chains.

Rising energy prices and extreme weather events are already a considerable cost to the council and local people which highlights the need to develop resilience and maximise the opportunities for the local economy. Improving energy security and reducing our greenhouse gas emissions presents great challenges and great opportunities for us all. The shift towards less energy-intensive and more environmentally sustainable technologies presents significant potential for economic growth in Torbay.

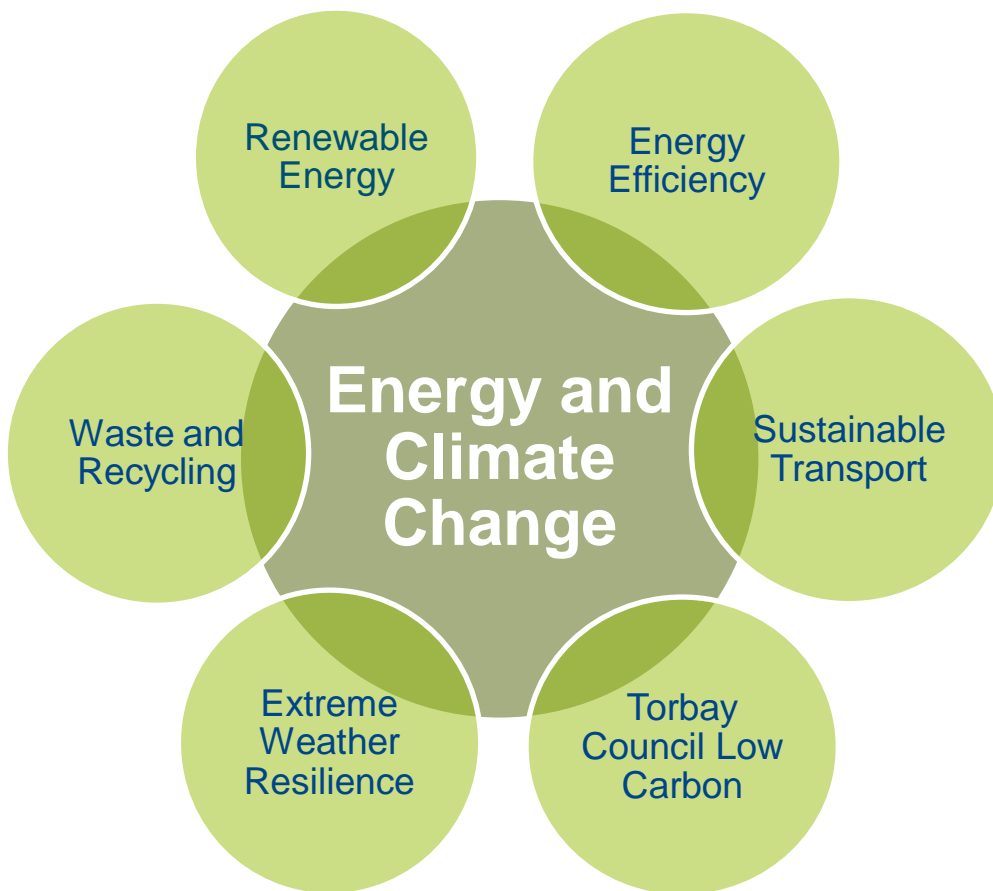
By sustainably managing assets and ensuring that we are well prepared for the impacts of a changing climate we will continue to reap the benefits of savings on energy bills, attracting new jobs in 'green' industries, reduce the risks and cost of flooding, tackle fuel poverty and protect Torbay's unique natural environment.

Future generations will pay the price if we fail to rise to the climate and energy challenge. We cannot make our local transition towards a successful local low carbon economy alone, so please join us, get involved and take action today. Small changes in our everyday life can make a big difference.

Executive Summary

If we are to protect future generations from the most serious risks of climate change we must take decisive action now to reduce emissions. If we wait for the impacts to happen, it will already be too late. The transformation to a low carbon future is one of the greatest technological challenges of the 21st century, but it also brings with it important opportunities for sustainable growth and prosperity.

This diagram illustrates the core energy and climate change issues that Torbay need to tackle. The policies and projects in this strategy combine to have a critical mass effect on carbon reduction and energy security and when applied with a joint approach.



This strategy reflects key changes that have taken place locally and nationally in recent years. It sets out policies to make the transition towards a lower carbon Torbay with an energy system that is more secure and reduces exposure to energy related cost increases.

It provides a framework for the council and its partners to deal with carbon reduction and resilience to climate change over the next five years. It identifies Torbay’s carbon emissions and reduction targets, considers energy security, implications for the local economy, fuel poverty and resilience measures.

There will need to be considerable activity on an unprecedented scale in order to achieve a 34% cut in carbon emissions by 2020 against increasing challenging financial constraints.

1. Energy and Climate Change Strategy for Torbay

- 1.1.** Torbay Council aims to lead, influence and engage partners and residents to enable change towards a lower carbon future. The responsibility of making Torbay more sustainable lies with everyone and can be achieved by reducing energy demand and increasing renewable and low carbon energy generation.

This strategy is a five year framework document that refreshes, replaces and updates the previous climate change strategy and action plan. The first five year document provided sections on 'What is Climate Change?' and 'Why Act on Climate Change?'

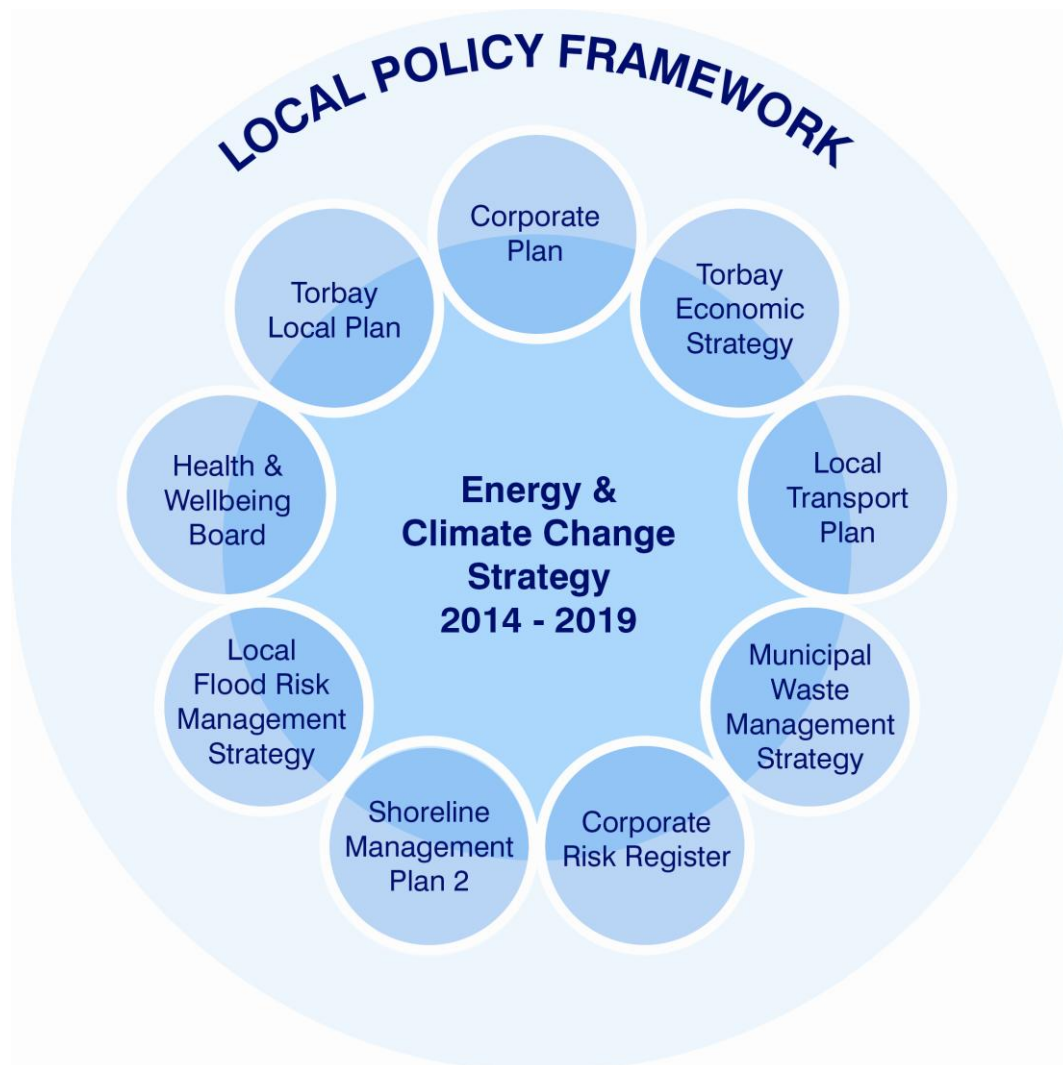
<http://www.torbay.gov.uk/index/your-services/environment/climatechange/climate-change-strategy.pdf>.

It complements and builds upon existing local framework documents including the Corporate Plan 2013-15, Torbay Economic Strategy, Local Plan, Local Transport Plan and Municipal Waste Strategy. It closely relates to statutory and key documents by complementing and reinforcing policies and actions that reduce greenhouse gas emissions and promote sustainable development.

- 1.2.** Much of the change needed to make a real impact will not only need to be made by the council but by organisations, businesses and individuals in the Bay. The success of the strategy depends upon the council effectively leading and engaging with those people that are involved in reducing emissions, in order to avoid the significant environmental, economic and social cost that lack of action will result in.
- 1.3.** Climate change projections can be used to understand how our climate is likely to change over the 21st century. UK Climate Projections 2009 (UKCP09) funded by Defra are the most recent and comprehensive projections for the UK. The projections underline that the annual mean temperature in Torbay is very likely to continue to rise throughout the 21st century beyond the 1 degree Celsius rise already experienced since 1900. This increase in temperature is very likely to affect the frequency and intensity of rainfall events, particularly in the winter months, and further increase sea levels by between 20cm and 68cm by the 2080s.
- 1.4.** The effects of climate change and its implications for Torbay have been assessed as part of the Climate Change Strategy for Torbay 2008 – 2013 and the Local Climate Impacts Profile (LCLIP). Climate change in the Bay is predicted to cause warmer wetter winters; hotter drier summers, rising sea levels; more intense storms and extreme weather events.
- Warmer summers, in the short term, lead to increased demand for leisure and tourism services, but the negative effects outweigh any benefits, especially taken in context of wetter winters reducing the year round and day visitor economy which UK tourism is increasingly reliant upon
 - Wetter winters will increase pressure on drainage, flood management and the emergency services
 - Increased flood risk, damage to property, infrastructure and disruption to local people's lives and business continuity
 - Higher average temperatures and changing rainfall patterns will increase water stress and increase energy demand for cooling
 - Temperature changes may lead to increased human health problems and spread of disease and pests
 - Extreme weather will cause highway damage and more pot holes
- 1.5.** The proposed Energy and Climate policies communicate the council's aims; but much of the work is of a crosscutting nature involving the wider community with policies linking to, or benefiting from, actions of others.

2. Energy and Climate Change Policy Context

- 2.1. The Climate Change Strategy for Torbay 2008-2013 reflected the council's commitment to address at local level the causes of global climate change. It set a local target to reduce the Bay's CO₂ emissions by 30% by 2020 from 1990 levels and at least 60% by 2050. www.torbay.gov.uk/climate-change-strategy.pdf



- 2.2. The latest United Nations, Intergovernmental Panel on Climate Change (IPCC) 2013 Report stated: Warming of the climate system is unequivocal, the atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased. The IPCC's working group in March 2014 stated that climate change in Europe could lead to increased flooding, droughts and heatwaves with associated economic losses, health impacts, productivity dips and air quality issues. Globally, the effects on ecosystems, agriculture and livelihoods, especially in coastal areas, are likely to be much worse. <https://www.ipcc.ch/report/ar5/wg2/>
- 2.3. Nationally, sustainable development and flood management policy is led by the Department for Environment, Food & Rural Affairs (DEFRA) with the Department for Energy & Climate Change (DECC) focusing specifically on energy and climate change and the Department for Transport (DfT) on transport infrastructure.
- 2.4. One of the first pieces of legislation to directly address carbon dioxide (CO₂) emissions and energy efficiency was the Home Energy Conservation Act (HECA), 1995, which required local authorities to produce annual Energy Conservation Reports. The Act was revised in

2012 requiring local authorities to submit biennial reports outlining local practical and cost-effective local energy conservation measures. One of the main objectives behind the aims of HECA is to contribute to reducing fuel poverty in the UK, through more efficient energy use in the home. <http://www.legislation.gov.uk/nisr/1995/455/contents/made>

- 2.5.** The Climate Change Act, 2008 aims to reduce greenhouse gas emissions by 80% by the year 2050 compared to the 1990 base level. The act introduced a system of ‘carbon budgets’ which set legally binding limits on the amount of emissions that may be produced in the UK during successive five-year periods. The first three carbon budgets covering the period 2008 to 2022 were set in law in May 2009. The fourth carbon budget, covering the period 2023–27, was set in law in June 2011.

<http://www.legislation.gov.uk/ukpga/2008/27/contents>

- 2.6.** The Energy Act, 2011 addresses the issues of energy infrastructure; climate change and conformity with international and national targets; economic growth and benefits for jobs and investment; affordability of energy; energy security; and community safety. Torbay Council is working in partnership to deliver free energy efficient measures to eligible properties as part of the Energy Company Obligation (ECO) scheme.

<http://www.legislation.gov.uk/ukpga/2011/16/contents>

- 2.7.** Much of the action needed to decarbonise the national grid will take place through proposed new nuclear, carbon capture and storage, and national renewable energy projects. The Government’s Renewable Energy Roadmap 2020 indicates that approximately half of the 15% renewable energy target (7.5%) will be met from ‘National’ level deployment with little or no local influence and that approximately half will be met from technologies and resources over which there is little or no local control and influence.

- 2.8.** Torbay Council recognises its role in enabling suitable local deployment of renewable and low carbon energy. It wants to see more renewable and low carbon energy projects coming forward and is keen to enable community led projects. It aims to maximise use of the available renewable resource whilst protecting the local environment and the development of sustainable energy strategies for all growth areas so that communities have clean, secure and affordable energy into the future.

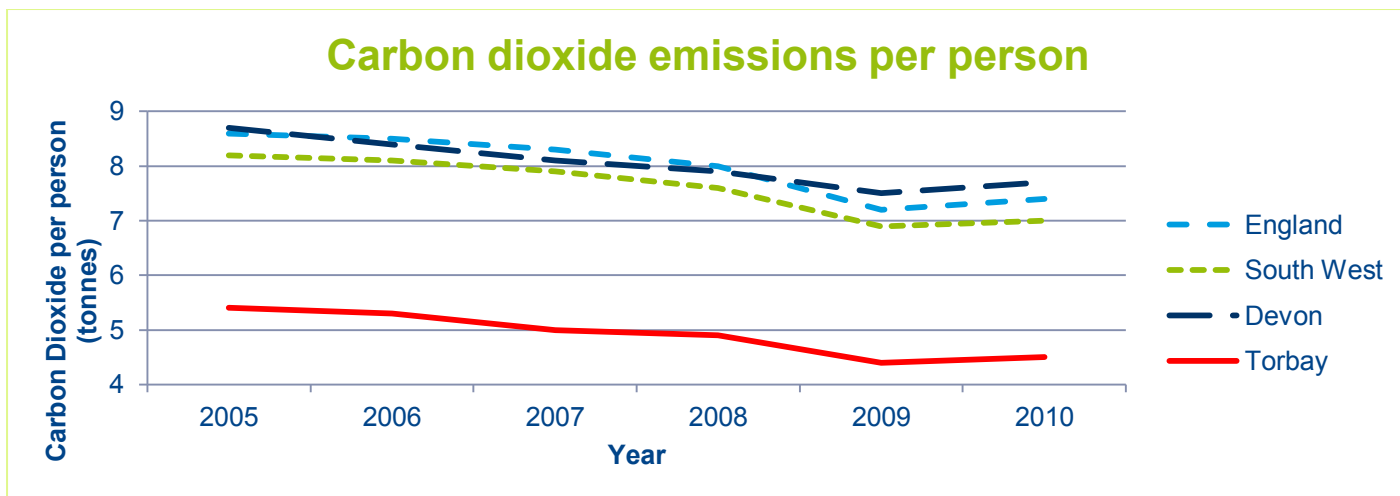
<https://www.gov.uk/government/publications/community-energy-strategy>

- 2.9.** The Torbay Local Plan ‘A Landscape for Success’ reflects the council’s commitment to its response to climate change. Policy SS13, Low carbon development and adaptation to climate change helps mitigate and adapt Torbay to the changing climate.

www.torbay.gov.uk/newlocalplan

3. Carbon emissions and reduction targets

3.1. Data shows that over recent years CO₂ emissions in Torbay and Devon have decreased. Emission levels per person in Torbay have generally followed the same trend as in the South West and nationally in England between 2005 and 2010.

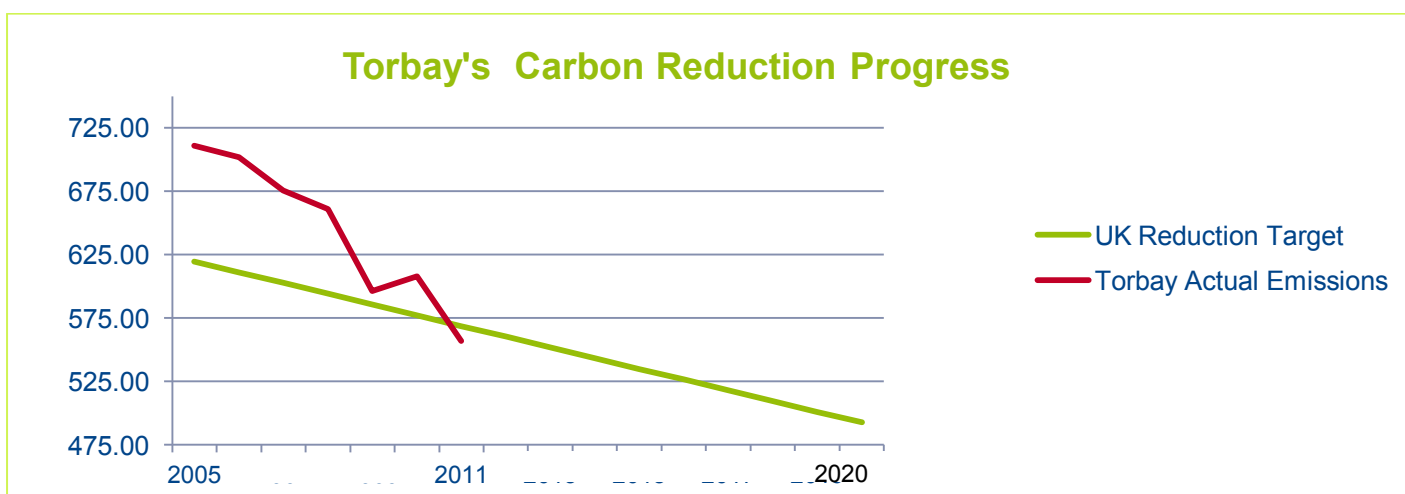


3.2. Emission levels per person are markedly lower in Torbay than in the South West and England as a whole. This could be because Torbay has a low demand for personal transport, a mild micro-climate and an economic profile that is not reliant on energy intensive sectors which may contribute to the lower per capita emission levels.

3.3. Torbay Council has set local targets on carbon reduction which have been derived from the legally binding UK targets. To plan for the emissions reduction 'journey' to 2050 in Torbay, interim targets help to gauge progress along the way. The Torbay 1990 carbon emission baseline was established in the 2008 Climate Change Strategy at 746.5Kt CO₂e.

To reflect national reduction targets Torbay should reduce emissions using the following indicators of progress.

- **2015** Reduce CO₂ emissions by 26% by 2015 to 548 KtCO₂ e
- **2020** Reduce CO₂ emissions by 34% by 2020 to 492 KtCO₂ e in line with the UK Target
- **2025** Reduce CO₂ emissions by 44% by 2025 to 418 KtCO₂ e
- **2050** Reduce CO₂ emissions by 80% by 2050 to 149. KtCO₂ e in line with the UK Target



The graph above illustrates the reduction in Torbay's carbon emissions.

The table below sets a five year carbon target to cover the period of the Strategy for the Bay.

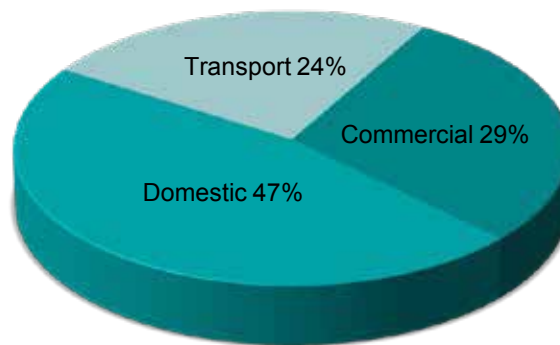
Torbay Five Year Carbon Target

	2014	2015	2016	2017	2018	2019
Torbay carbon emissions (KtCO ₂ e)	557	548	539	530	518	505

3.4. The reduction in per capita emissions required to keep pace with the target reductions in absolute emissions has been calculated using 2010 Sub National Population Estimates. These estimates are forecast using past trends and do not take into account new housing allocated in the emerging Local Plan. If the 2010 estimates were accurate, per capita emissions would need to reduce by 2.6% per year in order to achieve the 2020 target.

This pie chart shows the distribution of carbon emission across various sectors illustrating the significance of the domestic sector in the Bay.

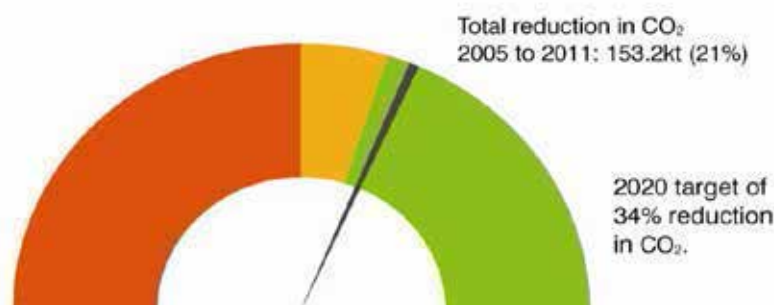
Torbay CO₂ emissions 2011



3.5. The highest proportion of end user emissions in Torbay in 2011 came from domestic sources, accounting for 47% (247 KtCO₂e), followed by industry and commerce with 29% (160 KtCO₂e). Torbay produced the twelfth lowest amount of road transport CO₂ emissions for a local authority in the South West at 149 KtCO₂e which accounts for 29% of emissions.

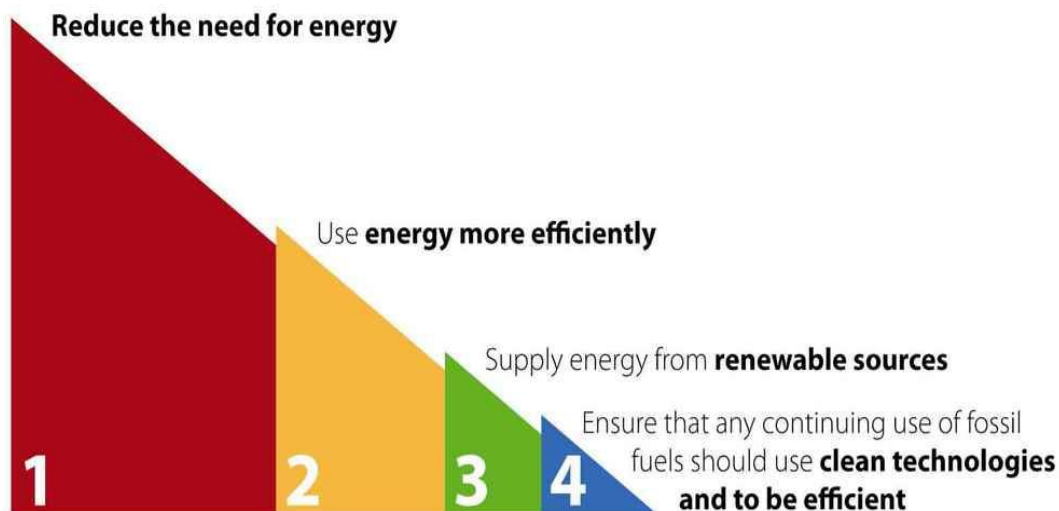
3.6. Torbay's commercial emissions fell by 33%, domestic by 21% and transport by 8% between 2005 and 2011. Influencing factors are thought to be energy efficiency improvements and more recently the economic downturn but as we move out of recession and productivity increases so will CO₂ emissions. On average each person in Torbay is emitting 4.2 KtCO₂e each year based on the most recent published figures (2011) which is 34% lower than Devon and 28% lower than the South West average.

3.7. The diagram below displays progress within Torbay towards the overall 2020 target to reduce CO₂ emissions by 34%, based on the 2005 baseline.



4. Energy security in Torbay

- 4.1. Secure supplies of electricity can be taken for granted; lighting homes, powering appliances and keeping workplaces running. The majority of that electricity is generated through burning fossil fuels, meaning that the energy supply is responsible for 35% of the UK's greenhouse gas emissions which is more than any other sector in the economy.
- 4.2. Currently the UK depends on the global energy market for approximately 40% of its gas and oil and this dependence is growing. Torbay Council recognises the need to be guided by the energy hierarchy by reducing need and improving efficiency as a priority.



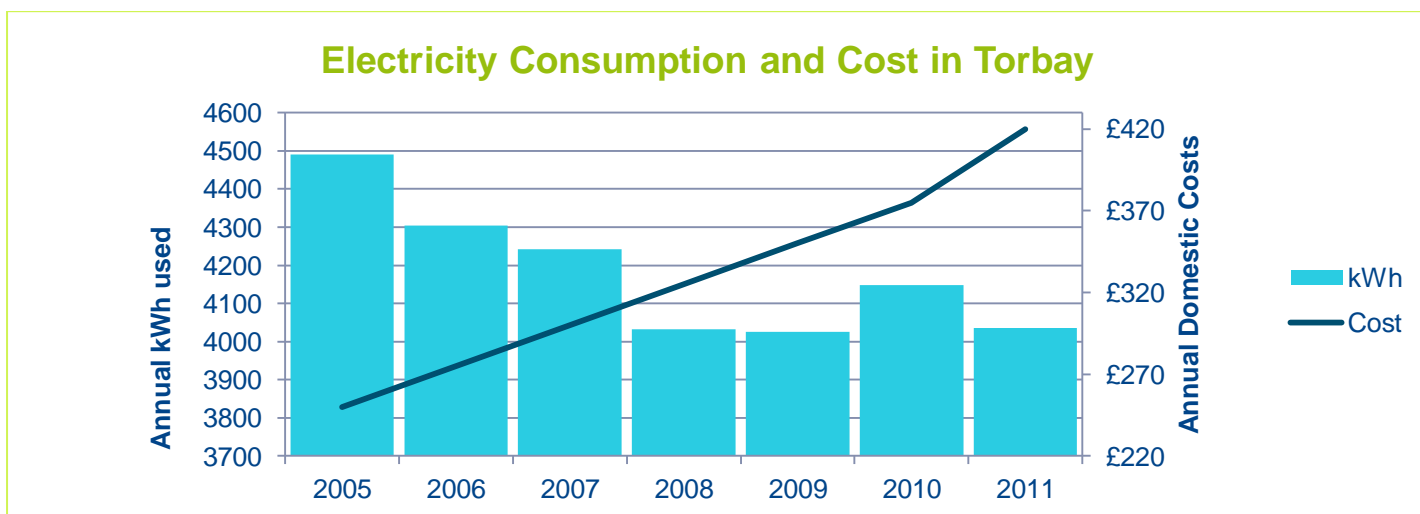
- 4.3. Increasing the amount of energy that is generated from home-grown renewable sources will reduce the UK's reliance on foreign imports and help to make the country more energy secure by protecting consumers from fossil fuel price fluctuations. Investment in renewable energy will also drive investment in new jobs and businesses as well as contributing to carbon reduction targets. Nationally, renewable energy will play a key part in the decarbonisation of the energy sector alongside nuclear, carbon capture and storage and improvements in energy efficiency.
- 4.4. In Torbay, there is an opportunity to develop local energy infrastructure, and to secure local energy supplies. This will help to cushion the resident and business community from rising energy prices; and will support the local economy, generate new jobs and contribute towards carbon reduction targets.
- 4.5. The geology of Torbay is considered unlikely to contain significant deposits of fossil fuels such as shale gas that would be commercially exploitable. However any proposals for mineral extraction, exploration, appraisal and production, including hydraulic fracturing ('fracking') will be assessed against Policy M1 and other relevant policies in the Torbay Local Plan.
- 4.6. The UK has signed up to achieve a legally binding EU target that 15% of total energy consumed will come from renewable sources by 2020.
- 4.7. Local authorities are required by the National Planning Policy Framework (NPPF) to help increase the use and supply of renewable and low carbon energy and to recognise the responsibility on communities to contribute to energy generation from these sources. The NPPF seeks to build a strong and competitive economy; support high quality homes and healthy communities; and conserve, enhance and protect the natural and historic environment whilst meeting the challenge of climate change and its associated effects.

Planning Policy Statement 1, Sustainable Energy Assessment identifies considerable potential for the deployment of a range of renewable energy technologies in Torbay to support economic, environmental and social outcomes.

www.torbay.gov.uk/sustainableenergyassessment.pdf

- 4.8. Existing renewable energy installations in Torbay provide a fraction of Torbay’s energy demand, and have the potential to significantly increase, delivering quick wins. The UK has seen high levels of solar PV deployment together with a significant reduction in the cost of installation. In total 1.2% of homes in the Bay have PV installed and proposals for ground and building mounted solar PV and small wind projects continue to come forward. Given Torbay’s higher levels of sunshine than other areas of the UK that have experienced higher take up of solar PV, there is potential for improvement.
- 4.9. The government has introduced financial support mechanisms for small-scale renewable energy: Feed-in-Tariffs and a Renewable Heat Incentive that is primarily intended to improve the economics of investing in renewable energy technologies for householders.

Energy price predictions suggest that further energy cost rises can be expected. This will impact all fuel types including petrol, diesel, gas, electricity, oil, liquid petroleum gas and even wood fuel and bio-fuel costs as the demand rises for alternatives. Domestic energy prices have risen by 140% between 2004-2012 against household income rises of only 20%.
- 4.10. In Torbay in 2011 there were 64,000 domestic electricity meter points, just under 3% of the regional total of almost 2.4 million. Commercial and industrial electricity meter points totalled 5900 just under 2.5% of the regional total of almost 2.4 million. An average of 3,928 kWh of electricity was used per consumer in Torbay, 9% (390 kWh) lower than the regional average of 4,318 kWh and 4% (167 kWh) lower than the England average of 4,095 kWh.
- 4.11. Domestic electricity prices have increased by 56% since 1998, and are predicted to rise by 35% (2015) and 45% (2020) based on central growth & fossil fuel price rise scenarios. Domestic gas price rises are expected to be +26% (2015) and +21% (2020) from 2014 prices.
- 4.12. Thousands of homeowners in Torbay have seen energy bills rocket in recent years. Whether due to the cost of space heating, hot water, electricity or the price of petrol, the UK’s energy crisis means consumers are seemingly powerless from preventing their bills rising significantly.



This graph illustrates the how annual domestic energy use has decreased and how bills have risen in Torbay in recent years.

- 4.13. In 2011 the total cost of domestic and commercial energy in Torbay was in the region of £462M which based on current predicted price increases over the next five years could reach £623M
- 4.14. Heating, lighting, driving vehicles and throwing away rubbish all lead to greenhouse gas emissions. Many local people are reducing their emissions through simple actions like using powering-down electrical appliances, using less water and recycling.
- 4.15. Neighbourhood planning provides an opportunity for communities to come together and understand and plan for their future energy needs. This could include measures to reduce energy demand and the development of community owned renewable energy projects.
- 4.16. There are a number of groups taking action in Torbay by developing their own local environmental projects. It is hoped that this level of interest will increase as localism and the neighbourhood planning agenda develops. Collaborative local action and community projects make new ways of doing things more attractive and acceptable and are important in influencing a shift to low carbon and more sustainable lifestyles.

5. Powering the local economy

- 5.1. The Torbay Economic Strategy 2013-18 seeks to develop the local economy while having a positive impact on the environment and recognises that low carbon development is important for sustainable economic growth. Torbay is a naturally beautiful area, and is big draw for both businesses and visitors. The local tourism sector already works to capitalise on this, as does promoting the Bays natural benefits to businesses looking for investment opportunities.
- 5.2. The number of low carbon sector local businesses in Torbay is growing and there is potential to develop inward investments from within the low carbon sector. There is a cross-over with the hi tech sector which is a key target market for Torbay, as many low carbon businesses are hi tech in their operations.
- 5.3. The coastal nature of Torbay lends itself to particular sectors, namely environmental and marine technology and tourism. Marine life and environmental research is an important sector in South Devon. Both Plymouth and Exeter are encouraging further growth, building on the high quality of research at the two Universities and the Plymouth Marine Laboratory, so there are great opportunities for a sub regional network and a knowledge based & research backdrop to the whole area. The facility at Brixham Environmental Lab owned by Plymouth University is part of the City Deal and is recognised as a strategic site.
- 5.4. The transition to a low carbon economy and sustainable lifestyles brings many business opportunities including the development and marketing of low carbon technologies. The low carbon sector has the potential to create significant employment opportunities in Torbay, supported by training and learning opportunities locally in response to evolving demand. In addition the projected levels of growth expected in Torbay over the next 15 years will bring significant opportunities for creating innovative low carbon solutions.
- 5.5. With increasing energy costs it makes sense for all businesses and organisations to actively improve resource efficiency and reduce their energy costs. A number of national and regional programmes are in place to incentivise this. Over time, their influence will result in some further reductions in emissions from the industrial and commercial sector in Torbay.
- 5.6. These programmes are aimed predominantly at energy intensive sectors and large organisations. Less energy intensive sectors (such as retail and business services) and Small to Medium Enterprises are also vulnerable to energy price rises (directly and via their supply chains), and together comprise by far the highest proportion of Torbay's industrial and commercial sector emissions.

- 5.7.** Efforts to localise sourcing of low carbon products and services will be crucial to ensure that local economic benefits are realised. Local production, sales and consumption of products and services close to where people live and work are important for local economic vibrancy and diversity, as well as reducing the need to travel to access products and services, and reducing the emissions embedded in the production process of the products we consume (e.g. food miles). Sustainable management of agricultural land and countryside, specifically woodland in Torbay can create both economic and environmental opportunities.
- 5.8.** In 2009/10 the low carbon and environmental technologies sector contributed £23M to Torbay's economy and provided 1,300 full time equivalent jobs. The low carbon economy is likely to require a diverse array of skills across many sectors, ranging from engineering and design, to waste management, transport technology, as well as renewable energy. By 2022 the retrofitting of energy efficiency measures to domestic properties in Torbay is anticipated to generate a further 200 jobs and add £50M to the local economy.
- 5.9.** The South West Energy Centre at South Devon College in Paignton specialises in energy related skills and training. It aims to help to fuel an economic recovery in Torbay and South Devon, driving demand and ensuring manufacturers, suppliers and installers have the skilled workforce needed, directly leading to the creation of many private sector jobs. The centre is a catalyst for private sector growth, opening up market opportunities in the green sector through activities specifically designed to drive up demand and promote growth.
- The Torbay Development Agency (TDA) manages incubation spaces within the Energy Centre to develop small low carbon local businesses.
- 5.10.** Efforts to localise sourcing of low carbon products and services help to realise local economic benefits. Local production and consumption of products and services close to where people live and work are important for local economic vibrancy and diversity, as well as reducing the need to travel to access products and services.
- 5.11.** The Heart of the South West Local Enterprise Partnership (HotSW) has identified growth in the low carbon and energy sector and is working with Torbay Council to maximise its potential through the Strategic Economic Plan.
- 5.12.** The Energy Company Obligation (ECO) scheme is funded by the large energy companies to install energy efficiency measures into homes including insulation, draught proofing and new boilers. The Devon Green Deal Partnership is a partnership of local authorities, working with Eon to fund energy efficient measures to eligible properties focusing on vulnerable people and those who struggle to pay their fuel bills. Through this agreement the amount of ECO funding invested is expected to exceed £18M per annum. In Torbay, this could translate to creating, or safeguarding, 156 jobs in the domestic eco-refurbishment sector until 2016 supported by the development of local workforce trained at the South West Energy Centre.
- 5.13.** The programme aims to cut energy bills and carbon emissions from homes by making energy efficiency easy and affordable for householders and businesses. In Torbay the Green Deal could equate to £34M of private investment in housing stock by 2015.
- 5.14.** ECO Warm Home Discount Scheme has the potential to help 5,000 households in Torbay to save up to £400 per year on energy bills by March 2015. People living in certain areas or claiming certain benefits are eligible for a free home assessment in addition to free energy saving measures.
- 5.15.** In 2013/14 Torbay was successful in securing £100,000 of Green Deal pioneer funding from DECC. This has provided 150 Torbay residents with free home energy efficiency assessments to help them take advantage of Green Deal financing. Using these funds, homes have had several energy saving measures installed and are being used as demonstration homes.

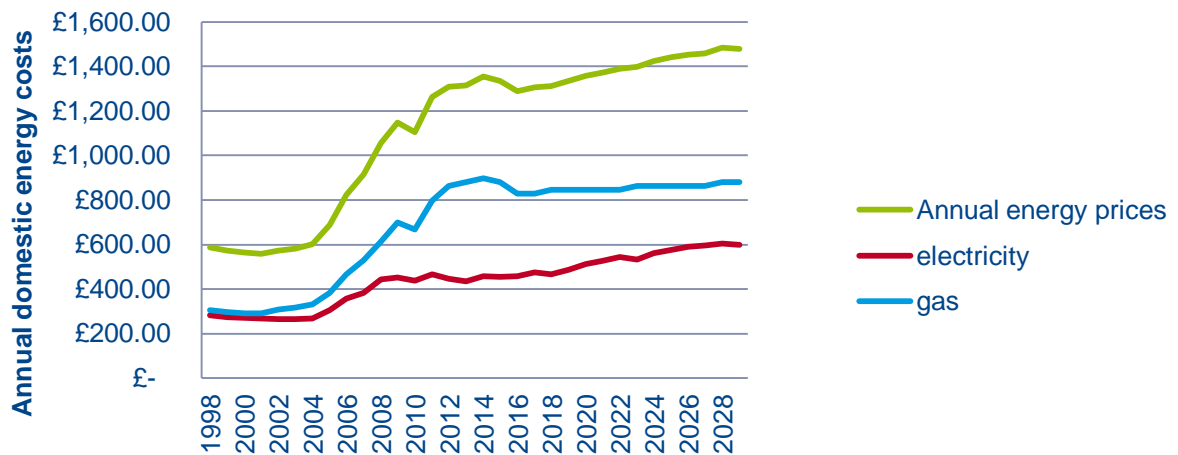
6. Energy efficient homes

- 6.1.** Domestic energy use is responsible for around a quarter of the UK's CO₂ emissions. It is estimated that poor insulation means around £1 in every £4 currently spent heating UK homes is wasted. A third of CO₂ emissions from housing relate to domestic space and water heating which could be significantly reduced through making existing housing stock more fuel and energy efficient.
- 6.2.** The domestic sector produces the highest proportion of Torbay's CO₂ emissions (47%). Improving the energy efficiency of local housing stock would help reduce Torbay's emissions, reduce fuel poverty and enable more disposable income to flow back into the local economy. The council's knowledge of the area puts it in a unique position to design and deliver effective domestic energy efficiency interventions.
- 6.3.** There are in the region of 64,000 domestic dwellings in Torbay of which 70% are owner occupied, 22% are privately rented and 8% are owned by housing associations. An Energy Saving Trust survey in 2013 estimated that 6330 dwellings needed loft insulation and 32,410 dwellings cavity wall insulation (Private Sector Housing Stock Condition Survey 2011). 11,400 homes have solid walls and are harder to insulate. For these hard to treat homes, improving the fabric of the building can be costly and involves long pay back periods.

Measure	Dwelling	% of stock
Loft insulation (top-up to 270mm)	36,000	53.6%
Cylinder insulation (70mm Jacket)	30,500	47.7%
Double Glazing (to all windows)	16,700	26.1%
Cavity Wall insulation	15,800	24.7%
New Boilers (High efficiency gas boilers)	12,400	19.4%
New Central Heating	3,000	4.7%
Any measure	53,800	84.1%

- 6.4.** Provision is being made in the Torbay Local Plan to potentially accommodate another 8 - 10,000 homes over the next 20 years and beyond. It is predicted that over this period 400-500 new dwellings will be built. These will bring a corresponding increase in energy use and associated CO₂ emissions. However, changes to Building Regulations will ensure that new-build houses are as energy efficient as possible, with a move to zero carbon homes from 2016 (and zero carbon non-domestic buildings from 2019). The national 'allowable solutions' approach could help Torbay invest in low carbon projects that deliver local carbon reductions. <http://www.zerocarbonhub.org/zero-carbon-policy/allowable-solutions>
- 6.5.** Energy price predictions suggest further retail energy cost rises over the coming years. This will impact all fuel types including petrol, diesel, gas, electricity, oil, liquid petroleum gas and even wood fuel and biofuel costs as the demand rises for alternatives. By 2016 as many as 1 in 3 households in the UK could be in fuel poverty.
- 6.6.** Higher energy prices have had a universal impact and will increasingly be severe on low income households in 'hard to heat' homes. These households spend a disproportionate amount of their income on fuel, and are said to be in 'fuel poverty' – a fuel poor household needs to spend more than 10% of its income on fuel in order to heat the home to an adequate standard.

Predicted annual domestic energy costs



Source: DECC, 2011

- 6.7.** Rising energy prices impact on all sectors. The importance of energy issues in relation to Torbay’s public buildings as essential social infrastructure should not be underestimated. Not all communities will be well equipped financially or socially to adapt to climatic and energy cost changes, however it is essential that key public services are not also eroded by rising costs, at times when they may be needed most.
- 6.8.** Each year, many people die or become ill due to cold homes. Evidence shows that living in poor housing can lead to an increased risk of cardiovascular and respiratory disease as well as to anxiety and depression. Aligning the environmental and health agendas on the health benefits of reducing fuel poverty and improving the thermal efficiency of existing housing stock is clear. In Torbay many people live in cold, damp sub-standard, energy-inefficient housing which is estimated to cost the South Devon Health Care NHS Trust in the region of £3.4M per year.
- 6.9.** Home energy use is responsible for over a quarter of UK CO₂ emissions and 44% of the Bay’s emissions, which contribute to climate change. Ultimately, by 2050 all dwellings will need to achieve an energy performance rating in the range of a high Energy Performance Certificate band B to A if we are to reach the target of an 80% cut in CO₂ emissions across the entire housing stock.
- 6.10.** The UK government revised definition of fuel poverty (August 2013) is that households that have fuel costs that are above average (the national median level) and were they to spend that amount they would be left with a residual income below the official poverty line. Previously a household was said to be fuel poor if it needed to spend more than 10% of its income to maintain a satisfactory heating. In 2010 it was estimated that 9400 Torbay households were in fuel poverty with 11.3% in the owner occupied sector, 12.5% in social housing and 28.8% in the private rented sector.
- 6.11.** In 2010 DECC statistics showed that 16% of the Bay’s homes were fuel poor with pockets as high as 23% in parts of the Bay. There are 11,475 existing solid wall properties and 18,765 properties with hard to treat cavities in Torbay. 27% of the Bay’s homes have solid walls with the proportion of solid wall homes rising as high as 95% in some localities. ECO funded solid wall insulation therefore has a potentially important role in improving the thermal efficiency of many of the hard to treat properties.
- 6.12.** Over 13,300 properties fail the Thermal Comfort Criteria of the Decent Homes Standard in Torbay (21%) than compared to nationally (13%). The private rented sector is worst with 36% of the stock failing the standard, equating to a total of 4,758 properties.

- 6.13.** The latest private sector House Condition Survey shows that a relatively high proportion of Torbay's housing stock are privately rented properties, 22% of the stock as compared to the National average of 14%. It is estimated that there are 8 portfolio landlords in Torbay accounting for approximately 6% of the rented stock. Their portfolios range in size from 40 – 250 properties, and consist of a range of accommodation from bed-sits to luxury flats.
- 6.14.** Government schemes to assist those in fuel poverty provide assistance to make homes more energy efficient and cheaper to heat, providing additional income and by reducing bills through energy price support schemes.
- 6.15.** Many homes in Torbay are inadequately insulated and are not energy efficient meaning the occupants are losing money. Up to 54,000 properties in Torbay (84%) could have energy efficiency measures installed at an average cost of £4,050 per dwelling. This could include retrofitting existing housing, prioritising the most cost effective measures such as cavity wall and loft insulation through the Green Deal and ECO.
- 6.16.** The Green Deal, launched in January 2013, aims to improve energy efficiency for home owners and businesses by removing the up-front costs involved in insulation and power generation measures to consumers, as the cost is instead recouped through savings on energy bills. <https://www.gov.uk/green-deal-energy-saving-measures>
- 6.17.** Government plans to regulate energy efficiency using the Energy Act 2011 expects that from 2016, landlords will not be able to unreasonably refuse requests from their tenants for consent to install energy efficiency measures, where financial support is available, from the Green Deal. From 2018, landlords will no longer be able to let buildings with an Energy Performance Certificate (EPC) rating of below E without showing that all cost-effective measures to improve energy efficiency have been implemented.
- 6.18.** The Energy Company Obligation (ECO) scheme provides funding support for some low income households from large energy companies. The Devon Green Deal Partnership is a partnership of local authorities, working with an ECO funding provider to deliver the free energy efficient measures to eligible properties and focuses on helping vulnerable people and those who struggle to pay their fuel bills. <https://www.ofgem.gov.uk/environmental-programmes/energy-companies-obligation-eco/eco-guidance>
- 6.19.** Smart metering will improve the efficiency of the energy network by balancing the energy supplies we have more accurately with our consumption patterns. In accordance with government proposals, all energy providers will be obliged to install 50 million gas and electricity meters installed in 27 million homes by 2020 allowing consumers to make more informed decisions to reduce their energy bills and carbon emissions.

7. Sustainable transport

- 7.1.** Transport is a major contributor to the UK's energy demand and greenhouse gas emissions. Significant reductions in demand and emissions will come from improvements to conventional engine technology and from developing vehicle technologies that will allow us to use low carbon fuels to power road vehicles.
- 7.2.** The UK Carbon Plan expects average emissions of new cars to fall by around a third over the next decade alongside a planned increase in the use of biofuels and emerging hydrogen technology. According to the Torbay and Devon Joint Local Transport Plan (LTP3), much or all of the decrease in emissions from improved vehicle efficiency and fuels could be offset by growth in road transport resulting from new development.
- 7.3.** Transport is a vitally important factor in economic growth, moving goods and workers, allowing people to access employment, services, friends and family, leisure and tourism activities and their wider communities. During 2011, 24% of CO₂ emissions in Torbay came

from road transport. The 6% fall in emissions between 2005 and 2010 was possibly influenced by factors such as improved fuel efficient vehicles and a decrease in road travel as a result of the economic downturn.

- 7.4.** Per capita transport emissions in the Bay are amongst the lowest in the South West peninsula at 1.2 tonnes. Around 40% of emissions are from the A-roads linking and running through the three towns, with the remaining 60% from smaller local roads. Around two-thirds of emissions are from cars with over half of car journeys being less than 5 miles in distance. In general road traffic is constant or declining, but with projected population growth this is likely to increase.
- 7.5.** In Torbay everyone can play a part in changing this by walking, cycling or taking advantage of public transport and considering innovative alternatives to travel. To reduce CO₂ emissions from the roads, the council will support behavioural change through engagement and education and physical infrastructure provision. The Local Sustainable Transport Fund (LSTF) is working to promote modal shift from single car occupancy to low carbon alternatives through a series of infrastructure projects, public transport service upgrades, collaboration with local employers, as well as behaviour change programmes.
- 7.6.** The long term plans set out in the Local Transport Plan focus on five goals; to reduce carbon emissions, support economic growth, promote accessibility, contribute to better safety, security and health and to improve quality of life and a healthy natural environment. The co-benefits from these measures encourage active travel that creates significant health economic benefits.

8. An energy efficient council

- 8.1.** In 2012/13 Torbay Council's £1.4M spending on electricity and gas equated to 13,541 tCO₂e (13.53 KtCO₂e) emitted. The council continues to realise significant financial savings and reduce its contribution to climate change through efficiency measures and continues to embed organisational change and develop behaviour change projects and policies that reduce costs and carbon in service delivery.
- 8.2.** Future challenges of increasing energy costs and reducing council capital and revenue budgets are significant. Government forecasts (DECC, 2011) estimate that energy inflation will rise between 5% (optimistic) and 10% (more realistic) in the short to medium term. This will raise the Council's energy bill significantly driving cost avoidance measures further.
- 8.3.** Torbay Development Agency's, Property Services and Asset Management teams monitor energy and water consumption from Council's buildings, including schools, libraries, and offices. Energy efficiency projects have been far ranging and have included voltage optimisation, draught proofing, solar filming, a water-less public toilet pilot, car park & street lighting and bollard upgrades, smart and automatic meter reading and the introduction of building management systems.
- 8.4.** Torbay Council's Local Authority Carbon Management Programme (LACMP) was based upon an invest-to-save model. Over the first two years of the programme (2008-2010) over £1M was saved when comparing energy use against a 'business as usual scenario' projected before the implementation of the Carbon Management Plan.
- 8.5.** Since 2008 a SALIX £280K fund has annually delivered eligible energy efficiency measures on council assets reducing electricity consumption and generating lifetime cost savings.
- 8.6.** Upgrades to highway lanterns, signs and bollards to low energy LED lighting have brought the cost of street lighting down. Additional investment in LED lanterns and centralised management system technology combined with conversions to white light sources, part night

lighting, dimming and removal of some lighting columns is expected to reduce the annual street lighting bill further.

- 8.7.** For seven consecutive years, the council has reduced business miles generating financial and carbon savings. These savings reflect the changes in attitude and behaviour towards staff travel, transformed services and more effective delivery of essential journeys.
- 8.8.** Up until 2013 the council responded to a range of national performance targets related to climate change, energy use and statutory annual emissions reporting under the Carbon Reduction Commitment (CRC). The council was subject to purchasing a 'Carbon Allowance' in the region of £160,000 a year. Current government policy indicates that Torbay Council will be exempt from future 'carbon tax' payments.
- 8.9.** Waste management makes a significant contribution to UK emissions of greenhouse gases, in particular methane from landfills. Other forms of waste management (e.g. recycling or incineration with energy recovery) can result in net reductions of emissions of greenhouse gases through energy recovery or materials recycling. The Council aims to influence a reduction of emissions from sources associated with outsourced services, such as domestic waste collection and processing, Street scene services and asset management and those emissions 'embedded' in procured products and services.
- 8.10.** Predicted future increases in household waste in Torbay, if not addressed effectively, will lead to significant increases in cost. The 2013/14 recycling rate of 44% reduces landfill costs and will continue to offset increasing landfill charges.
- 8.11.** The council will continue to work with TOR2 to develop recycling schemes, and create improvements to current collection schemes and promotional activities to encourage residents to recycle 50% of their waste by 2020.
- 8.12.** In 2014/15 Torbay will be sending its residual waste to an Energy from Waste facility in Plymouth. Over the life of the 25 year contract this incineration solution is estimated to save Torbay £106M against continuing with the landfill option. In carbon terms it will save the equivalent of around 73,000 tCO₂ (73KtCO₂) every year- this equals more than 700 hectares of forest, the size of 1,000 football fields.
- 8.13.** 8.13 The UK already holds a 3.5% share of the global market for low carbon and environmental goods and services, worth around £107 billion and employing 880,000 people in this country, with significant potential for that to grow. Current projections suggest that by 2014/15 the low carbon and environmental goods and services sector in the UK could be worth as much as £150 billion, and it is Torbay's task to claim a share of this benefit.
- 8.14.** The renewable energy and energy efficiency sectors in the South West region directly employ around 10,000 people and have an economic benefit of over £400 million GVA annually. There has been considerable growth in the low carbon sector, with direct employment within the renewable energy industry growing by 80% from 2008 and 350% from 2005, RegenSW predict that this is a trend which is set to continue
<http://www.regensw.co.uk/>
- 8.15.** The council has a unique role to play in capturing a proportion of this value for the local economy through job creation, wealth generation and addressing social deprivation. It has recognised this opportunity together with the potential to reduce the carbon emissions across the Bay and is working towards to establishing a vehicle which will facilitate the expansion of sustainable energy projects.
- 8.16.** The council is currently exploring the option of an Energy Performance Contract model (EPC). It would provide a structure which has the ability to adapt to changing legislation and policy over time, be financially self supporting with the ability to attract external finance whilst enabling partnership working and providing an agile procurement route for future projects.
- 8.17.** Identifying, controlling and managing risk associated with energy and climate change reduces the council's exposure to risk; reducing liabilities, insurable losses and potentially

insurance rates. The Corporate Risk Register considers the implications posed by the changing climate.

- 8.18.** Torbay Council uses the national Resilience Direct portal to facilitate multi-agency collaboration in an emergency. It is currently a pilot area in Climate UK's Severe Weather Impacts Monitoring System (SWIMS) and is supporting Environment Agency colleagues to provide appropriate support and guidance.

9. Flooding and drainage

- 9.1.** Torbay Council is a Lead Local Flood Authority (LLFA), it is responsible for delivering the statutory duties of the Shoreline Management Plan and Flood & Water Management Act and is preparing to become a Sustainable Drainage Approval Body (SDAB).
- 9.2.** The UK in 2013/14 experienced an exceptionally wet winter. It was the wettest January and winter season (December to February) since records began in 1766. The South West of England including Torbay suffered from both flooding and storm damage that caused significant damage and the closure of strategic transport infrastructure for prolonged periods.
- 9.3.** In addition to the transport impacts, flooding and storm damage affected homes, businesses, business continuity and communities across the Bay. As well as direct damage to individual businesses, there are signs that the 2013/14 weather events had an impact on tourism bookings.
- 9.4.** Protecting Torbay's communities, businesses and infrastructure from flooding is a pre-condition for sustainable growth. It is planning to undertake an assessment of the Bays coastal defences and assets to consider the implications of future sea level rise

10.A resilient Torbay

- 10.1.** The extreme weather events of early 2014 have once again highlighted the impact that extreme weather has on community resilience, transport, local government and the economy of the South West Peninsula. Severe flooding events, storm surges, tidal issues and high winds were experienced in Torbay having an impact on individual people, communities, infrastructure and economic performance. The whole region is southern Britain's front-line for intense storms tracking across the Atlantic under the influence of the jet stream. Climate change projections warn that such events will occur more frequently up to 2050 and beyond.
- 10.2.** The UK Climate Change Programme 2009 (UKCP09) starkly illustrates the changing weather patterns that are likely to be experienced in the UK as a whole and in the South West in particular. The increased risk of flooding in Torbay will be due to the combined predicted sea level rise and increased rainfall.
- 10.3.** Torbay needs to prepare and adapt to the changing climate to be ready for the impacts on homes, businesses, infrastructure and health that will arise from the effects of climate change. The climate will continue to change even if emissions are reduced to zero in the near future. Higher temperatures and heat waves, rising sea levels and more frequent, more intense storms are likely to lead to greater damage to property, utility networks, travel, and communications infrastructure and interruptions to business supply chains.

Furthermore, health and social care requirements and the way other public services are delivered are likely to change. Torbay Council will work with its partners in the National Health Service and with Public Health England to ensure it is resilient to and prepared for any health impacts arising from climate change.

The Department of Health and the Health Protection Agency published a draft report on the Health Effects of Climate Change in the UK. From this and other sources, climate change can be expected to cause an increase in deaths, disability and injury from:

- extremes of heat and cold;
- floods and storms, including health hazards from chemical and sewage pollution;
- food poisoning;
- respiratory problems from the damaging effects of surface ozone during the summer and mould growth in housing;
- skin cancer and cataracts;
- insect-borne disease from increases in flies and fleas

- 10.4.** Torbay Council as an estate manager, service provider and community leader plays a vital role in ensuring that climate change adaptation is taking place at a local level. Whilst some of the policies and proposals highlighted in this document are the responsibility of the council other policies and proposals cover areas of joint responsibility where there is a need to develop shared solutions. Local government, industry, communities and civil society all have important roles to play.
- 10.5.** The council's Corporate Business Continuity Strategy considers what critical functions and resources are required to deliver key products and services and identify the risks to these critical functions. Business continuity plans relate to business units and specific locations each considering external emergencies such as extreme weather, flooding, or infectious diseases.
- 10.6.** The council is working to gain a collective understanding of the most urgent climate risks as well as widespread commitment to action. Working in partnership with Heart of the South West Local Enterprise Partnership (HotSW) and regional local authorities, Torbay is contributing to the development of projects that help the Bay and its communities withstand extremes of weather more robustly.
- 10.7.** The council is working in partnership with HotSW and regional local authorities to draw attention to the urgent need for developing resilience measures. Torbay has lobbied central government for better rail links that meets the needs of 21st century businesses and visitors. The Peninsula Rail Task force is calling for faster and improved capacity whilst promoting electrification of the line.
- 10.8.** Torbay is reliant on a small number of strategic routes which means that the implications of closures, incidents and delays on both the highway and rail network are very significant. The resilience of vital infrastructure will continue to be high profile and will require investment both locally and nationally. The direct impacts of weather events that create damage to the condition of roads results in significant financial implications for Torbay Council.
- 10.9.** The completion of the South Devon Link Road will improve access to Torbay complementing proposals for a resilient additional railway line in the South West positioning Torbay as a global destination on the UK's main transport network.

11. Energy security case study

- Enable the installation of energy efficiency measures and improvements in existing homes, businesses, council and school buildings
- Support the delivery of the Green Deal and ECO in Torbay
- Disseminate information about incentives on the delivery of micro renewable technologies
- Investigate the creation of an 'allowable/off site solutions' fund to assist developers meeting their CO₂ reduction obligations and to deliver local renewable energy solutions

Torbay schools light the way forward by helping the environment and generating their own electricity.

Torbay Council has worked with schools in the Bay to install solar panels saving thousands of pounds over the panels' lifetime (25 years). In addition to the CO₂ emissions saved every year.

Projects like these are practical examples of the council working in partnership to reducing carbon emissions to become greener and save money. Our schools have a major part to play in helping Torbay become more environmentally friendly - not just by using renewable energy, but also as a resource that can be used to help educate pupils about energy security so they can pass the message onto their parents and carers.



12. Powering the economy case study

- Business resilience to climate change is becoming increasingly important. Incorporating the changing climate into planning is helping businesses to identify new opportunities and challenges. Planned change is more cost effective and less expensive than last minute, reactive actions. It has been estimated that every £1 spent on climate adaptation could save £4 in avoided damages. Some changes that can make businesses more resilient can be made without any direct costs such as changes to policy or procedures.
- Torbay Council aims to provide climate change advice and project development support to businesses in the Bay
- Strengthen local supply chains and promote the use of local goods (including food) and services within the parameters of procurement legislation
- Torbay Council is providing personalised travel plans to SMEs in key employment areas to support the new sustainable transport infrastructure

The Green Deal aims to cut energy bills and carbon emissions from buildings by making energy efficiency easy and affordable for householders and businesses. The government aims to insulate 14 million homes by 2020 through the Green Deal and says it should deliver energy efficiency and heating measures worth an estimated £1.3 billion. The Green Deal programme is expected to double the number of insulation and construction jobs to 60,000 by 2015.

www.torbay.gov.uk/greendeal



13. Energy efficient homes case study

- Enable the installation of energy efficiency measures and improvements in existing homes
- Market home energy efficiency improvement schemes and incentives under the Cosy
- Work with social housing providers and private landlords to improve the energy efficiency of Torbay's housing stock in partnership with Devon County Council (ECO/Green Deal)
- Investigate the creation of an 'allowable/off site solutions' fund to assist developers meeting their CO₂ reduction obligations and to deliver local renewable energy solutions

Through means of sustainable construction, the Bay's affordable housing projects will help to achieve a low carbon footprint for the community and minimise residents' home running costs. New homes will be designed to consider energy efficiency, water and surface water management, site waste management, household waste management and use of materials.

The Passivhaus example at the South West Energy Centre displays photovoltaic cells, smart meters, solar panels, rainwater recycling and permeable paving, excellent air tightness, significant levels of insulation and triple glazing. Photovoltaic cells will generate electricity for the residents and the solar energy generated will provide them with hot water, these combined with very high levels of insulation will result in significantly reduced running costs.



Did you know? Public consultation on a draft of Torbay's new Local Plan – "A Landscape for Success – The Plan for Torbay to 2032 and beyond" – is happening now!

A landscape for success

The Plan for Torbay to 2032 & beyond

It's an exciting, bold, positive, eye catching new plan for Torbay, focusing on:

- Economic recovery and success
- A better connected, accessible Torbay
- Protecting and enhancing a superb environment
- Making the most of opportunities from climate change
- More sustainable communities and better places

www.torbay.gov.uk/newlocalplan
<http://torbay-consult.limehouse.co.uk/portal/newlocalplan>

Get your comments in by **Friday 9 November 2012**

14. Sustainable transport case study

- Secure funding for rail improvements, to increase the rail network and improve multimodal access to local stations and journeys by train
- Provide bus infrastructure improvements, through the introduction of shelters, public transport timetable information and real time information both on site and through mobile technology

Citizen rail projects funded by Interreg (European Regional Development Fund) have provided more trains and better stations on the line between Exeter, Newton Abbot and Torbay as part of a £6.5m EU project focusing on local and regional railways. The project includes partners from Britain, France, Germany and the Netherlands and will run until September 2015.

Led by the Devon & Cornwall Rail Partnership, the project will include additional services between Newton Abbot and Paignton, local marketing and publicity campaigns, station improvements and building up community involvement in the line, through the establishment of a new community forum and encouraging volunteers and station friends groups, including the existing Torbay Line Rail Users' Group. <http://therivieraline.com/>



15. An energy efficient council case study

- Monitor energy consumption and implement behaviour change and energy management programmes to deliver more efficient use of corporate buildings and schools
- Review and rationalise the street, highways and car park lighting developing LED bulb replacement
- Continue to streamline and green the council's vehicle fleet and fleet operations
- Implement the staff travel plan and smarter working policies to reduce staff mileages
- Improve our understanding of the greenhouse gas emissions arising from outsourced products and services and use our influence to reduce them
- Consolidate and rationalise the council estate by making better use of space
- Help residents, schools and businesses reduce, re-use, recycle and compost their waste



Power Down is a Mayoral initiative to help all staff to develop an energy-aware culture at work to save money and make carbon savings. Energy is one of the largest controllable overheads in many local authority buildings so we are taking as many opportunities as possible to make savings and create long-term sustainable changes.

Reducing energy use makes perfect business sense; it saves money, enhances the council's reputation and helps in the fight against climate change.

The reality is that staff are just as important as energy saving devices. It is people that control the equipment and know how things get done.

16. Glossary

Carbon dioxide	CO ₂	Carbon dioxide is a gas in the Earth's atmosphere. It occurs naturally and is also a by-product of human activities such as burning fossil fuels. It is the principal greenhouse gas produced by human activity.
Climate change		A pattern of change affecting global or regional climate, as measured by yardsticks such as average temperature and rainfall, or an alteration in frequency of extreme weather conditions. This variation may be caused by both natural processes and human activity. Global warming is one aspect of climate change.
Defra	Defra	The Department for Environment, Food and Rural Affairs (Defra) is the government department responsible for environmental protection, food production and standards, agriculture, fisheries and rural communities in the UK.
Fossil fuels		Natural resources, such as coal, oil and natural gas, containing hydrocarbons. These fuels are formed in the Earth over millions of years and produce CO ₂ when burnt.
Greenhouse Gases	GHG	Natural and industrial gases that trap heat from the Earth and warm the surface. The Kyoto Protocol restricts emissions of six greenhouse gases: natural (carbon dioxide, nitrous oxide, and methane) and industrial (per fluorocarbons, hydro fluorocarbons, and sulphur hexafluoride).
Equivalent carbon dioxide	CO ₂ e	Equivalent carbon dioxide (CO ₂ e) describing how much global warming a given type and amount of greenhouse gas may cause, using the functionally equivalent amount or concentration of CO ₂ as the reference.
Kilowatt Hour	kWh	A unit of energy equal to 1000 watt hours. The kilowatt hour is most commonly known as a billing unit for energy delivered to consumers by electricity utilities.
Intergovernmental Panel on Climate Change	IPPC	The international body for assessing the science related to climate change. It was set up in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.
Local Authority Carbon Management Plan	LACMP	Carbon Trust's initiative to enable Torbay Council to apply a systematic and ordered approach to reduce carbon emissions.
Local Plan		The document sets out key issues, aspirations for the future, and policies for delivering and managing change to 2032. It forms the statutory basis for decisions on spatial planning within Torbay and builds on the ongoing engagement with Torbay's three Neighbourhood Forums.
National Planning Policy Framework	NPPF	Published in 2012 this key part of Government reform makes the planning system less complex and more accessible whilst protecting the environment and promoting sustainable growth.

Neighbourhood Plan		The Localism Act 2011 introduced new powers for people to make neighbourhood plans and neighbourhood planning orders. They are in addition to existing opportunities for community involvement, which are already part of the planning system.
SALIX		Salix Finance Ltd. delivers 100% interest-free capital to the public sector to improve their energy efficiency and reduce their carbon emissions.
Solar PV		Solar photovoltaic cells (PV) capture the sun's energy and convert the sunlight into electricity.
Torbay Development Agency	TDA	A public and private sector partnership created to ensure the regeneration and future sustainability of Torbay.

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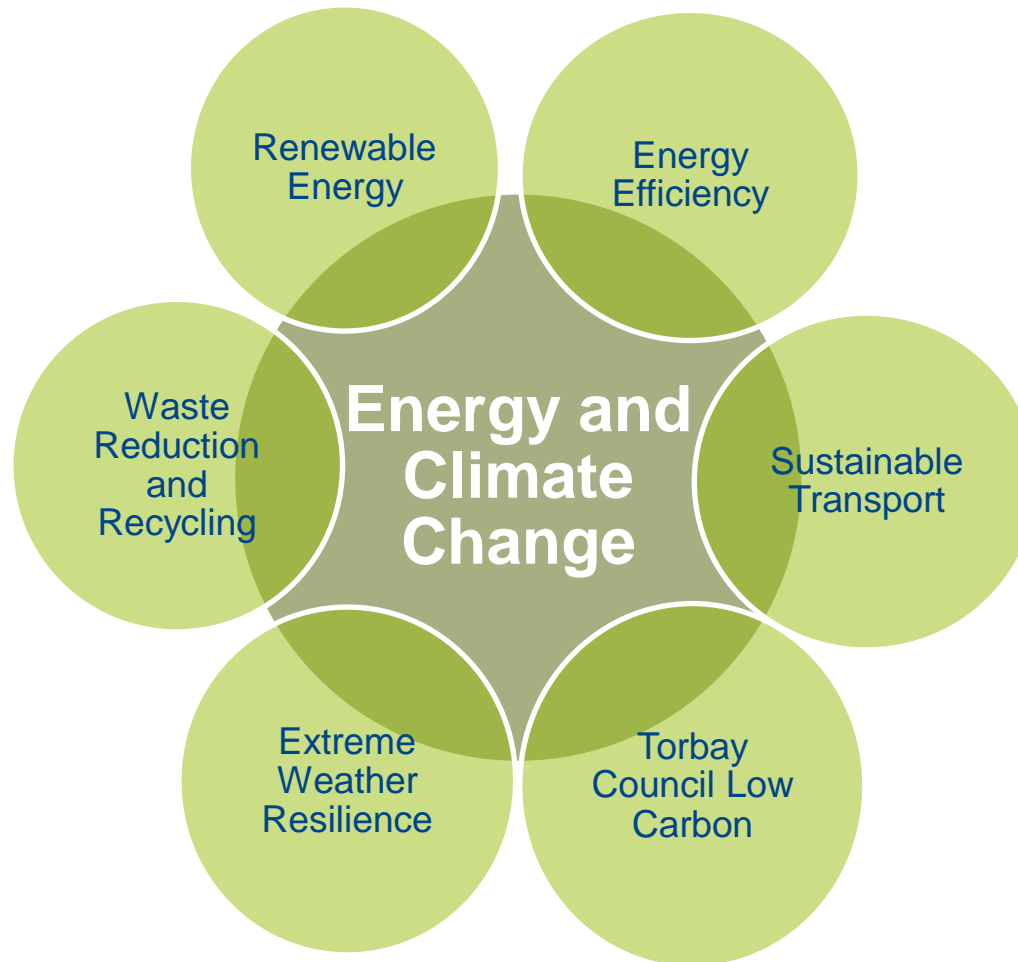
Torbay Council's Environmental Policy Statement was approved on World Environment Day 5th June 2013 and recognises the need use resources wisely and encourage others to do the same.

www.torbay.gov.uk/environmentstatement

For further information on this report or to request an alternative format please contact Environmental Policy on 01803 207750 or email sustainability@torbay.gov.uk

This report can be accessed via the internet: www.torbay.gov.uk/climatechange

17. Appendix 1: Energy and Climate Change Projects 2014-2019



Energy and Climate Change Action Plan

Torbay Council's energy and climate change projects will help to create a low carbon future, improve resilience to the changing climate and to keep resources in the Bay.

Energy and climate change projects underpin the council's response to core climate change issues and will result in capital investment from the private and public sectors over the strategy period. In order to deliver projects the strategy aims help support the council's ability to secure additional grants and investments from a variety of sources. Torbay Council will further seek to secure funding through the submission of bids as relevant funding opportunities arise.

Energy Efficiency

National energy efficiency programmes will deliver significant investment in Torbay over the next five years. There is also considerable potential for Torbay Council to work in partnerships and encourage low carbon private sector development. Torbay Council will promote activity and involvement in energy efficiency measures and renewable energy generation to the community and businesses.

Project	Action	Funding	Timescale
Energy Company Obligation (ECO) projects as a bay wide initiative focusing on areas most at need	Delivery of ECO projects working with vulnerable residents, and hard to treat properties 100% funded by EON supported by officer time	£1.6M up until March 2015 to deliver 1113 energy efficiency measures in Torbay	Phase 1, 2014/15 with delivery to be extended over the length of the strategy subject to contract performance
Green Deal projects for homeowners, private tenants and landlords	On-going promotion of national schemes	100% funded by national government supported by officer time as part of the Cosy Devon brand	Market led over the duration of the strategy
District heating/Combined Heat and Power	Support and progress development where appropriate. Supported using officer time	Assessed for suitability on developer application	Developer led over the duration of the strategy

Energy efficiency and investment in renewables in the built environment	Many potential projects could be developed once funding has been secured	Developer contributions through Section 106 agreements and future Community Infrastructure Levy will be sought and there will be potential for funding schemes through European funding. Use 'allowable solutions' funding to deliver additional energy efficiency projects. Supported using officer time	Projects will be delivered over the duration of the strategy as funding is secured
Torbay Council partnership working with the South West Energy Centre and TDA	Projects that encourage low carbon economy e.g. Innovation Centre incubation units	Supported using officer time over the period of the strategy	On-going over the period of the strategy 2014/19

Sustainable Transport

The Local Transport Plan 3 (LTP3) details projects and activities that will deliver economic benefit, carbon reduction, and increased resilience in Torbay. The council will work with local and regional partnerships to ensure road and rail links are as resilient as possible. Capital funding will continue to come from our annual LTP Integrated Transport grant from Government and major scheme funding. The Local Sustainable Transport Fund (LSTF) provides capital and revenue funding to March 2015 with bus revenue support budgets of LSTF related services.

Project	Action	Funding	Timescale
Railway station developments	New station subject to Local Enterprise Partnership funding 2017/18. Torquay, Torre and Paignton station improvements in development. Supported using officer time and pre-development funding	Subject to Local Enterprise Partnership funding	Pre development phase 2014/15 towards delivery 2017/18
Sustainable transport initiatives	On-going including walking, cycling, public transport initiatives and travel planning. Supported using officer time	Capital funding will continue to come from our annual Local Transport Plan Integrated Transport grant from Government and major scheme funding	Projects will be delivered over the duration of the strategy as detailed in the LSTF
Real time bus information	Baywide real time bus/travel information system	Funded from the Better Bus Area Fund Grant of £514,000 in 2014/15	Real time bus/travel infrastructure and delivery going live 2014/15

Electric vehicle charging points	Planned 3 x installations 2014/15.	Grant funded (75%) from the Department of Transport with council support from existing budgets.	Project delivery due to be started 2015
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Torbay Council Low Carbon

Energy efficiency will be implemented on council buildings and assets. This can be achieved by using funding methods such as an energy performance contract; a council invest to save model and the development of an energy service company. The council will continue to develop staff travel policies and work practices that reduce carbon emissions, save money and resources.

Project	Action	Funding	Timescale
Buildings and assets energy efficiency projects	Projects based on funding opportunity and business cases. Begin the first phase of an energy performance contract to generate energy reduction measures on appropriate corporate buildings	Project funding based on opportunity and business cases	On-going projects 2014/19 based on funding opportunity and business cases
SALIX funded energy efficiency projects	Torbay Council matches the Carbon Trust Salix Fund as a long term loan to create an annual energy efficiency fund. Leadership and support for the delivery of this fund is provided by the Torbay Development Agency	Currently £140,000 is available to departments to enable investment in projects to reduce energy costs and CO ₂ emissions. Projects need 100% matched funding from existing council budget	Eligible projects to be delivered based on available match funding
Staff awareness, training and education	Development of relevant <i>learn</i> training modules. Inclusion of energy efficiency in staff induction plans, staff code of conduct and promotion via internal communications	On-going internal communication and initiatives developed using officer time. Officer time to secure council involvement in national campaigns like Climate Week based on existing budgets	Annual programme of local and national campaigns. Staff policy development over the period of the strategy 2014/19
Environmental management system	Development of an EMS	Business case development based on ISO14001 using invest to save principle and officer time	Initial project development 2015

Street and car park lighting	On-going management and up-grading improvements	Use eligible SALIX funding on an annual basis with match secured on an invest to save basis from council budgets	Annual review of opportunity and delivery where appropriate
Policy delivery	Further develop and embed the Sustainable Procurement Policy, Environmental Policy Statement , Corporate Travel Plan and IT solutions	Use office to time to progress	Annual review of policy to improve and further develop delivery

Extreme Weather Resilience

Working in partnership to reduce our vulnerability to extreme weather events, sea level rise and flooding.

Project	Action	Funding	Timescale
Environment Agency and South West Water partnership projects	Haldon and Princess Pier projects (subject to funding)	Support the development of flood defence projects, community resilience and flood warden schemes using officer time	Close partnership working to secure investment. Ongoing flood steering group meetings
Coastal Defence Study	Undertake an assessment of Torbay's coastal defences and assets in respect to flooding	Subject to Environment Agency funding	2015/16
Sustainable Drainage Approval Body	Confirmation of approval body status due 2015	Funding provided via Sustainable Drainage Authority status	SDAB status to be confirmed by government 2015/16
Peninsular Rail Task Force	Safeguarding and improving the strategic rail links to the South West	Supported using officer time	On-going monthly meetings
Local Resilience Forum	On-going partnership working with Devon, Cornwall and the Isles of Scilly Local Resilience Forum	Supported using officer time	On-going monthly meetings
Resilience Direct/Severe Weather Impact Monitoring System	Torbay Council to use and support the development of national systems	Supported using officer time	On-going project development and engagement

Waste Reduction and Recycling

The Torbay Council Municipal Waste Management Strategy details projects and activities that will reduce waste, improve recycling rates and manage residual waste in Torbay.

Project	Action	Funding	Timescale
Waste reduction	Work with TOR2 to improve efficiency of the service and jointly develop projects that improve collection schemes	Supported using officer time and existing budgets	2015/16
Recycling	Work with TOR2 to jointly develop recycling education projects and promotional activities to encourage residents to recycle 50% of their waste	Supported using officer time and existing budgets	Annual recycling plan agreed with TOR2
TOR2 Carbon Plan and reporting	Work with TOR2 to agree Carbon Plan and annual carbon report	Supported using officer time	Carbon plan agreed to the end of the strategy and monitor annual carbon report

Renewable Energy Projects

The council will support the community and businesses in the development of renewable energy where possible. The potential to deploy solar PV and biomass boiler projects on council buildings and assets will continue to depend on robust business cases that show a return on investments.

Project	Action	Funding	Timescale
Energy from Waste facility	Residual waste to be taken to Plymouth Energy from Waste facility from 2014/15	Funded from existing budgets with estimated savings of £29M over 25 years	Project due to commence 2014/15
Solar PV projects	Appropriate projects could be developed on council assets	Council project proposals will be considered based on their own business cases	Projects considered on their own individual merit as they come forward as opportunities. On-going projects 2014/19 based on funding opportunity and business cases

Biomass projects	Appropriate projects could be developed on council assets	Council project proposals will be considered based on their own business cases	On-going projects 2014/19 based on funding opportunity and business cases
Renewable heat projects	Support and progress development where appropriate e.g. Micro-renewables/ heat pumps	Based on individual invest to save business cases using the national Renewable Heat Incentive scheme	Projects in 2014/19 based on funding opportunity and business cases

