

# **KENT AND MEDWAY ENERGY AND LOW EMISSIONS STRATEGY**



**SUPPORTING DELIVERY OF THE KENT ENVIRONMENT STRATEGY**

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# FOREWORD

The challenge of balancing the pressure of development against the impacts on our environment and health has been widely recognised for many years. Kent and Medway, as the gateway to the continent and with close proximity to London, are ideally placed to lead on the energy and low emissions agenda. We need to tackle these issues head on as well as maximising any potential opportunities that arise.

Kent and Medway face some important challenges. These include pockets of poor air quality, some areas where fuel poverty levels are above the south east average and an increasing number of severe weather events such as flooding, water shortage and rising temperatures.

We welcome, and fully support, the Kent and Medway Energy and Low Emissions Strategy which falls within the remit of the Kent Environment Strategy, especially as many Councils are now declaring a climate emergency.

Moreover, we have a part to play in contributing to a better environment. Yet while our individual endeavours are essential, close partnership working across organisations, sectors and geographical areas will be imperative in order to achieve the collective gain.

We firmly believe that by making growth clean, tackling poor air quality as well as energy and carbon constraints in parallel, and by working closely across the public sector and with businesses and communities at scale, we can protect health and the environment and also benefit from being strong players in the low carbon and energy market. Now is the time to act together.



A handwritten signature in blue ink that reads "Michael Payne".

**Michael Payne**

Kent County Council,  
Deputy Cabinet Member for  
Planning, Highways,  
Transport and Waste



A handwritten signature in black ink that reads "Alan Jarrett".

**Alan Jarrett**

Leader of Medway Council

# VISION

**By 2050 the county of Kent has reduced emissions to Net-Zero and is benefiting from a competitive, innovative and resilient low carbon economy, where no deaths are associated with poor air quality.**

# INTRODUCTION

Kent and Medway are growing. By 2031 it is anticipated that there will be almost 180,000 new homes and nearly 400,000 extra people, a 24% increase from 2011 levels. The local economy is expected to continue to expand, creating an additional 170,300 jobs by 2031 a 21% increase from 2011 levels, in line with forecast population growth.

### **Growth is both a challenge and an opportunity.**

There will be growth in demand for energy to heat, cool and power our homes, lifestyles, businesses and transport infrastructure. This growth must be clean. The UK government's Clean Growth Strategy 2017 defines Clean Growth as: growing our income while continuing to cut greenhouse gas emissions; ensuring our energy is secure, affordable

and sustainable and protecting the climate and environment (air, land, water) on which future generations depend.

Kent and Medway are already experiencing significant environmental issues and constraints.

Though the number of days of moderate or high air pollution fell between 2012 and 2016, there are still more than **40 Air Quality Management Areas** across Kent and Medway and significant pockets of poor air quality along the county's major road networks. In 2017 it is estimated that there were 922 deaths associated with particulate matter (PM2.5) exposure across Kent and Medway<sup>1</sup>.

**Road transport emissions** are the main cause of poor air quality across Kent and Medway. In addition, congestion continues to be a problem, with average journey times on A-roads increasing 6% since 2015. Keeping the county moving is a high priority, as congestion negatively impacts productivity levels and air quality.

Actions to promote sustainable transport options, active travel (walking and cycling) and encourage the switch to alternatively fuelled vehicles will have the dual benefit of reducing harmful emissions and tackling congestion. Over 3,850 ultra-low emission vehicles are already registered in Kent.

At the same time the cost of energy is rising. The average annual domestic combined gas and





electricity bill increased by 5.8% between 2017 and now costs £1,314. Latest data shows that 9.6% of Kent residents and 10.1% Medway residents are in **fuel poverty**.

Many Kent and Medway homes, often those of the most vulnerable residents, are cold and poorly insulated. 23% of homes that have an Energy Performance Certificate have some of the lowest energy efficiency ratings (E,F and G); usually due to inadequate insulation and inefficient heating systems, which can result in higher energy bills.

In industry, approximately 75% of energy used is to produce heat, much of which is wasted. This is also true across Kent and Medway. The Government expects **business and industry** to improve energy efficiency by at least 20% by 2030<sup>3</sup>, this includes a focus on industrial heat recovery.

Ensuring an **affordable energy supply** for all and continuing to promote energy efficiency, forms a significant element of our Strategy. Supporting new forms of renewable low carbon energy supply will be an important part of the mix. The county has already seen an increase in renewable energy generation of 726% since 2012 (230MW to 1900MW).

However, low carbon technologies such as electric vehicles and local renewable energy generation pose a challenge to the electricity grid network in Kent and Medway which is already significantly constrained, and which could inhibit future growth. Therefore, we must work with the energy utility companies to create a more resilient, **smart and innovative local**



**energy system** to ensure we have the energy we need, when we need it, at the right price and without any negative environmental impacts.

**Growth, if clean, is a significant opportunity** for Kent and Medway. Measures to tackle poor air quality and lower emissions will have multiple benefits. For instance, promoting active travel especially walking and cycling improves health and reduces congestion; and supporting a switch to more efficient, low carbon energy use creates jobs and new market

opportunities.

By tackling poor air quality, energy and carbon constraints in parallel, and by working closely across the public sector, business and communities to scale up action, we can protect health, the environment and be a significant player in the low carbon environmental goods and services sector (LCEGS) both in the UK and internationally.

<sup>2</sup> Department for Business, Energy and Industrial Strategy "Quarterly energy prices", December 2018.

<sup>3</sup> Department for Business, Energy & Industrial Strategy, "Helping businesses to improve the way they use energy: call for evidence," 18th July 2018 [online]

# PURPOSE OF THIS STRATEGY

The Kent and Medway Energy and Low Emissions Strategy (ELES) is a sub strategy of the Kent Environment Strategy. The purpose of the ELES is to identify an evidence-based approach to deliver clean growth. This includes strategies and actions to eliminate poor air quality, reduce fuel poverty and deliver an affordable, clean and secure energy supply.

The Strategy makes the link between supply of energy for housing, industry and transport and air quality, recognising that by reducing the negative emissions from the former, will lead to improvements in the latter. It seeks to take an integrated approach, identifying measures that will support growth, promote the development of and deliver an affordable, clean and secure energy supply for residents, business and the public sector and improve the quality of the air we breathe.

The ELES has four strategic aims:

- 1. EVIDENCE:** Provide an ongoing evidence and intelligence base; linking data sets to identify hot spots and opportunities, and to build the business case for action across Kent and Medway
- 2. POLICY AND STRATEGY:** Facilitate the development of evidence-based policy and strategy to future proof growth, tackle emerging issues and realise opportunities
- 3. LEADERSHIP:** Support the public sector across Kent and Medway to play a strong leadership role with regards to challenges and opportunities
- 4. ACTION:** Facilitate increased and accelerated action and implementation across Kent and Medway

Priority actions to deliver these four aims over the next five years have been identified (see pages 15-23) and follow the three Kent Environment Strategy themes:

**THEME 1: BUILDING THE FOUNDATIONS FOR DELIVERY** – where decisions makers have an evidence-based understanding of the risks and opportunities relating to energy and emissions and are incorporating them into strategies, plans and actions

**THEME 2: MAKING THE BEST USE OF EXISTING RESOURCES, AVOIDING OR MINIMISING NEGATIVE IMPACTS** – where existing infrastructure, assets and resources across the public, private and domestic sector are managed to reduce emissions and build a clean future energy supply

**THEME 3: TOWARDS A SUSTAINABLE FUTURE** – where Kent and Medway's communities, businesses and public sector have embraced clean growth and are working towards developing a clean, affordable and secure local energy future

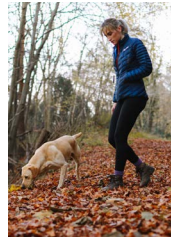
# POLICY DRIVERS

Climate change, energy and air quality issues are high on the national agenda. The Government has set a clear policy direction with the Climate Change Act 2008, the Home Energy Conservation Act 1995, the 25 Year Environment Plan 2018, the Clean Growth Strategy (2017) and the Clean Air Strategy (2019) to protect and enhance the environment, mitigate climate change, support clean, low carbon economic growth and address the negative impacts on health from a poor environment.

Local action will play a significant role in achieving these ambitions and therefore local policy must reflect these priorities. The key national strategies that have influenced the development of the Energy and Low Emissions Strategy are summarised in Figure 1. Further detail on the policies driving action are outlined in the supporting *Kent and Medway Energy and Low Emissions Strategy Evidence Base*.

**FIGURE 1:** Key national and regional strategies influencing the development of the Kent and Medway Energy and Low Emissions Strategy.

CHALLENGES



## 25 YEAR ENVIRONMENT PLAN

Aims to deliver cleaner air and water; thriving plants and animals; connect people with the environment; and secure the environment for future generations.



## CLEAN AIR STRATEGY

Focuses on reducing industrial and transport emissions. It also aims to reduce particulate matter emissions from solid fuel used in homes. It also aims to tackle rising agricultural emissions.



## THE ROAD TO ZERO

Aims to ensure almost every car and van is zero emission by 2050. It supports delivery of both the Industrial and Clean Growth Strategies.



## LOCAL TRANSPORT PLAN 4: DELIVERING GROWTH WITHOUT GRIDLOCK (2016-2031)



## SUSTAINABLE DEVELOPMENT GOALS

Adopted by all United Nations Member States, the goals provide a shared blueprint for peace and prosperity for people and the planet, now and into the future.



## INDUSTRIAL STRATEGY

Aims to boost productivity, create good jobs and position the UK as a leader in low cost, low carbon innovation.



## THE CLEAN GROWTH STRATEGY

Aims to achieve nearly zero emissions from buildings and transport by 2050.



## LOCAL ENERGY STRATEGY: ENERGY SOUTH 2 EAST

Provides an analysis of the opportunities and challenges across heat, transport and power in South East England.

OPPORTUNITIES



# EXAMPLES OF ACTIVITY AND ACHIEVEMENTS IN KENT AND MEDWAY

Carbon dioxide emissions in Kent and Medway fell 36% between 2005 and 2016, hitting our 2020 Kent Environment Strategy target two years early.



Low Carbon Across the South East (LoCASE) has been identified in the Tri-LEP Energy Strategy as an exemplar project for replication across the south-east region. Supported by European funding, LoCASE provides free support to help businesses become more competitive and profitable while protecting the environment and encouraging low carbon solutions. Since LoCASE began in 2016, £3.5m has been awarded to 425 Kent and Medway businesses.



The installed capacity of solar, wind, waste and Combined Heat and Power (CHP) has increased by 726% in five years, from 230MW in 2012 to 1,900MW in 2017.

Kent and Medway's non-domestic gas consumption decreased by 60% between 2005 and 2016, whilst domestic gas consumption fell by 23% over the same period.

The number of days of moderate or high air pollution in Kent and Medway fell between 2012 and 2016 and there have been positive improvements in some Air Quality Management Areas.



Since the Warm Homes Scheme began in 2014, over 2,400 energy efficiency measures have been installed in over 2,300 homes in Kent and Medway.

The use of gas and electricity in Kent and Medway fell by 32% between 2005 and 2016, with the carbon intensity of electricity also dropping by almost 30%.



As of December 2018, 3,850 ultra-low emission vehicles (ULEVs) are registered in Kent. In February 2019, Kent Kent Council was awarded £180,000 from the Government's Office of Low Emission Vehicles to install 8 rapid chargers for use by taxis in 6 Kent Districts.

In a 2018 survey of Kent residents, 85% reported that they have fitted energy efficiency measures, such as loft or cavity wall insulations, and 40% have fitted energy monitoring equipment.

There has been a 42% increase in people using train stations in Kent in the past ten years. In 2016/17, 1.8 million people used Ebbsfleet International Station.

89% of newly built homes in Kent and Medway had an Energy Performance Certificate rating of A or B in 2017, meaning they have the highest energy performance, up from 62% in 2011.



## KENT AND MEDWAY KEY FACTS AND FIGURES

**54%**

of total fuel consumption is from gas and electricity



Heat networks<sup>4</sup> currently provide 2% of the UK heat demand, but this is estimated to rise to 43% by 2050.

**EFG** RATING

23% of homes and 19% of public buildings are E, F or G rated meaning they have poor energy performance and therefore have higher energy costs and make a bigger contribution to carbon and air pollution emissions.



11% of residents have reported<sup>5</sup> that they struggle to pay their energy bills. 41% of those, live in rented accommodation.

### BY 2031 KENT AND MEDWAY ARE EXPECTING TO SEE<sup>6</sup>



**178,600**  
additional homes  
(24% growth)



**396,300**  
additional people  
(23% growth)



**170,300**  
additional jobs  
(21% growth)

This predicted population and economic growth will require a higher demand for energy. **It is likely that domestic gas and electricity sales will rise by 23% and 19% respectively from 2014/15 to 2030/31.**



**9.2M**

vehicle movements at port of Dover and Channel Tunnel every year.

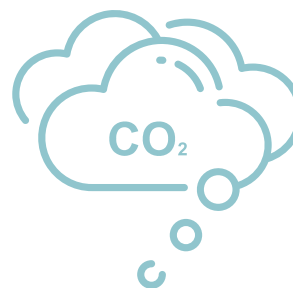


14.3% increase in the number of vehicles on major roads in Kent between 2006 and 2016.



**72,000**

households in Kent and Medway are in fuel poverty.

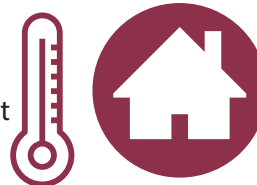


Carbon emissions from transport are increasing and are now at their highest since 2007.

### 40 AIR QUALITY

Management Areas, where air pollutants have been known to exceed government objectives

The rate of Excess Winter Deaths is higher in Kent than for both the south-east and the whole of England.



Kent and Medway's mortality rate associated with poor air quality is worse than the national average

<sup>4</sup> Heat networks supply heat from a central source to consumers.

<sup>5</sup> Kent Environment Strategy resident survey, July 2018

<sup>6</sup> Figures identified by the Growth and Infrastructure Framework for Kent and Medway

# OUR CHALLENGES

Despite the many successes and opportunities, Kent continues to face many significant challenges. These will need to be addressed in the short to medium-term if the environmental condition of the county is not to see considerable deterioration. The Kent and Medway Energy and Low Emissions Strategy Evidence Base identifies a number of key issues which are summarised here:

## EMBRACING CLEAN GROWTH

Accommodating significant levels of housing and economic growth will be a major challenge for the county and is an influencing factor in all the key issues identified. Principles of Clean Growth must be mainstreamed into planning and development, whilst not becoming a barrier to sustainable growth.



## TACKLING HOT-SPOTS OF POOR AIR QUALITY

Poor air quality is a major health challenge for the UK causing both short and long-term effects on health. Long-term exposure to air pollution can impact on all stages of life; from asthma in children, to emerging evidence linking fine particulate matter (PM2.5) to the progression of Alzheimer's and Parkinson's.

The associated economic costs through healthcare and lost productivity are estimated to be £20 billion annually (Holland, 2016). Poor air quality also has adverse impacts on the natural environment through damage to vegetation, soils rivers and lakes (EEA, 2016).

Whilst the numbers of days of moderate or high air pollution in the county fell between 2012 and 2016, there are still 40 Air Quality Management Areas and significant pockets of poor air quality along the major road networks under local authority control. Kent and Medway's position between London and the continent brings air quality challenges associated with cross-channel traffic, including a disproportionately large number of HGVs, with their associated diesel emissions. Around the coast and ports, shipping brings additional impacts from the use of marine diesel. Even air pollution sources from outside Kent and Medway impact the population; with easterly winds bringing pollution from continental sources and westerly winds bringing urban pollution from London.

## PROTECTING THE VULNERABLE

Whilst air pollution is harmful to everyone, some people are at greater risk due to

- living in areas with high levels of air pollution
- learning or working near busy roads
- age; in the womb, infancy, early childhood and the elderly
- existing medical conditions, such as lung and heart disease and asthma.

These vulnerabilities are heightened among those living in the most deprived communities. This is due to poor housing and indoor air quality, the stress of living on a low income, and limited access to healthy food and/or green spaces (RCP, 2016).

## ACHIEVING A STEP CHANGE IN THE REDUCTION OF CARBON DIOXIDE EMISSIONS

The Kent Environment Strategy makes a commitment to reduce carbon dioxide emissions by 34% by 2020 and 60% by 2030, from a 2005 baseline. Our current progress is a 36% reduction since 2005, meaning that we have already achieved our 2020 emissions reduction target, but meeting our 2030 target will be challenging.

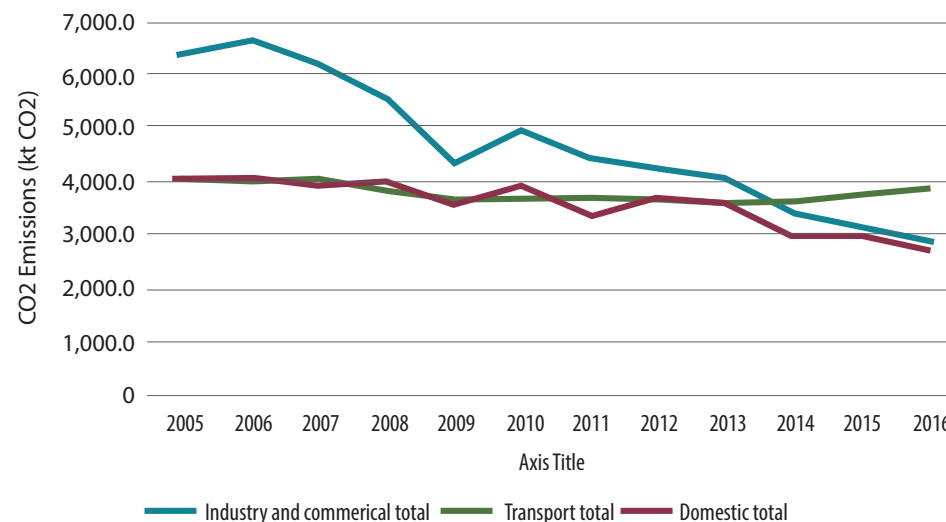
Whilst emissions from the industry and commercial sector and domestic sector have fallen significantly over the period (falling 55% and 32% respectively), the transport sector has not followed this trend (see Figure 2). The transport sector now accounts for 41% of Kent and Medway emissions, and these emissions are rising; now at their highest level since 2007.

To date, much of the reduction in emissions has been due to a national decrease in the use of coal for electricity generation and the closure of a small number of energy-intensive industrial plants. However, it has been estimated that proposed housing growth within the county will generate a likely 25% increase in domestic emissions compared to current levels, coupled with a potentially even greater rise in transport emissions if current trends are not reversed. Tackling carbon emissions over the next target period to 2030 will be a fundamental challenge without significant changes to how we travel and the way we generate and use energy.

## ENABLING INTEGRATED AND CONNECTED MOBILITY – GROWTH WITHOUT GRIDLOCK

A convenient, affordable and reliable transport network is vital for providing access to facilities and services, connecting businesses and communities and reducing social isolation. However, transport contributes over 40% of the county’s carbon emissions and pollutants from road vehicles have a negative impact on air quality and human health.

Kent is already experiencing increased congestion on its road and rail network. The average delay on Kent’s ‘A’ roads have increased 6% since 2015 and average



**FIGURE 2:** CO<sub>2</sub> emissions profile for Kent and Medway; this data includes estimated emissions for the industrial and commercial, transport and domestic sectors. Note: kt refers to kilotons

speed has dropped 1% over the same period. With severe congestion on the highway network, particularly in major town centres, growth across the county will be constrained without investment and increased capacity.

The ambition for Kent County Council’s Local Transport Plan: Growth Without Gridlock, is ‘To deliver safe and effective transport, ensuring that all of Kent’s communities and businesses benefit, the environment is enhanced, and economic growth supported’. To achieve this, we must not only focus on clean road transport such as electric vehicles, but also promote smarter driving and traffic management; maximise integration of alternative forms of transport such as walking and cycling; ensure convenient connections to clean public transport; and support new transport models such as car clubs, car sharing and automated vehicles through the use of smart technology.

At the same time, we need to support smarter working practices. Better broadband services and enhanced access to digital services will help prevent the need to travel in the first place. 95% of Kent and Medway's homes and businesses now have access to superfast broadband, but there are still significant challenges to get 100% consistent coverage and service across the county and ensure the full benefits of digitalisation are realised.

### **ENSURING A SUSTAINABLE, SECURE AND AFFORDABLE ENERGY SUPPLY**

Energy demand, together with generation and supply is intrinsically linked to carbon dioxide emissions. It is therefore essential to understand how much energy is used, by whom, how and for what, and how this might change in the future. This will allow us to identify the most appropriate and cost-effective interventions that will continue to drive down emissions.

Energy prices are increasing again. Government data shows that average household expenditure on energy rose 5.6% between 2017 and 2018; with the average annual household electricity and gas bills in the south east now costing £670 and £661 respectively. Higher energy prices have an impact on both economic growth and residents' wellbeing. Although fuel poverty levels vary across the county; from 11.4% in Thanet, to 8.1% in Tonbridge and Malling, eight council areas record fuel poverty rates higher than the South East average of 9%.

Transport is the largest consumer of energy in Kent and Medway, followed by the domestic and industrial and commercial sectors. Fuel consumption is exacerbated by the fact that large amounts are wasted, such as heat in the industrial sector and due to the UK having some of the least energy efficient housing stock in the world. Continued economic growth means that our energy consumption is set to rise. A study commissioned by Kent County Council revealed that between 2014/15 and 2030/31, gas demand in Kent and Medway is expected to increase by approximately 23% and electricity demand is expected to increase by 19%.

As the achievement of our Kent Environment Strategy carbon reduction target of 60% by 2030 will not be met by reduced demand, we must instead transition to a low or zero carbon clean energy system.

The challenge of decarbonising energy at the local level will be threefold:

- Increase the supply of local, low carbon energy generation, at or near the point of use, whether domestic or industrial.
- Significantly cut consumption from greenhouse gas-intensive sources; for example, transitioning away from petrol and diesel to electric transportation (cars, buses, autonomous vehicles), facilitating more sustainable energy connections for properties that are not connected to the gas network and still heated by coal or oil.
- Eliminate wasted energy through greater efficiency, targeting industrial processes and buildings.

### **OVERCOMING ENERGY GRID CONSTRAINTS**

Energy security is vital to the development and growth of Kent and Medway in the coming years. However, the energy system in the UK and Kent is changing. Two-thirds of the UK's existing coal, gas and nuclear power stations are set to close by 2030 and any future power stations must be largely decarbonised, if the UK is to achieve its legally binding targets of cutting carbon emissions by 80% by 2050.

Much of the county is already subject to electricity grid network constraints, which can inhibit supply and demand. In the future, there will be increased demand on the electricity grid as a result of the push to decarbonise energy, which will require heating systems to be switched from coal, oil and gas, to low-carbon electricity. Demand for electricity will be further increased with greater numbers of electric vehicles and the associated charging infrastructure. A drive towards locally generated renewable energy, often from smaller, more dispersed sources, will further ramp up pressure on the grid network.

Changing supply and demand, though an enormous opportunity, also presents significant challenges to our existing system nationally and locally. It will require large amounts of investment in infrastructure and the transmission and distribution networks. It will be essential to map existing electricity and gas grid constraints against future development, to identify potential issues early and to identify any opportunities for local generation solutions, such as district heating systems.



# HOW WE DEVELOPED THE ENERGY AND LOW EMISSIONS STRATEGY

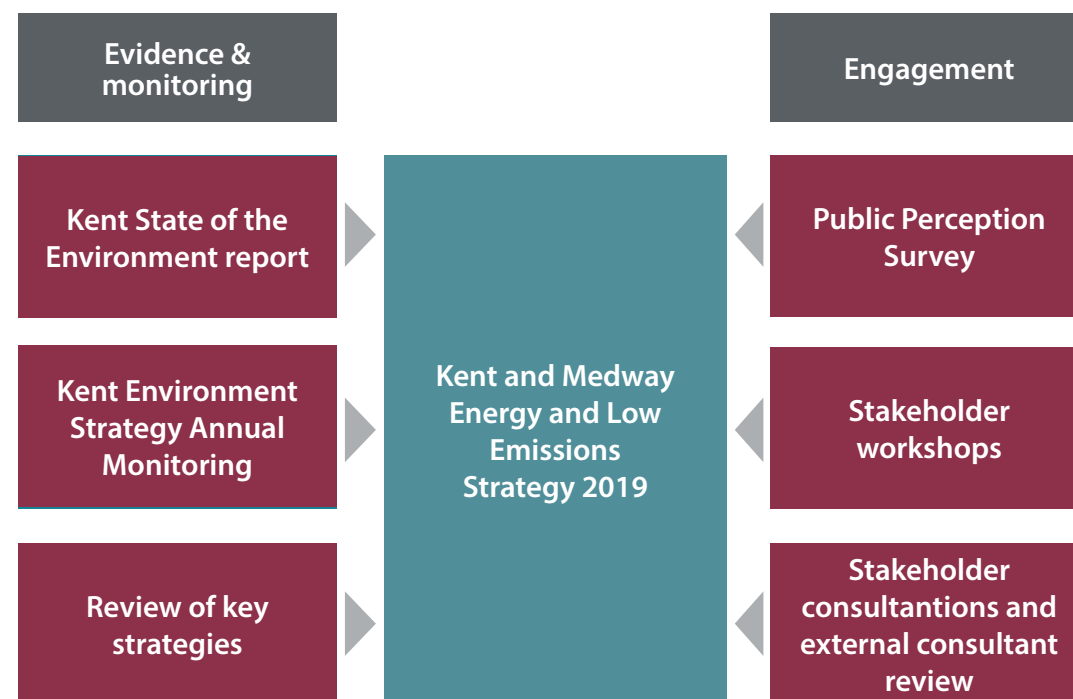
Underpinning the Energy and Low Emissions Strategy is an evidence and intelligence base, which is drawn from a wide range of sources:

- Government strategies, plans, reports and national data sets
- The Tri-LEP Energy Strategy and Evidence Base
- The Kent and Medway State of the Environment Report and annual monitoring report
- AECOM Renewable Energy for Kent 2017 Update
- Public health indicators and evidence covering national and local area data
- Home energy conservation and fuel poverty action plans and reports
- District council's and Medway Council's air quality monitoring, plans and reports
- Public and private sector research and current activity on the topics of energy, fuel poverty, transport, air quality, growth and planning and the impacts on public health
- The 2018 Kent Environment Strategy Public Perception Survey

The evidence base is issued as a supporting document to this Strategy.

Central to the development of this strategy has been stakeholder engagement, through a dedicated cross sector working group, workshops and consultations. Organisations and partners involved in the development of the strategy include, amongst others, all Local Authorities in Kent & Medway, Joint Chief Executives, Joint

Kent Leaders, NHS, Kent Fire and Rescue Service, South East Local Enterprise Partnership, Kent and Medway Economic Partnership, Public Health, Kent Housing Group, Kent and Medway Air Quality Partnership, Kent and Medway Sustainable Energy Partnership, Kent Energy Efficiency Partnership, Kent Planning Officers Group and Kent Health and Wellbeing Board. A summary of the review process is shown in Figure 3.



**Figure 3:** Summary of the review process used to develop the Kent and Medway Low Emissions Strategy

# ENERGY SOUTH TO EAST: TOWARDS A LOW CARBON ECONOMY - THE TRI-LEP ENERGY STRATEGY

The Government's Department for Business, Energy and Industrial Strategy (BEIS) has requested and provided the funding to all Local Enterprise Partnerships (LEPs) to produce regional Local Energy Strategies, which should provide a clear analysis of the local opportunities and challenges across heat, transport and power.

In response to this request, the South East Local Enterprise Partnership (SELEP) has partnered with Coast to Capital and Enterprise M3, to develop an ambitious regional Local Energy Strategy, which aims to reduce emissions from energy and transport and support clean growth.

The strategy has identified five themes and 18 potential technological project model interventions, which are shown in Figure 4. These interventions will be scalable across the geography to increase impact and investment and develop partnership working across Local Enterprise Partnerships, including Kent and Medway. Where project models are relevant for Kent and Medway, suitable actions will be reflected in the Kent and Medway Low Emissions Strategy.

The full strategy can be found at [www.southeastlep.com/our-strategy/energy-south2east/](http://www.southeastlep.com/our-strategy/energy-south2east/).

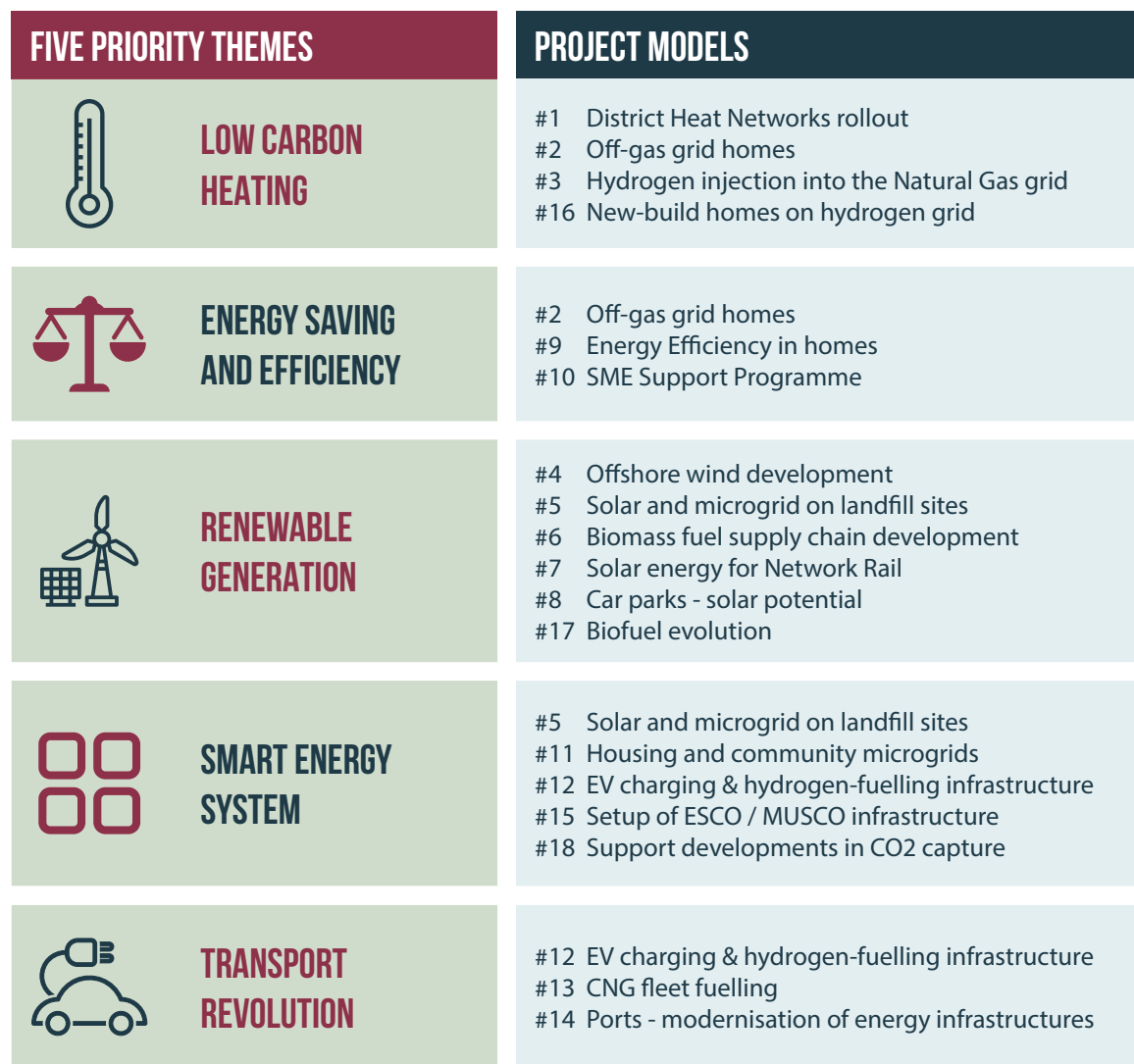


Figure 4: The 5 themes and 18 project models in the Energy South To East Action Plan.

# PRIORITIES OF THE KENT AND MEDWAY ENERGY AND LOW EMISSIONS STRATEGY

The Kent and Medway Energy and Low Emissions Strategy is informed by, but does not duplicate, the priorities and actions from other strategies related to energy and the environment. It also builds on and strengthens the activities of other partner organisations. The focus of this strategy is to draw together the priorities that need to be addressed in partnership and implemented strategically across Kent and Medway. Underpinning the strategy will be the Kent and Medway Energy and Low Emissions Strategy Implementation Plan, which will provide the detailed actions (and other information such as timescales, outputs and lead partners), for achieving our priorities. These actions have been identified through stakeholder engagement, workshops and reviews.

The strategy is split into three themes:

**THEME 1** – Building the foundations for delivery aims to ensure decision makers have an evidence-based understanding of our risks and opportunities relating to energy and emissions and are incorporating these into appropriate policies, plans and actions.

**THEME 2** – Making the best use of existing resources, avoiding or minimising negative impacts aims to ensure existing infrastructure, assets and resources across public, private and domestic sectors are managed in a way that reduces emissions and builds a clean future energy supply.

**THEME 3** – Towards a sustainable future aims to ensure that the decisions and plans we make today address future energy challenges and opportunities. In doing so, our communities, businesses and public sector will have embraced clean growth and be working towards developing a clean, affordable and secure local energy future.

## EVIDENCE

### THEME 1: BUILDING THE FOUNDATIONS FOR DELIVERY

- 1 Bridging gaps in understanding
- 2 Influencing strategy and policy
- 3 Building resources, capabilities and changing behaviour
- 4 Monitoring and evaluation

## DELIVERY

### THEME 2: MAKING THE BEST USE OF RESOURCES, AVOIDING OR MINIMISING NEGATIVE IMPACTS

- 5 Improve our resource efficiency
- 6 Support sustainable access and connectivity for business and communities

### THEME 3: TOWARDS A SUSTAINABLE FUTURE

- 7 Influence future sustainable growth for the county of Kent

# 1

## THEME 1

### BUILDING THE FOUNDATIONS FOR DELIVERY

Theme 1 aims to ensure decision makers have an evidenced-based understanding of our risks and opportunities relating to energy and emissions and are incorporating these into appropriate policies, plans and actions.





## THEME 1 PRIORITIES

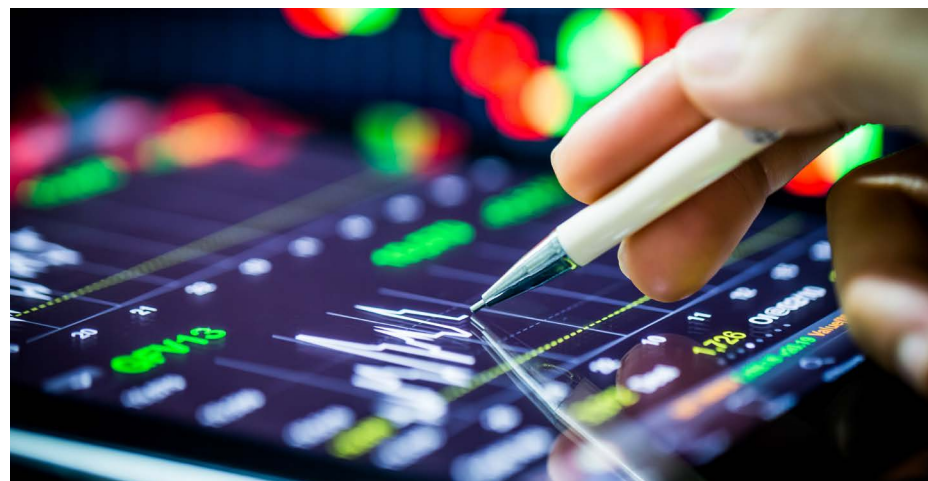
In developing the evidence base underpinning this Strategy, we have drawn upon a broad range of evidence and data, which has identified many opportunities. It is important that we continue to build on this work, creating an integrated evidence base that can inform other strategies, such as the Kent and Medway Growth and Infrastructure Framework. Our evidence base must make better use of technologies such as GIS mapping, to overlay datasets and visually show countywide opportunities. There also remain gaps in our knowledge base where we need to do more to support evidence-based decisions; such as improving the extent of our air quality data, or where new data is required to track emerging trends; such as the uptake of electric vehicles and the extent of charging infrastructure. This is the focus of **priority 1: bridging gaps in understanding**.

A stronger evidence base will allow for better targeting of activities and will support more collaborative working with partners across the county, region and nationally. It will also highlight where appropriate engagement is needed to influence aspects outside local authorities' control.

Future growth and fundamental changes to the way we generate and consume energy have been highlighted as key challenges for Kent and Medway. To successfully manage these risks and to realise the opportunities, public sector, business and industry needs to continue to work together to influence policy and deliver activity that ensure our continued economic growth is clean and sustainable. Partners must be given the tools to more strongly influence sustainable development through planning policy and Local Plans, by developing shared clean growth policies for planning, licensing and public sector estates and supply chain. Developing such policies and position statements is the focus of **priority 2: influencing strategy and policy**.

There are still gaps in our knowledge, where more research in partnership with universities and other partners would be beneficial and where new case studies would provide a stronger evidence-based business case for action. Continuing to develop a more robust evidence base will help support the business case for new clean growth project opportunities and will also lead to the development of stronger partnership bids to access a range of funding sources. We must also look to secure long term behaviour change across all sectors, including the general public, through tailored and targeted communications that raise awareness and change perceptions. These aspects are the focus of **priority 3: building resources, capabilities and changing behaviour**.

To ensure our activities remain effective, it is essential that we monitor and evaluate progress against our priorities. To do this we will establish and monitor key indicators; ensuring that they remain measurable over the lifetime of this strategy. We must also continue to monitor future risks and opportunities that may impact how we deliver this strategy, for example new technological developments or changes to national policy. This ongoing assessment is the focus of **priority 4: monitoring and evaluation**.



# THEME 1 BUILDING THE FOUNDATIONS FOR DELIVERY

PRIORITIES	1 BRIDGING GAPS IN UNDERSTANDING		2 INFLUENCING STRATEGY AND POLICY		3 BUILDING RESOURCES, CAPABILITIES AND CHANGING BEHAVIOUR		4 MONITORING AND EVALUATION	
HIGH LEVEL ACTIVITIES	1.1	Further develop Kent Environment Strategy intelligence hub and emissions inventory to inform decision making	2.1	Develop targeted, evidence-based clean growth and planning policies, for example electric vehicle infrastructure, to address significant challenges and opportunities	3.1	Identify, support and promote the business case for specific clean growth projects across KMED, SELEP and Greater South East Energy Hub areas	4.1	Establish and monitor key performance indicators
	1.2	Utilise intelligence hub evidence to develop an Integrated Heat and Opportunities Map (GIS), linked to key strategies	2.2	Develop response to the Industrial Strategy's Clean Growth Grand Challenge to influence the SELEP's local industrial strategy	3.2	Support clean growth advocacy and cross border collaboration throughout the south east , specifically the SELEP and sub national transport boards	4.2	Evaluate progress and identify future risks, opportunities and actions
	1.3	Understand where new charging points need to be, to inform the discussion	2.3	Develop position statements for lobbying government on areas outside of Kent and Medway's control	3.3	Develop a more sustained collaboration with Kent Universities to enable more effective decision making		
					3.4	Review existing and/or establish new funding mechanisms to deliver the Energy and Low Emissions Strategy		
					3.5	Develop targeted communications and behaviour change initiatives to support strategy priorities, focusing on hot spot areas		

## CASE STUDY: WORKING WITH SCHOOLS TO TACKLE AIR POLLUTION

In 2018, Maidstone Borough Council and Tunbridge Wells Borough Council environmental health teams worked with local schools to tackle local air pollution. Schools who signed up to the Clean Air for Schools Scheme were helped to undertake an engaging class experiment. Schools were provided with two free air monitoring tubes per month, along with guidance on how to record data and report the results back to the council.

This hands-on approach allowed students to analyse the direct relationship between the volume of traffic outside their school and its impact on air pollution within the school grounds. The objective was to encourage a reduction in car journeys made by parents and to highlight the effects of leaving engines idling while dropping off and collecting children.

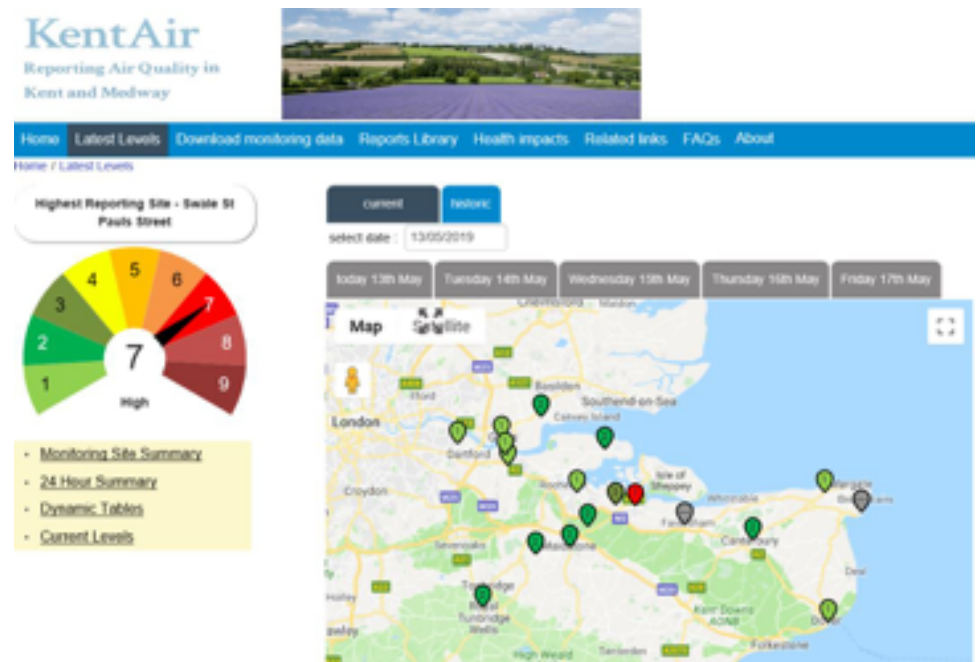
The project was launched in conjunction with the KM Charity Team's Green Champions and is sponsored by the Mid-Kent Environmental Health Team, with no funding required from the schools. For more information, or to register, visit: [www.maidstone.gov.uk/cleanairforschools](http://www.maidstone.gov.uk/cleanairforschools)



## CASE STUDY: KENT AIR WEBSITE

The Kent and Medway Air Quality Monitoring Network is funded by the district and borough councils within the county, Medway Council and Kent County Council. The network aims to promote the improvement of air quality within the region, to help local authorities to meet their obligations under environmental regulations and to maintain an accessible database of robust measurements for public reporting, research and development.

The Kent Air website has been developed by the network to provide easy public access to live air quality levels, historic data measured from automatic monitoring and NO2 diffusion tubes, and published data and reports for Medway and all district and borough councils except for Dartford and Sevenoaks (whose data is hosted on the London Air Quality Network website: [www.londonair.org.uk](http://www.londonair.org.uk)). The website also provides information about the health impacts of air pollution and recommended health advice for the forecast level of pollution.





# 2

## THEME 2

### MAKING BEST USE OF EXISTING RESOURCES, AVOIDING OR MINIMISING NEGATIVE IMPACTS

Theme 2 aims to ensure existing infrastructure, assets and resources across public, private and domestic sectors are managed in a way that reduces emissions and builds a clean future energy supply.





## THEME 2 PRIORITIES

Many partners and sectors are already taking action to reduce their impact on the environment, but our evidence shows that this activity needs to be joined-up, expanded and accelerated. This theme therefore focuses on enhancing actions to improve energy efficiency, reduce emissions and support sustainable access and digital connectivity.

Our evidence has shown that a sustainable, secure and affordable energy supply will only be possible if we significantly cut consumption of carbon-intensive energy sources, eliminate energy waste and increase the supply of local, low carbon energy generation. It has also revealed that some of our most vulnerable residents living in the most deprived communities are often at a dual risk from poor air quality and fuel poverty. For the domestic sector, our priorities therefore focus on continuing to support vulnerable and fuel poor residents through existing home energy efficiency and fuel poverty initiatives. This includes providing a trusted route to access grant funding, energy switching programmes and targeting hard-to-treat homes; such as those off the gas network or with solid walls, to ensure our most vulnerable residents benefit the most. We will also investigate options to support able-to-pay, high energy use residents to install low carbon technology and support private landlords to make energy efficiency improvements.

For business and the public sector, our activities will ensure a stronger focus on delivering more efficient and lower carbon heat energy, by reducing or recovering wasted heat and introducing newer heat technologies or alternative fuel sources. We will also continue to provide support to businesses and influence public sector supply-chains; building upon the success of programmes such as LoCASE and broadband rollout. These activities across domestic, public and business sectors are the focus of **priority 5: improve our resource efficiency.**

Enabling growth without gridlock has been highlighted as a key challenge for Kent and Medway, and one that will only be achieved through a combination of measures that influence behaviour and improve infrastructure. We will therefore look to support the development of traffic free commuter routes; provide infrastructure and facilities to encourage active travel; support investment in digital technologies to encourage flexible or remote working; and work with public transport providers to support the transition to lower emission vehicles. Providing good quality integrated transport infrastructure that supports connected communities and mobility is also a priority. We must also continue to tackle poor air quality hotspots, through the implementation of Air Quality Management Plans. The way residents, businesses and public sector travel, access and provide services is the focus of **priority 6: support sustainable access and connectivity for business and communities.**



# THEME 2 MAKING BEST USE OF EXISTING RESOURCES, AVOIDING OR MINIMISING NEGATIVE IMPACTS

PRIORITIES	<b>5</b> IMPROVE OUR RESOURCE EFFICIENCY		<b>6</b> SUPPORT SUSTAINABLE ACCESS AND CONNECTIVITY FOR BUSINESS AND COMMUNITIES	
HIGH LEVEL ACTIVITIES	5.1	Sign up to the BEIS Emissions Pledge at a Kent and Medway level, focusing on actions that can be delivered in partnership	6.1	Support the development of traffic-free commuter routes for walking and cycling
	5.2	Develop a Cross Kent and Medway Public Sector Energy and Emissions Programme, highlighting areas where action can be taken jointly at scale	6.2	Promote active travel through the provision of facilities and promoting the benefits to public and private sector
	5.3	Develop tailored Kent and Medway public sector buildings design guidance for new build, refurbishment and ongoing maintenance	6.3	Promote smarter working by supporting investment in digital technologies that enable flexible working and workspaces
	5.4	Identify and support vulnerable and fuel poor residents through delivery of the Kent Fuel Poverty Strategy	6.4	Support public transport providers, including school transport providers, to use lower emission vehicles
	5.5	Review the Warm Homes programme and develop targeted action to support improvements in the domestic housing sector; specifically difficult to treat, private rented and fuel poor	6.5	Support development and expansion of the electric vehicle uptake and charging infrastructure for residents, businesses and the public sector.
	5.6	Review current SME support programmes in Kent and develop a Kent and Medway Clean Growth Programme		

## CASE STUDY: PARK AND PEDAL IN CANTERBURY

In June 2018, Canterbury City Council launched its Park and Pedal scheme at Wincheap Park and Ride. Over 1,200 journeys were recorded between July 2018 and January 2019. Of these journeys, 87% were by customers who were not regular users of the Wincheap Park and Ride, and would normally have driven into the city centre.

Cyclists who sign-up to the scheme pay a £15 deposit for a key card that allows them to leave their bike in a high security compound. They are then able to drive to the car park each morning and park for free, before grabbing their bike and heading into the city, helping to cut the queues and improving air quality in the town centre.

The scheme was largely funded by a £21,300 grant from Kent County Council. The Park and Pedal map can be viewed on Canterbury City Council website and shows bike routes from Wincheap Park and Ride into the city, cycle racks and places to refill your water bottle.

## CASE STUDY: MAKING KENT HOMES WARMER

Through a combination of schemes and initiatives, local authorities in Kent and Medway have been able to maximise funding and signpost residents to initiatives that make homes warmer, reduce health inequalities and lower carbon emissions.

Since 2013, five Kent councils have offered a Collective Energy Switching scheme, called Energy Deal. Residents can register for free to take part in energy auctions (held 3 times a year), to identify lower energy tariffs without any obligation to switch. Since 2013, the Energy Deal has helped residents save £804,632 on their energy bills collectively.

Kent and Medway partners are also working together to promote the Warm Homes scheme that helps residents identify energy efficiency measures that will help lower their energy bills and make their homes feel warmer. Since the Warm Homes scheme began in 2014, over 2,400 energy efficiency measures have been installed in over 2,300 homes. In total, the measures are expected to save an estimated 39,000 tonnes of carbon and save residents £8.8 million over the course of the measures' life.

For more information visit [www.energydealswitch.com](http://www.energydealswitch.com) and [www.kent.gov.uk/warmhomes](http://www.kent.gov.uk/warmhomes)





# 3

## THEME 3 TOWARD A SUSTAINABLE FUTURE

Theme 3 aims to ensure that the decisions and plans we make today address future energy challenges and opportunities. In doing so, our communities, businesses and public sector will have embraced clean growth and be working towards developing a clean, affordable and secure local energy future.





## THEME 3 PRIORITIES

Where theme two focused on the impact and efficiency of our current assets and resources, theme three seeks to ensure that the decisions and plans we make for the future embrace clean growth and allow us to develop a clean, affordable and secure energy future.

Ensuring sustainable, secure and affordable energy supplies, which overcome the current energy grid constraints can only be achieved through:

- informed planning decisions
- good quality sustainable design
- investment in new technologies
- cleaner fuels
- and adoption of smarter ways of working.

Together, this will bring about a step change in the reduction of harmful greenhouse gas emissions.

To support good quality, sustainable design we will refresh the Kent Design Guide and explore the feasibility of developing a Kent Design kitemark. An updated Design Guide could promote important clean growth concepts such as resource efficient housing and decentralised energy. The Guide would also promote infrastructure that encourages active travel, public transport and electric and alternative fuelled vehicles. It could also include air quality criteria such as anti-idling zones.



Embracing clean growth also requires us to transform the way we generate energy. Whilst some of this will be done at the national level, we will also progress future new low carbon energy infrastructure opportunities presented in the Tri-LEP energy strategy. We will focus on supporting opportunities that allow more of our energy to be produced locally and from renewable sources and increasing the number of new developments supplied by local energy centres and district heating schemes.

Ensuring that future decisions on services, developments and planning are embracing clean growth is the focus of **priority 7: influence future sustainable growth for the county of Kent.**

# THEME 3 TOWARD A SUSTAINABLE FUTURE

PRIORITIES	7 INFLUENCE FUTURE SUSTAINABLE GROWTH FOR THE COUNTY OF KENT	
HIGH LEVEL ACTIVITIES	7.1	Using evidence from theme 1 and the Tri-LEP Energy Strategy, continue to identify and progress future new low carbon energy infrastructure opportunities for Kent and Medway
	7.2	Refresh the Kent Design Guide and develop guidance to future-proof development to 2050, for example electric vehicles
	7.3	Test new charging technologies on the highway as they become available
	7.4	Support the development and roll out of District Heat Networks and low carbon heating options for off-gas grid homes
	7.5	Support continued development of offshore wind and biomass fuel sectors and supply chains
	7.6	Support the development of renewable energy projects on former landfill sites and potential solar car parks
	7.7	Support feasibility studies looking at future housing micro-grids , new-build homes on hydrogen, biofuel development and Compressed Natural Gas fleet fueling

## CASE STUDY: **ELECTRIC BUS TRIAL**

In March 2018, Kent took part in an eight-week electric bus demonstrator trial commissioned by Volvo Bus UK and ABB UK. The trial aimed to demonstrate to Kent County Council, Prologis and Arriva (the bus operators), that electric buses can be operational without disrupting current schedules, whilst also improving air quality, energy efficiency, noise and passenger comfort, as well as providing financial benefits. The trial was conducted along the 23.6km-long 'Fastrack Route A', operating 20 hours daily between Dartford and Bluewater.

Data gathered from the trial showed that an energy saving of 69.3% could be realised on the Fastrack Route A (based on the annual energy use of current diesel buses; 2,063MW, versus the energy used by the bus on the trial; 634MW). Feedback from Arriva was positive, with the electric bus outperforming expectations and the drivers reporting that they preferred the electric vehicles. The public were also complimentary, with 70% of Twitter comments being neutral or positive.

The demonstration proved that the vehicle operated within Fastrack's operational requirements. It also helped promote the drive towards zero emissions technology and whilst the vehicle itself drew attention, the visual element of the charging infrastructure proved to be much more effective and thought provoking for the general public and stakeholders alike.

## CASE STUDY: **LOW CARBON ACROSS THE SOUTH EAST**

The Low Carbon Across the South East (LoCASE) project provides free support to help businesses become more competitive and profitable, by reducing environmental impacts through resource efficiencies and encouraging low carbon innovation. It does this through a three-pronged approach of stimulating demand, supporting supply and transferring knowledge. The scheme is administered by Kent County Council and supports businesses in Kent and Medway, Essex, Thurrock, Southend-on-Sea and East Sussex.

The project has seen nearly £3.5 million of EU grant funding approved for 425 Kent and Medway Small and Medium Sized Enterprises (SMEs), towards a huge range of purposes. This investment is set to deliver over 4,000 tonnes of CO<sub>2</sub> equivalent of savings through 250 energy and resource efficiency projects; from simple lighting, heating and insulation works, to investing in more effective and sustainable business practices. This support has helped create 160 jobs, launch 45 new products or services and support 31 business start-ups in Kent and Medway's burgeoning Low Carbon Environmental Goods and Services sector.

LoCASE was identified as an exemplar project for replication across the south east in the Energy South2East regional local energy strategy. It was also selected as a runner-up by the President of the Association of Directors of Environment, Economy, Planning and Transport (ADEPT) Awards in 2018.

# HOW WE WILL DELIVER THE ENERGY AND LOW EMISSIONS STRATEGY

The Energy and Low Emissions Strategy provides an evidence based 'Pathway for Clean Growth' across Kent and Medway. It identifies high level priorities for action in the short, medium and long term.



All actions are partnership-based and will be integrated into the Kent Environment Strategy Implementation Plan. Monitoring of the Implementation Plan and associated indicators and will take place annually through Kent Leaders and Chief Executives and appropriate partnerships. See Figure 6. All the latest

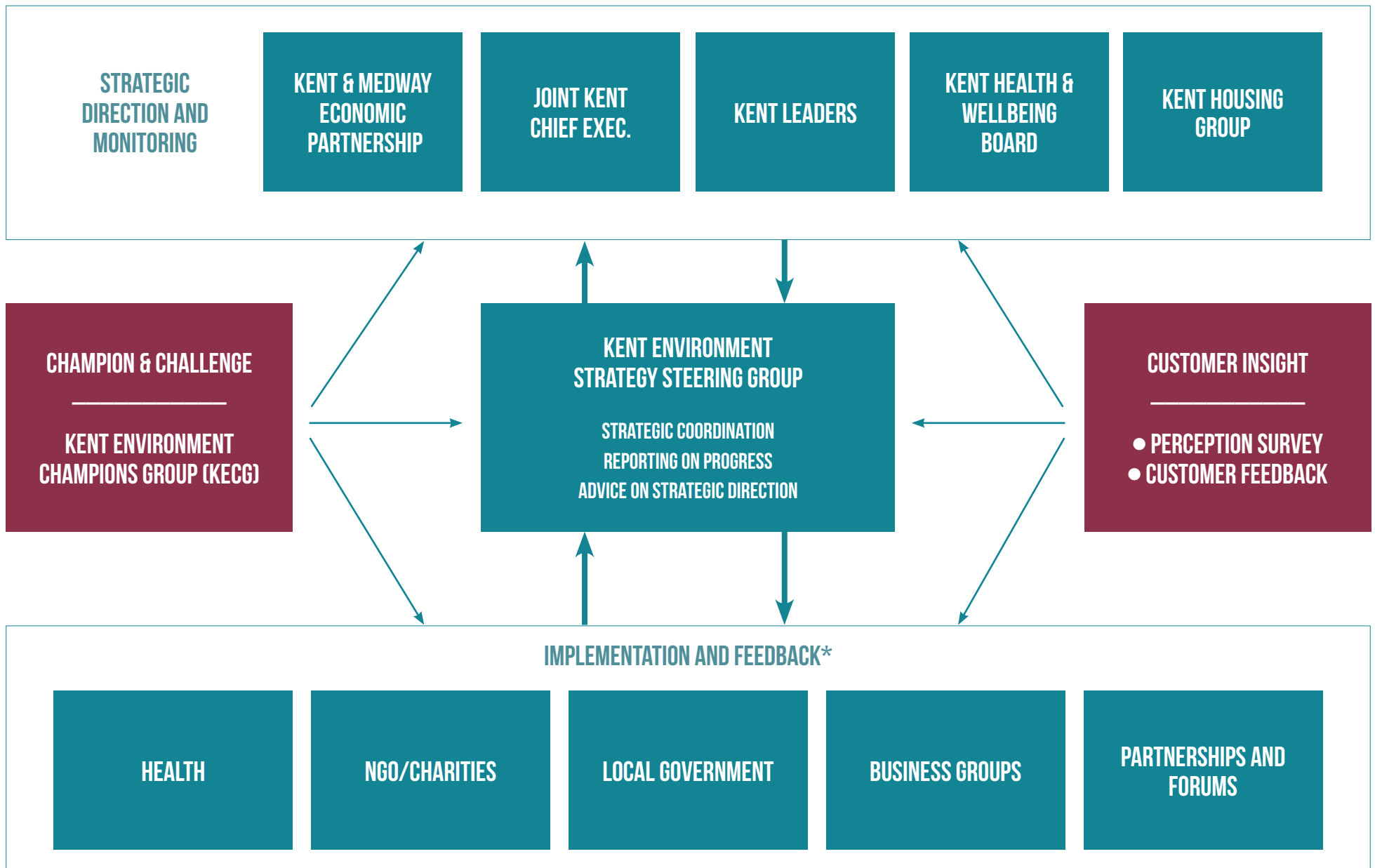
monitoring reports, indicators and state of the environment report can be found online at [www.kent.gov.uk/environmentstrategy](http://www.kent.gov.uk/environmentstrategy)

The Energy and Low Emissions Strategy is a sub-strategy of the Kent Environment Strategy and as with the Kent Environment Strategy, it is intrinsically linked to several other strategic documents and policies across Kent. These are shown in Figure 5.

- **GROWTH AND INFRASTRUCTURE FRAMEWORK**
- **LOCAL TRANSPORT PLAN 4 – GROWTH WITHOUT GRIDLOCK**
- **ACTIVE TRAVEL STRATEGY**
- **HEALTH AND WELL BEING STRATEGY**
- **JOINT STRATEGIC NEEDS ASSESSMENT**
- **FUEL POVERTY STRATEGY**
- **HOUSING STRATEGY**
- **PROSPERITY AND PRODUCTIVITY STRATEGY**
- **STRATEGIC ECONOMIC STATEMENT (LEP)**
- **LOCAL INDUSTRIAL STRATEGY**
- **LOCAL AIR QUALITY MANAGEMENT AREA STRATEGIES**
- **SUSTAINABLE TRANSFORMATION PLAN STRATEGY**

**Figure 5:** Key strategies linked to the Energy and Low Emissions Strategy










**Figure 4:** Relationship of partner groups in the delivery of the Kent and Energy Low Emissions Strategy

\*The main reporting line will be to Kent Leaders and Joint Chief Execs

## MEASURING SUCCESS – OUR INDICATORS ON A PAGE

	<b>Emissions</b>	Total carbon dioxide (CO <sub>2</sub> ) emissions
		Total carbon dioxide emissions by sector
		Number of authorities signed up to the Emissions Reduction Pledge
	<b>Air Quality</b>	Concentrations of particulate matter (PM2.5, PM10 and secondary PM), nitrogen oxides (NO <sub>x</sub> – made up of NO and NO <sub>2</sub> ), ozone (O <sub>3</sub> ), sulphur dioxide (SO <sub>2</sub> ) and carbon monoxide (CO).
		Number of days of moderate or higher energy pollution
		Number and size of Air Quality Management Areas
	<b>Energy</b>	Annual energy consumption of the Kent and Medway local authority estate
		Average gas and electricity consumption per domestic and non-domestic customer
		Renewable energy capacity
	<b>Transport</b>	Number of journeys to school and work using active travel
		Number of cycling trips recorded by KCC cycle counters on key routes
		Journey delays on local A-roads
		Number of Ultra Low Emission Vehicle registrations
	<b>Housing and fuel poverty</b>	Number of households in fuel poverty
		Number of excess winter deaths
		Energy Performance Certificates of homes (existing and new build)
		Number of ECO (energy efficiency) measures installed

Baselines and target setting will be monitored through the Kent Environment Strategy annual monitoring

## GLOSSARY

**Active travel** - Travel and transport by physically active modes of transport such as cycling, walking or scooting.

**Air quality** - The composition of the air in terms of how much pollution it contains.

**Air Quality Management Areas (AQMAs)** – Where Local Authorities have found that air pollution objectives have been exceeded or are not likely to be achieved, an Air Quality Management Area must be declared. The size of these areas is not predefined and can vary.

**Department for Business, Energy and Industrial Strategy (BEIS)** – Formed in 2016 The Department for Business, Energy and Industrial strategy is a government department responsible for business, industrial strategy, science and innovation and energy and climate change policy.

**Car club** – Car clubs allow you to rent a car by the hour. Car clubs offer the benefits of using a car without the expense or inconvenience of maintaining and running your own car.

**Clean energy** – Energy that is not produced from fossil fuels (coal, oil or natural gas)

**Clean growth** – set out in the Government's Clean Growth Strategy, the concept aims to lower carbon emissions, protecting the environment and meeting our climate change obligations, whilst stimulating growth and prosperity, increasing earning power and creating and supporting thousands of jobs.

**Combined Heat and Power (CHP)** - When electricity is generated, up to 60% of the energy can be wasted as lost heat. Combined Heat and Power schemes are designed to recover most of this waste heat and use it to power a turbine and generate more electricity.

**Department for Environment, Farming and Rural Affairs (DEFRA)** – Formed in 2001, the Department for Environment, Food and Rural Affairs is the government department responsible for environmental protection, food production and standards, agriculture, fisheries and rural communities in England.

**District heating** - A district heating system is a network of insulated pipes, which delivers heat (or chilled water) from a centralised energy centre to multiple end users.

**Energy Performance Certificate (EPC)** - EPCs are intended to inform potential buyers or tenants about the energy performance of a building, so they can consider energy efficiency as part of their investment or business decision. The scale is from A-G, A being the most efficient.

**Energy switching** – a process carried out by consumers aiming to reduce their energy bills by changing their energy provider.

**Excess Winter Deaths** – is defined as the difference between the number of deaths which occurred in winter (December to March) and the average number of deaths during the preceding months (August to November) and the subsequent four months (April to July).

**Flexible working** - Flexible working is a way of working that suits an employee's needs, for example having flexible start and finish times, or working from home.

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

**Geographic Information Systems (GIS)** – A computer system that allows analysis of spatial data by organising layers of information into visual maps and 3D scenes. Commonly used GIS applications are ArcGIS and MapInfo.

**Greenhouse gases** - As defined under the Kyoto Protocol, these include:

Carbon dioxide (CO<sub>2</sub>)  
Methane (CH<sub>4</sub>)  
Nitrous oxide (N<sub>2</sub>O)  
Hydrofluorocarbons (HFCs)  
Perfluorocarbons (PFCs)  
Sulphur hexafluoride (SF<sub>6</sub>)

**Green infrastructure** - Green infrastructure is a network of multi-functional green space, both new and existing, both rural and urban, which supports the natural and ecological processes and is integral to the health and quality of life of sustainable communities.



**Growth and Infrastructure Framework** – prepared by Kent County Council to provide a view of emerging development and infrastructure requirements to support growth across Kent and Medway. It provides a strategic framework across the County, for identifying and prioritising investment across a range of infrastructure, for planned growth up to 2031.

**Hard-to-treat homes** – homes that cannot accommodate routine, cost-effective energy efficiency measures. Homes considered hard-to-treat are often not connected to the gas network or are built with solid walls (without a cavity); this includes older properties and park homes.

**Heat networks** - A heat network, sometimes called district heating, is a distribution system of insulated pipes that takes heat from a central source and delivers it to a number of domestic or non-domestic buildings. The heat source might be a facility that provides a dedicated supply to the heat network, such as a combined heat and power plant; or heat recovered from industry and urban infrastructure, canals and rivers, or energy from waste plants.

**Local Enterprise Partnership (LEP)** – LEPs are locally-owned partnerships between local authorities and businesses. They play a central role in determining local economic priorities and undertaking activities to drive economic growth and the creation of local jobs.

**Low Carbon Across the South East (LoCASE)** – An EU funded project set up to help businesses tackle and adapt to climate change, by aiming to reduce costs by cutting emissions and promoting the opportunities of the low carbon and environmental goods and services market.

**Low carbon economy** - An economy which has a minimal output of greenhouse gas emissions.

**Mega Watt (MW)** - a measure of power, one million watts.

**Net Zero** – Achieving net-zero carbon emissions by deeply cutting emissions, with remaining emissions offset by removal from the atmosphere (eg. by trees or technology).

**Renewable energy** - Energy produced using naturally replenishing resources. This includes solar power, wind, wave, tide and hydroelectricity. Wood, straw and waste are often called solid renewable energy, while landfill gas and sewerage gas can be described as gaseous renewables.

**Small and Medium Sized Enterprises (SMEs)** - Micro, small and medium-sized enterprises who employ fewer than 250 people and which have an annual turnover of less than £25 million.

**Superfast broadband** - In the UK, 'superfast' broadband is defined as a connection with download speeds of 24Mb or above.

**Sustainable development** - Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It is central to the economic, environmental and social success of the country and is the core principle underpinning the National Planning Policy Framework.

**Tri-LEP** – A term used to describe collaboration between the South East, Coast to Capital and Enterprise M3 Local Economic Partnerships. The Tri-LEP area covers much of south east England including Kent, Sussex, Surrey, Hampshire and Essex.

**Ultra-Low Emission Vehicles (ULEVs)** – Ultra low emission vehicles (ULEVs), also known as plug-in vehicles, emit extremely low levels of motor vehicle emissions compared to traditional petrol or diesel vehicles.

**Vulnerable resident** – term for an individual who is at risk of abuse or harm due to life circumstances such as underage, homeless, physical and mental illness, frailty or elderly.

# KENT AND MEDWAY ENERGY AND LOW EMISSIONS STRATEGY

This document is available in alternative formats and can be explained in a range of languages. Please contact [alternativeformats@kent.gov.uk](mailto:alternativeformats@kent.gov.uk)

