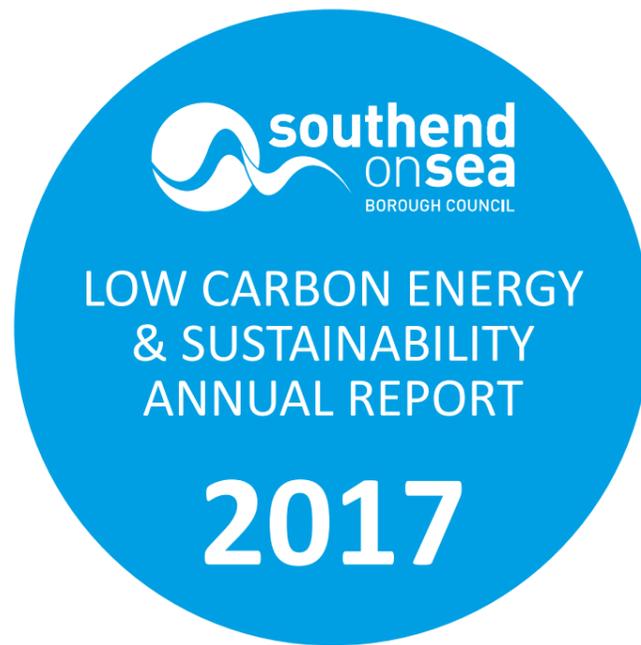



LOW CARBON ENERGY
& SUSTAINABILITY
ANNUAL REPORT
2017



This document includes:

- the Council's key achievements over the past year and
- 2015/2020 corporate vision to become a 'Low Carbon, Smart City by 2020

Councillors and senior managers monitor progress against the targets set out in the Council's Low Carbon Energy & Sustainability Strategy 2015-2020 on a regular basis.

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FORWARD BY COUNCILLOR ANN HOLLAND

Executive Councillor for
Culture, Tourism and the
Economy (Deputy Leader)



We are proud to be one of the very few local authorities in England that publishes an annual report on the progress that we, as a Borough, are making in terms of improving our environmental performance and helping to create a more sustainable and vibrant urban landscape for all of our residents, local communities and businesses to enjoy.

Why do we do this? We believe that adopting a proactive approach on carbon reduction and the wider sustainability agenda presents some fantastic opportunities to tackle issues around air quality, fuel poverty and adapting to the future impacts of climate change.

In 2015, we launched our second Low Carbon Energy and Sustainability Strategy that set some very ambitious goals that, by 2020, would see Southend on Sea recognised as a 'low carbon, smart city'. It was also an acknowledgement that we, as a Council, needed to demonstrate leadership on this agenda and showcase the benefits that a more sustainable urban landscape can bring to those who live, work and visit our Borough.

We have made great strides since 2015, completing a £13.5 million LED street light replacement programme through a pioneering finance agreement with the Green Investment Bank, secure domestic and European funded grants to deliver projects that positively address issues around building climate resilience across our urban landscape, reduce flood risk and provide support to our schools so they can reduce their carbon emissions.

Southend Energy continues to grow and in just two years has saved residents in excess of £1.5 million on their energy bills at no cost to the taxpayer. In a bid to tackle fuel poverty we launched LEAP, - a new project designed to build sustainable communities and offer energy saving advice and deliver energy saving measures.

The low carbon and environmental goods and services sector is now valued at a staggering £3.4 trillion globally and is worth £122 billion to the UK economy every year. It is clear that this provides a prime opportunity for sustainable growth and we fully intend to play our part in helping Southend on Sea become a low carbon, smart city and make the most of new innovations and sustainable solutions for the benefit of those who live and work in the Borough.

With local and global demand for products continuing to grow, particularly in the context of the Paris Agreement, the low carbon and environmental goods sector will become an increasingly important part of local economies across the UK.

This is just one of the reasons that we were delighted to be part of a successful £18.5 million project called LoCase, which helps local businesses optimise their use of resources and adopt new eco-innovations and low carbon solutions to reduce their carbon emissions.

Going forward we want to continue to build our knowledge base and understanding of how we can continue to deliver low carbon and sustainability projects across our six key focus areas. We are almost half way through our Low Carbon Energy & Sustainability Strategy and have delivered in excess of £19 million worth of low carbon investments.

With your support we can accelerate our journey to becoming a 'low carbon, smart city' and help create a more sustainable, vibrant and low carbon economy for the benefit of all those who call Southend on Sea their home.

OUR SIX KEY FOCUS AREAS:

FOCUS AREA ONE

Reducing our Carbon Emissions

FOCUS AREA TWO

Policy & Regulation

FOCUS AREA THREE

Delivering a Local Low Carbon Economy

FOCUS AREA FOUR

Sustainable Communities

FOCUS AREA FIVE

Encouraging Sustainable Transport & Travel

FOCUS AREA SIX

Climate Change Adaptation



OUR ENERGY & SUSTAINABILITY HIGHLIGHTS

2016/2017

Launched our new Digital Strategy & SMART City 'Intelligence Hub'

Savings of **£123,000** through a new energy billing system

1,274 solar panels deployed on school buildings

Replaced **14,500** street lights delivering **57%** energy savings

64,600 tonnes of waste diverted from landfill

Named as one of the UK's 'Greenest' Cities for a 3rd year running

EU funding success of **€3.4m** to reduce carbon emissions across our schools

Named as one of the UK's 'Greenest' Cities for a 3rd year running

helped secure **£18.5m** for SMEs to deliver energy efficiency projects

£3.3m secured to promote active transport & launched the MotionHub project

enabled **£1.5m** of savings for residents through Southend Energy

Achieved a **66%** reduction in our CRC submission in **5** years

1. REDUCING OUR CARBON EMISSIONS



Our Vision is to lead by example by taking positive action to reduce carbon emissions and improve the energy efficiency performance and sustainability across our property estate.

We will identify ways to reduce our energy bills, generate new revenue streams, ensure buildings are energy efficient and increase the uptake of renewable and low carbon technologies in our buildings and infrastructure. We aim to improve our overall environmental performance and become a more sustainable organisation in the process.

A POSITIVE APPROACH TO CARBON REDUCTION

Many of the solutions we need to deliver a low carbon future already exist in the marketplace. However, the technologies are not deployed at a rate that makes them economically feasible to deliver at scale. A major role that we can play as a Council is to find ways to help reduce these costs and find quicker, more efficient ways to roll out these solutions across our Borough.

We are delighted to work in partnership with Imperial College London - one of the world's leading research institutions in the field of energy systems. It enables us to operate at the forefront of the energy market, identify and implement new solutions and innovations that benefit our residents, local communities and businesses. It also presents opportunities to apply for funding via sources such as Innovate UK and Horizon 2020 and we will continue to look at how we can deliver sustainable energy projects across Southend on Sea.

However, our focus is not just on how we can deploy a greater number of energy efficiency or renewable energy projects in the Borough. We also look at how we can generate cost savings on our utility bills and in late 2016 we implemented a new system that to date has provided savings of £123,000.

Work has involved ensuring that utility companies pay back the Council any over charged bills and has enabled us to switch energy accounts to ensure that we always secure the most competitive prices.

A 66% REDUCTION IN CRC EMISSIONS IN FIVE YEARS

Each year we are required by central Government to make a submission under the Carbon Reduction Commitment (CRC) - an initiative designed to encourage large organisations to reduce their carbon emissions by becoming more energy efficient.

Since the CRC began, we have implemented a carbon reduction programme across our property estate, where we have looked for opportunities to deliver carbon reduction cutting measures on all applicable buildings.

In the 2016/2017 CRC Reporting Year we submitted our annual figure as 6,808 tonnes

of carbon - equating to a total payment of £109,609.

In the 2012/2013 CRC Reporting Year the total figure submitted was 19,926 tonnes of carbon, which represents a saving of 13,118 tonnes of carbon over a 5 year period, or a 66% total reduction!

There have been changes to the scheme (for example schools have been removed and street lights have been added) but it does demonstrate that our carbon reduction programme is working and delivering financial savings.

DELIVERING SUSTAINABLE SCHOOLS IN SOUTHEND

One of the key objectives of our Low Carbon Energy and Sustainability Strategy (2015-2020) was to prioritise helping schools within the Borough reduce their carbon emissions and become more sustainable. We were therefore delighted to be involved in a successful EU funding bid that secured €3.4 million to support our schools and help deliver energy efficiency and cost savings.

The funding was awarded by the INTERREG North Sea Programme and brings together organisations from the UK, Belgium, the Netherlands and Denmark to identify how energy projects can be delivered on school buildings, whilst educating pupils on matters ranging from carbon reduction through to climate change.

The funding will enable the Council to work directly with 20 schools in the Borough to deliver a pupil led behaviour change programme that will reduce the school's carbon emissions by a minimum of 15%.

We will also use the 2IMPRESZ project to identify larger energy efficiency projects that will deliver more than the 15% carbon saving. For example, looking at how we can fund new LED lighting or building management systems, or even looking at how we can deploy renewable technology, such as solar PV.

In addition to the energy projects that we deliver across our schools, we provide a recycling and education programme that is delivered by Veolia. It focusses on anti-littering messages and wider social responsibility and other environmental themes.



Our aim is ensure that we can continue to deliver and replicate successful energy project across our schools. We have already deployed 1,274 solar panels on three primary schools to help reduce their energy costs and 2IMPRESZ provides an excellent opportunity to support an additional 20 schools to mirror that success.

JEREMY MARTIN

ENERGY & SUSTAINABILITY MANAGER
SOUTHEND BOROUGH COUNCIL



A NEW APPROACH TO DOMESTIC ENERGY

More than 50% of domestic energy bills are now made up of non-energy costs, e.g. the costs of operating the energy grid and providing power to households. It is contributing to rising energy costs and will do for the foreseeable future. Yet, the energy market is changing quickly and there are now opportunities for households to sell energy back to the electricity grid, generating money that will offset higher energy bills.

Earlier in 2017, we approved the development and launch of a new initiative that would support the growing solar PV and battery market. The Energy Opportunities Project will launch a set of standards to help purchasers choose quality suppliers and propositions.

Solar PV still represents a good opportunity for households to generate electricity and secure a financial return on their investment. Yet, associated energy tariffs have reduced as the cost of solar panels come down.

However, if batteries are also installed to store the energy that the solar panels generate the process becomes much more efficient and

enables householders to better manager their supply.

The best way to manage this is to buy a complete management package, consisting of solar PV and battery. The technology is paid for through the energy savings that the systems provide - typically saving a household around 20-30% on electricity after the equipment and finance is paid back.

Energy Opportunities is there to provide exact standards for this market and to ensure that residents in Southend on Sea have confidence in the technologies. It will be ready for launch in early 2018.

2.

PLANNING & REGULATION



Dur Vision is to apply the local planning framework positively to ensure maximum benefit for our residents, communities and businesses. We will ensure all new development in the Borough is designed and built to be energy, climate and resource efficient (including water) and that existing development is adapted, where feasible, to enhance its long-term sustainability.

We will seek to increase the amount of energy derived from renewable technologies across the Borough and work to identify areas of opportunity for renewable, decentralised and low carbon projects.



NAMED AS ONE OF THE UK'S 'GREENEST CITIES'



For a third consecutive year Southend on Sea was named as one of the top three 'greenest cities' in the UK by both the UK Vitality Index and Cities Outlook. Both are national indices that report upon the health of the UK's largest cities and towns (outside of London) and take into consideration the volume of CO₂ emissions per capita and performance in terms of household waste that is being recycled. It provides an excellent incentive to continue pushing our credentials and ambition of becoming a 'low carbon, smart city'.

DELIVERING A LOW CARBON FUTURE

With an additional £79 million going in to our capital programme in 2017/2018, we have plenty of opportunities to embed low carbon and sustainability into the future of our town. We have made a commitment to ensure that we consider the deployment of sustainable energy projects and green infrastructure into all planned developments, regeneration schemes and infrastructure programmes, supporting private developers to do the same.

We have ambitions to make Southend on Sea the number one coastal destination in England and our capital programme can play a major role in achieving that.

Projects for 2017/2018 include:

- an expanded secondary schools programme
- a new social care campus
- the Innovation Centre at the Airport Business Park Southend
- further investment in our housing stock
- projects for the Pier, parks and car parks.

With £213 million being committed into the programme over the next four years it

represents the chance to achieve our aims of becoming a low carbon, smart city. We will ensure that all new builds and infrastructure projects are built to promote a sustainable future and support nationwide action to reduce our total carbon emissions.

By improving the quality of existing attractions and facilities, whilst making the most of new developments coming online, such as the proposed museum on Southend Seafront, we will ensure that we continue to enhance sustainable transport and travel options to make it easier for people to get into the town and keep their environmental impact low. Our work on sustainable transport is discussed in Focus Area 5 of this Report.



CREATING A BETTER, 'GREENER' QUEENSWAY

Better Queensway is a long-term project that will completely change the Queensway area in the coming years. It will take the form of a £400 million development that creates a more sustainable community, made up of quality housing, community facilities, shops and improvements to public spaces, road networks and the local environment.

OUR HOUSING STOCK

In early 2017 we completed a £2.8 million development that saw a total of 18 new homes built by the Council in Shoeburyness. It was the first housing development we have undertaken since 1989 and provides a great template of how we can include renewable energy, such as solar and energy efficiency technologies in all future builds.

In June, we announced that the Council would be launching a new housing company that is tasked with increasing the supply of housing for local people to buy and rent. We have again made a commitment that all new builds will have sustainability as a core principle and will encourage private developers to take the same approach.

We have also secured the Energy Saving Trust's Home Analytics Kit, which will help us track down opportunities to help implement energy efficiency projects for households across the Borough.



A Better Queensway is the biggest and most ambitious regeneration project that the Council has undertaken in recent memory and provides us with the opportunity to deeply embed sustainability at its core.

Ensuring we deliver an exemplar project in terms of sustainable design, energy use and transport is vital. We can use A Better Queensway as a template for all future developments in the town going forwards.

EMMA COONEY
DIRECTOR OF REGENERATION &
BUSINESS DEVELOPMENT
SOUTHEND BOROUGH COUNCIL

3.

DELIVERING A LOCAL LOW CARBON ECONOMY



Our Vision is to facilitate the growth of a local low carbon economy in Southend on Sea, which will see benefits around the creation and retention of jobs, support local businesses become more energy efficient and aid local regeneration.

We want to ensure that organisations operating within the Borough can benefit from reducing their energy consumption and carbon emissions in terms of associated cost savings. Our aim is to see these savings being invested back into the local economy and promote the associated benefits in health and well-being and financial strength.

SUSTAINABILITY AND OUR SMART CITY AGENDA

Enabled by markedly improved connectivity, we are working with partners to drive forward a number of SMART technology led initiatives that support our ambitions to make Southend on Sea a low carbon, smart city. This includes the launch of a new Digital Strategy and our own 'Intelligence Hub'.

The Southend Digital vision is to utilise technology to support our aims and prioritises creating opportunities for energy saving, carbon and cost reductions and promotes sustainable economic growth.

Initially, our focus has been on projects that will improve traffic flow and parking management, alongside extended environmental monitoring that will help us track progress on issues around air quality, carbon emissions and flood monitoring.

Data from sensors and cameras deployed across the Borough (e.g. through our LED street lighting) will be relayed back into our new 'Intelligence Hub'. This provides us with remote management facilities and enables automated responses to be triggered that can help address congestion or offer pre-warnings relating to flood risk.

We are also investing in telehealth solutions and self-monitoring at home of long-term conditions. This links strategically to our work around tackling fuel poverty in the Borough.

GROWTH OF SOUTHEND'S LOW CARBON AND ENVIRONMENTAL SECTOR

The low carbon and environmental goods and services sector is now valued at £3.4 trillion globally and £122 billion in the UK. It presents a prime opportunity for growth and over the coming decades will play an increasingly important part of our local economy. As a Council we have a vital role in helping to identify these opportunities for our town's businesses.

The sustainability agenda provides plenty of opportunities for Southend businesses seeking to improve their productivity and profitability. This was showcased with our involvement in the Thames Gateway South Essex Low Carbon Business Programme, which helped businesses based in the South East realise £2.6 million in annual savings, deliver 4,900 tonnes of carbon savings and invest £6.3 million of total low carbon investment in the region.

Since the completion of the Low Carbon Business Programme we have continued to have success with funding consortiums that offer opportunities to business across our Borough. For example, the KEEP + programme - managed by Anglia Ruskin University - is a £9.3 million scheme that provides local companies with access to graduates and researchers across the whole of the UK, whilst South East Business Boost is there to help SMEs and start ups to grow and flourish.

We also work closely with the Southend Business Improvement District to help keep key shopping areas clean and this Summer launched an anti-littering campaign in Southend High Street and along the sea front - trialing some new communication messaging that we hope to replicate across the Borough in the near future.



SUPPORTING THE (LO)CASE FOR SUSTAINABLE BUSINESS

We have a strong working relationship with the South East LEP, which has provided an excellent opportunity for the Council to take part as a partner in the £18.5 million European funded Low Carbon Across the South East Programme (LoCase).

LoCase is designed to help businesses optimise their use of resources and adopt eco-innovative and low carbon solutions in ways that improve business performance. This includes building resilience and improving profitability and competitiveness while at the same time contributing to the protection and preservation of the environment.

The project provides business support to SMEs in the form of a grants programme that can help a qualifying business to install energy efficiency measures in their building that help cut associated carbon emissions or provide development funding if a business offers low carbon goods or services.

www.locase.co.uk



We've had some tremendous success stories through the Low Carbon Business Programme and LoCase represents a great chance to continue that. Helping local businesses to deliver cost savings and enhance their ability to support Southend's ambition to become a low carbon, smart city by helping the Borough take steps to reduce its carbon emissions.

NIKKI MICKLEBURGH
ECONOMIC DEVELOPMENT OFFICER
SOUTHEND BOROUGH COUNCIL

4.

SUSTAINABLE COMMUNITIES



Our Vision is to place communities at the heart of Southend on Sea's transition to a low carbon and sustainable future. We will help to facilitate the growth of community led action to help meet local needs, address fuel poverty and develop local energy projects.

We envisage that this will provide our residents, communities and businesses with the opportunity to use more sustainable forms of energy and save money on their fuel bills.



MAKING THE BOROUGH SPARKLE

With more than 80 parks and green spaces, plus 14 conservation areas situated across the Borough, there are plenty of opportunities to 'Make Southend Sparkle' - an initiative that is designed to encourage and support local residents, schools, groups and businesses enhance their local area, for example by getting involved in green projects to improve the street scape and local environment.

Three of our Borough's beaches achieved the prestigious Blue Flag Award, with all seven of our beaches securing a Keep Britain Tidy Seaside Award - being rated by the Department for Environment, Food and Rural Affairs as either 'Excellent' or 'Good'. We are proud of these achievements, particularly at a time when there is growing concern over the issue of plastic pollution and our oceans.

In 2016/2017 we saw 64,600 tonnes of waste diverted from landfill and treated at the Mechanical Biological Treatment Facility at Basildon. This saw a 48% reduction in waste that was sent to landfill compared to the previous year, whilst the recycling rate over

the same period was 46/6%. We have began work with the Sustainable Cities Cluster to identify how we can deliver specific projects that help reduce plastic pollution further.

We have seen 4,400 tonnes of food waste sent to anaerobic digestion plants, where they turn the product into energy, which is used to power the plant and as digestate for agricultural applications. 8,900 tonnes of garden waste was also collected.

Finally, we have worked across borders with other local authorities in the county to deliver the 'Love Essex' anti-littering campaign. This ensures a consistent message is delivered wherever you travel in the county.



TAKING ONE GIANT 'LEAP' WITH OUR COMMUNITIES

In June 2017, we launched the Local Energy Advice Programme (LEAP) in the Borough - in essence it is an energy efficiency scheme that is funded by the Government's Energy Company Obligation (ECO) to help fund carbon reduction and energy efficiency measures that are all geared towards tackling fuel poverty. We are one of just 25 local authorities in England that are benefitting from this exciting opportunity for local residents.

LEAP is being run by AgilityECO and launched in July 2017 to provide free of charge home visits to vulnerable people in the Southend on Sea Borough following a referral from the Council. The service is open to those living in owner-occupied or private rented sector housing as long as they meet certain criteria, for example they are on a form of benefits or suffer from a physical or mental health issue.

We work with local charity partners to identify local residents who can benefit from a LEAP visit and could result in the installation of easy to fit energy efficiency measures, advice to reduce energy bills and referrals for ECO measures, which would focus around providing insulation to households.

In addition, we have been working with Essex and Suffolk Water to ensure that water efficiency measures can be included in the service for Southend on Sea residents. We are the first of all of the local authorities participating in LEAP to offer this as an extra and aim to maximise water efficiency savings for our residents.

Between July 2017 and March 2018 our target is to make around 400-500 visits, followed by another 500 targeted annually in 2018/2019 and beyond. LEAP will be signposted by frontline Council staff and our local charity partners and will make a major contribution to tackling fuel poverty across the Borough.

The first 42 visits resulted in savings for households that averaged £384.

www.applyforleap.org.uk

CONTINUING TO CUT OUR RESIDENTS ENERGY BILLS

Southend Energy has completed its second year and the partnership with OVO Energy has continued to deliver cost savings for our residents. The initiative works by offering people to switch to a cheaper energy tariff and we would encourage anyone to visit www.southendenergy.com to see how they could benefit.



We are pleased to see the growth of Southend Energy and encourage all of our residents to look at energy switching opportunities, such as the Essex Energy Switch, to ensure that they always get the best price for their gas and electricity year after year.

CARL ROBINSON
INTERIM DIRECTOR OF PUBLIC PROTECTION
SOUTHEND BOROUGH COUNCIL

ACHIEVEMENTS:

£1.5m
total savings

4,469 'live' customers

£243 saved on average

1,350 tonnes of CO2 saved.

A partnership between



www.southendenergy.co.uk

5. SUSTAINABLE TRANSPORT AND TRAVEL



Our Vision is to reduce the carbon emissions, congestion and air pollution that are associated with transport throughout the Southend on Sea Borough.

We want to re-think the way we travel. Facilitating the use of electric vehicles is part of the solution, as is developing an integrated public transport system that makes it an easy choice to use the train, bus, walk or cycle for all the members of our community.



A BRIGHTER FUTURE

We are delighted to have completed the Borough's LED street light replacement programme, which has seen 14,500 new LED street lights, the replacement of 3,000 columns and the implementation of a new central management system - allowing us to brighten and dim individual lights depending on the needs of our residents. Overall the pioneering scheme will deliver energy efficiency savings of 57% across the town.



Not only has the LED light programme resulted in a fantastic return on investment for the Council, it has also ensured that our residents have a safer, brighter urban environment to enjoy.

PAUL MATHIESON

PROGRAMME MANAGER SMART CITY & MOBILITY SERVICES
SOUTHEND BOROUGH COUNCIL



SECURED £3.3 MILLION TO PROMOTE ACTIVE TRAVEL

We led a funding bid with Essex County Council and Thurrock Council that secured over £3 million and build on the success of the award-winning Ideas in Motion project that promotes more sustainable and active modes of transport.

The project - called South Essex Active Travel - will see jobseekers, young people, students and volunteers offered targeted travel advice and sustainable transport incentives to better connect them with 12,100 jobs and 10,500 education and training opportunities over the next three years.

South Essex Active Travel presents a fantastic opportunity to develop the three partner

organisation's work in using sustainable transport as a tool to accessing learning, jobs and skills. Essentially, the project will deliver some excellent added value based around improving air quality, reducing carbon emissions and alleviating traffic congestion.

Find out more by visiting:

www.ideasinmotionsouthend.co.uk

SUNRISE

SUNRISE provided our first experience of success through Horizon 2020 - the EU's flagship €79 billion funding programme that runs until 2020 - providing just under €430,000 towards addressing common mobility challenges at the neighbourhood level.

The project develops, implements, assesses and facilitates new collaborative approaches across six urban locations, with partner cities including Bremen, Budapest and Malmö.

The funding provides the Council with a specific mandate of creating a Neighbourhood Mobility Lab and looking to implement exciting new technologies and sustainable solutions around urban mobility for the benefit of our residents and businesses.



We have worked closely with South East Active Travel to help individuals joining the new Amazon team at Tilbury to receive tailored transportation information before they join us, to ensure that they can find the best way for them to travel to work.

ROBERT STOBINSKI

GENERAL MANAGER
AMAZON TILBURY

DELIVERING SUSTAINABLE END TO END JOURNEYS

MotionHub is a two year project, delivered in partnership with E-Car Club, Evalu8 Transport Innovations, Hour Bike and Transport Systems Catapult. It will invest just under one million pounds in the Borough after a successful Innovate UK bid that will see Southend on Sea become a pilot town for e-mobility hubs.

It will seek to deliver:

- the installation of electric vehicle charging posts (including locations at Council offices, Short Street, Hamlet Court Road and London Road.
- an electric car club, where staff at the Civic Centre can now use two Renault Zoes, which will extend to ten vehicles.
- four new docking stations for our own version of the 'Boris-bike' scheme (visit www.bikeandgo.co.uk for more details).



Everything about the e-car is efficient. The booking system is quick and easy to use, the car provides a comfortable drive with all the luxuries you would expect in a modern vehicle. If you haven't tried the e-car, then I would encourage you to have a go. You won't be disappointed.

KEVIN READ

LEISURE OFFICER
SOUTHEND BOROUGH COUNCIL

6. CLIMATE CHANGE ADAPTATION



Our Vision is to enhance both the natural and urban environment of Southend on Sea and ensure that we adopt a proactive and positive response to pressing environmental issues by prioritising local actions, especially around climate change adaptation and resilience measures.

We will play our part in tackling the global issue of climate change and promote a more sustainable future for our residents, local communities and businesses in the process.

BUILDING CLIMATE RESILIENCE ACROSS SOUTHEND ON SEA

Urban landscapes are expected to be hit the hardest by the future impacts of climate change, as a local authority, we need to ensure that we consider how climate change can impact upon the Borough and identify the steps that can be taken in order to build greater climate resilience across our urban environment for the benefit of our residents, local communities and businesses.

The Intergovernmental Panel on Climate Change's Fifth Annual Report (2015) predicted that the East of England could experience the:

- highest additional rainfall
- greatest extremes in summer rainfall (higher rainfall or drought)
- highest mean increases in temperature in both summer and winter, and
- an increase in the number of heat waves, lasting up to 10 days longer.

Our work with the Environment Agency to deliver the Targeted Adaptation Support for

Councils programme helped us to build our knowledge base and understanding on this important matter and prioritise action that will help our Borough adapt to the future impacts of climate change.

Initially this work will focus on how we can reduce the impact of flood risk in the Borough through the deployment of green and blue infrastructure. We have also joined a number of new European partnerships to undertake research into how other cities and towns have addressed the issue of heat stress and air quality, which will both be very pressing issues over the coming decades.

REDUCING THE FUTURE RISKS OF URBAN FLOODS

Wetter winters and more intense rainfall over the summer months will bring increased flood risk and with impermeable surfaces a common feature across the Borough we will need to deploy new solutions and innovations that reduce this risk and minimise the disruption that it can cause to local residents and businesses.

One of our main actions was to launch the new Shoreline Strategy - a vital policy document that sets out a sustainable approach to manage our coastal defences over the next 100 years. It has the primary objective to maximise the reduction of coastal flooding and erosion to properties and infrastructure that has been identified as areas at risk.

We have also undertaken work with the consultancy AECOM to identify six critical flood risk areas in the Borough and determine what actions we can deliver to reduce future flood risk and the associated disruption that it can cause.

In August 2017 we secured £565,000 from the Department for Transport that we will spend on updating drainage at three locations across Southend's highways network that are prone to surface water flooding, City Beach, Shoeburyness and Harp House Roundabout (by London Southend Airport).

We have also been undertaking a series of road infrastructure and junction improvement schemes, such as the work to Kent Elms Corner. The schemes are not only designed to reduce congestion in the town and contribute to less carbon emissions, but their designs also include measures to reduce flood risk.



SPONGE 2020: BUILDING CLIMATE RESILIENCE

We have started to deliver the EU funded SPONGE 2020 project - a partnership between English, Dutch and Flemish local authorities that seeks to co-create and implement innovative climate change adaptation solutions, such as sustainable drainage systems (SuDS) and other green infrastructure.

SPONGE 2020's funding was secured through the INTERREG 2 Seas Programme and paves the way for a wider roll-out of green infrastructure measures as a way to tackle the future impacts of climate change that urban areas can expect - particularly localised flooding and heavy rainfall.

Our focus in the project is to deliver a new streetscape along London Road, to the west of Victoria Circus that builds climate resilience into the area. Urban greening has been shown to reduce flood risk and this project will demonstrate how SuDS and other green infrastructure measures can play a key role in helping the Borough reduce the risk of flooding.

The project will be used to help demonstrate how SuDS and water surface management measures can be deployed across the Borough to provide an alternative approach to conventional, hard engineering methods (otherwise known as grey infrastructure).

AIR QUALITY

Warmer, drier summers might sound very appealing but it does create new challenges around worsening air quality and increasing the volume of air borne particles that can impact human health. We were delighted to welcome a new Air Quality Specialist to our team who has been tasked with developing a new Air Quality Action Plan that will help to build more climate resilience across Southend's urban landscape.



We are always looking to implement sustainable solutions to reduce the impacts of localised flooding in the Borough and our successful bid through the Department for Transport will go a long way in helping us to build a more climate resilient society in Southend-on-Sea.

MILAILA BENTZ
COASTAL DEFENCES ENGINEER
SOUTHEND BOROUGH COUNCIL



