



Low Carbon NK Plan 2013 – 2020

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Section 1 Aims and Objectives of the Low Carbon NK partnership (LCNKP)

The Low Carbon NK Plan is a partnership approach to working together to tackle climate change and monitor North Kesteven's greenhouse gas emissions on an annual basis.

In 2008, the UK Government passed the first Climate Change Act into law and become the first national Government to commit to legally binding CO₂ reduction targets. Action has continued to progress in the East Midlands as a region. All Local Authorities in the East Midlands signed the Nottingham Declaration in 2007, completed a climate change risk assessment and local carbon impacts profile report.

In 2012, North Kesteven District Council signed up to Climate Local, the successor to the Nottingham Declaration, renewing its commitment to the issues surrounding a changing climate and levels of greenhouse gas emissions.

North Kesteven District Council knows there is a passion amongst businesses and the wider community to reduce the levels of Carbon Dioxide (CO₂) within the District. The Low Carbon NK partnership looks to bring together the different organisations, businesses, and communities across the District and work together as partners to achieve this aim.

The Sustainability Team at North Kesteven District Council are able to use their resources to support and coordinate the Low Carbon NK project on behalf of all the signatory partners. Plus offer support to signatory organisations to audit their environmental impact and reduce their carbon footprint.

To demonstrate their commitment to the approach taken by this Low Carbon NK Plan, organisations are asked to become a signatory of the Low Carbon NK Charter which contains the following aims and objectives.

Aims

- Reducing our carbon footprint across all of our sites and operations in North Kesteven.
- Creating a low carbon, sustainable economy in North Kesteven which will be an example to other areas across the country.
- Creating more green jobs, increasing prosperity and opportunity for all.
- Supporting a programme of best practice and sustainable innovations
- Reporting each year on the progress we are making

Objectives

- We are committed to working together to create a low-carbon, sustainable North Kesteven.

- We will work together to build a prosperous district for high technology, smart services and the other elements of a sustainable local economy in which all can share
- We will make North Kesteven a leading area for reducing carbon emissions and tackling climate change
- We will champion local people who are trying to reduce their carbon footprint

Objectives of the Low Carbon North Kesteven Plan

This plan will work to capture the ideas, projects and initiatives raised by the different partners and should identify opportunities for joint working to deliver the ambitions raised wherever possible. The plan outlines potential projects, an approach to monitoring carbon dioxide emissions and proposes a target based on potential for CO₂ reductions by 2020. The plan will be updated on an annual basis to include new carbon reduction schemes from national to local level and include the activities of Low Carbon NK Charter signatories.

Greenhouse gas emission reduction targets

To drive the process a target has been set for North Kesteven for all partners involved to help to achieve.

The following approach to establishing targets has been suggested for North Kesteven:

- An **aspirational** target to reduce North Kesteven's CO₂ emissions by 20% by 2020 based on a 2005 baseline.
- A **long term** target to reduce North Kesteven's CO₂ emissions by 80% by 2050 based on a 2005 baseline.

The aspirational target for 2020 takes into account future local and national initiatives that we are aware of that will have an impact on North Kesteven CO₂ emissions. See Appendix B for the breakdown of projects from local organisations likely to influence CO₂ emissions in North Kesteven.

Working towards these targets will require a reduction in emissions from all sectors of the community. To understand where and how CO₂ savings can be made from particular areas we need to identify potential savings.

To reach the 2020 target NK's total emissions need to fall an average of 1.3% per year. The target for 2013 (latest available data) is therefore 10.4%.

Section 2 NK Achievements to date

Local Context

Between 2005–2013 CO₂ emissions have reduced in North Kesteven by 12%, ahead of target, as a result of reductions across the following sectors.

Latest available data

Year	North Kesteven CO ₂ emissions (tonnes)			
	Industry and Commerce	Domestic	Road Transport	Total
2005	283,800	265,100	256,100	857,100
2006	268,300	271,500	248,200	839,500
2007	260,900	265,600	256,600	831,400
2008	263,100	265,200	242,000	818,500
2009	234,500	243,100	232,300	759,800
2010	246,200	264,000	231,200	790,700
2011	230,400	230,700	228,300	738,000
2012	234,600	246,000	227,600	754,400
2013	242,300	239,000	227,900	754,600
Total reduction 2005-2013	41,500	26,100	28,200	102,500
Total reduction 2005-2013	14.6%	9.8%	11%	12%
Total reduction per capita* 2005-2013	0.7	0.3	0.5	1.4
Total reduction per capita* 2005-2013	21.4%	11.7%	18.1%	18%

North Kesteven's CO₂ emissions data sourced from [Department for Energy and Climate Change 2005-2013 UK Local and Regional CO₂ emissions full dataset](#). There is generally a two year time lag in data release and with each release previous years' data has been recalculated including the baseline year 2005.

*total emissions divided by NK's population. This therefore takes into account changes in the number of people living in NK who are contributing to the total amount of emissions. However, national targets, with which the targets in this plan are aligned, are based on the reduction of absolute total emissions and therefore per capita figures are an additional indicator to emissions trends in NK.

Potential savings by sector

Sector	Baseline CO ₂ emissions 2005 (t)	Estimated CO ₂ emissions (t) 2020 (baseline minus target)	Percentage reduction proposed	Actions to achieve emissions savings
Industry and commerce	278,700	209,000	25%	Energy efficiency projects, CRC energy efficiency scheme, Energy Savings Opportunities Scheme, reduction in carbon intensity of grid electricity, onsite renewables, behaviour change (SAGE scheme)
Domestic	267,400	213,900	20%	Energy efficiency projects, Green Deal measures, behaviour change, reduction in carbon intensity of grid electricity, micro renewables on homes, changes to building regulations and smart meters
Transport	252,500	216,600	15%	Improvements in vehicle efficiency, increase in electric vehicles and bio fuels, increase in public transport, increase in the numbers of people walking and cycling
TOTAL CO ₂ emissions	798,600	638,900	20%	12% already achieved by 2013

Adaptation

The impact of climate change will be felt in North Kesteven even if we begin to reduce greenhouse gas emissions significantly. Lincolnshire's local climate impact profile was first produced in May 2009 and a risk assessment in 2010 to identify local impacts, financial cost and potential steps that need to be in place to reduce risk. The Environment Agency has taken on a new role as the Climate Ready Support Service to help organisations adapt to

climate change. This role will build on the work of the UK Climate Impacts Programme (UKCIP). The Environment Agency provide a support service to help businesses, public sector and other organisations in adapting to a changing climate. Visit the Environment Agency's web pages for current information, sources and tools which are available to help you now.

How can we continue to monitor progress?

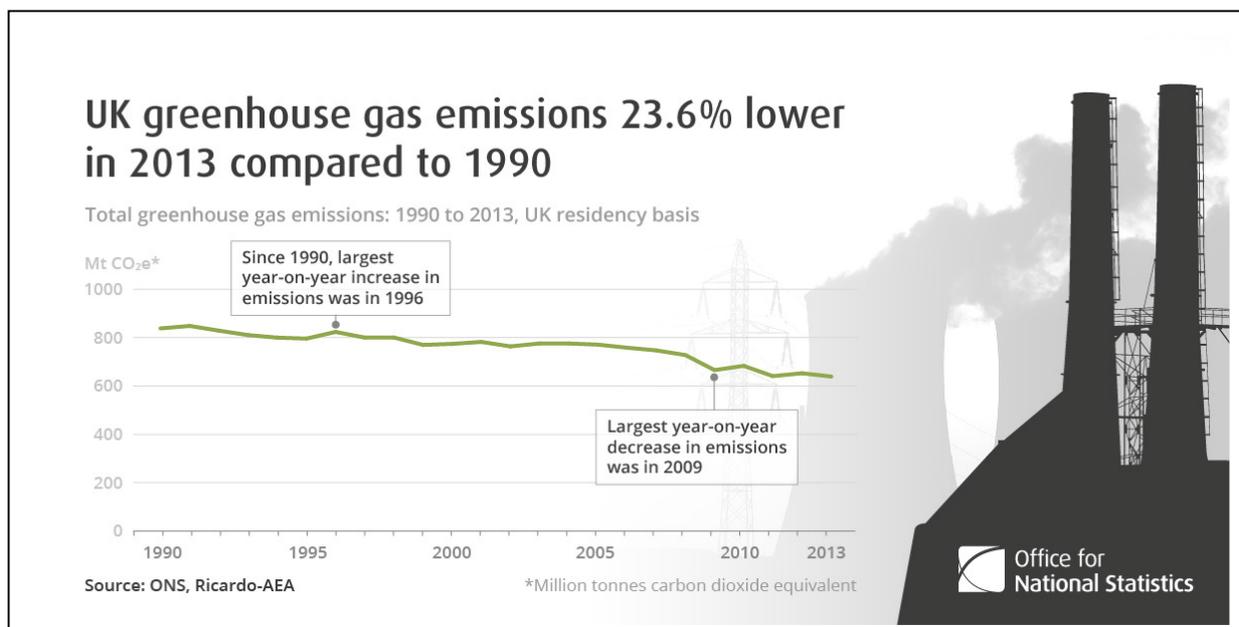
To monitor progress on an annual basis, CO₂ savings and increases can be estimated for projects undertaken by the partners of the North Kesteven Plan.

Any project that produces measurable energy savings such as building insulation or reduction in emissions from vehicles can provide an estimated carbon saving. In addition, organisations' own carbon reduction targets can be taken into account to enable us to work towards an aspirational CO₂ target for North Kesteven.

Section 3 National and International focus

National focus

Latest available data



Graph sourced from the [Office for National Statistics http://visual.ons.gov.uk/uk-environment-facts/](http://visual.ons.gov.uk/uk-environment-facts/)

National CO₂ emissions (tonnes)		
	2005-2012	1990-2012
Total reduction (tonnes)	79,000,000	117,000,000
Total reduction	16%	19.8%
Total reduction per capita (tonnes)	1.2	Not available
Total reduction per capita	16.7%	Not available

Data sourced from [Department for Energy and Climate Change 2013 UK greenhouse gas emissions: final figures - data tables](#)

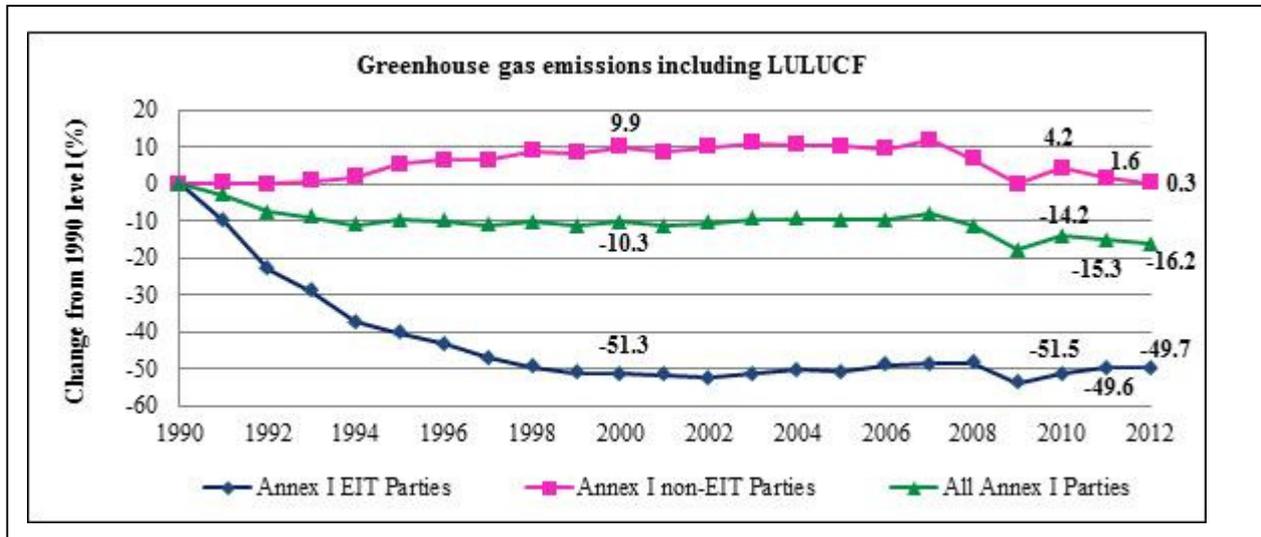
Since 2004, action to tackle climate change in the UK has continued to gather pace. Increasing support at a national level for communities to take the lead in tackling climate change is hugely important.

Below is a summary of key events:

- In 2006 the Stern Report was published. It stated that the scientific evidence is now overwhelming: climate change is a serious global threat, and it demands an urgent global response. The investment that takes place in the next 10-20 years will have a profound effect on the climate in the second half of this century and in the next. The cost of the damage caused by carbon emissions is far higher than the cost of reducing them.
- In December 2008, The Climate Change Act became law in the UK. This committed the Government to a legally binding CO₂ reduction target of at least 34% by 2020 and 80% by 2050 based on a 1990 baseline.
- In 2009 the UK Climate Projections (UKCP09) was produced. It provides the best available data on the UK climate, past and future projections, to enable effective planning. The headlines for the East Midlands include: an increase in summer temperatures in 2050 by up to 2.9°C, and an increase in average winter rainfall of around 11%.
- In 2010 Local Carbon Frameworks were developed following a pilot. This was run by Department for Energy and Climate Change (DECC) with nine local authorities to identify various approaches to introduce carbon reduction measures across local authority areas. The outcome of the pilot was to develop templates for action on carbon by all local authorities. The new Council frameworks on Climate Change were introduced in November 2011 and provide a self-regulation action on carbon reduction and will be overseen by 'Climate Local' as the successor to the Nottingham Declaration. From 2011 national performance indicators were removed and Local Authorities are asked to voluntarily report to DECC annual CO₂ emissions from council operations, as well as demonstrate plans to adapt their area of jurisdiction to climate change. Annually updated Low Carbon NK Plans are used to report to Climate Local.
- From 2010 any organisation that consumes over 6,000 megawatt-hours (MWh) per year of qualifying electricity through settled half-hourly meters has to comply legally with the CRC (Carbon Reduction Commitment) scheme. This is designed to gradually lower CO₂ emissions from organisations across the UK.
- In 2014 the Energy Savings Opportunity Scheme (ESOS) was implemented. It requires a review of the total energy use and relative energy intensity of eligible companies, plus identification and quantification of cost-effective energy savings opportunities. It is estimated that the scheme will lead to £1.6bn net benefits to the UK, with the majority of these being directly felt by businesses as a result of energy savings. Contact: the Environment Agency ESOS help desk ESOS@environment-agency.gov.uk for more information or see the compliance document at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/428469/LIT_10094.pdf

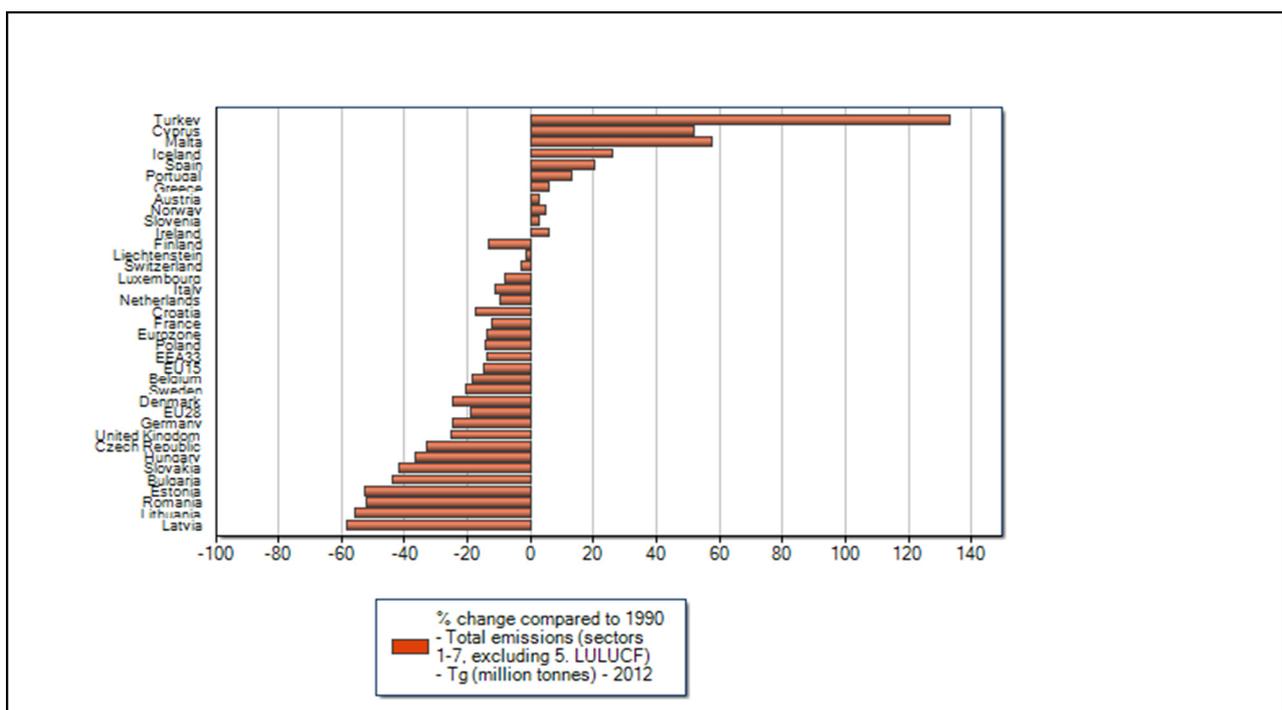
International focus

Actual global emissions increased by 1.4% over 2011, reaching a total of 34.5 billion tonnes in 2012, allowing for a leap year this figure reduced to 1.1% compared with an average annual increase of 2.9% since 2000. However, the green line on the graph below shows the achievements made to 2012.



Graph sourced from the [United Nations Framework Convention on Climate Change](http://unfccc.int/ghg_data/ghg_data_unfccc/items/4146.php) http://unfccc.int/ghg_data/ghg_data_unfccc/items/4146.php

An extensive report titled 'Trends in Global CO₂ emissions 2013' report provides detailed analysis. It has been produced by the PBL Netherlands Environmental Assessment Agency Institute for Environment and Sustainability (IES) of the European Commission's



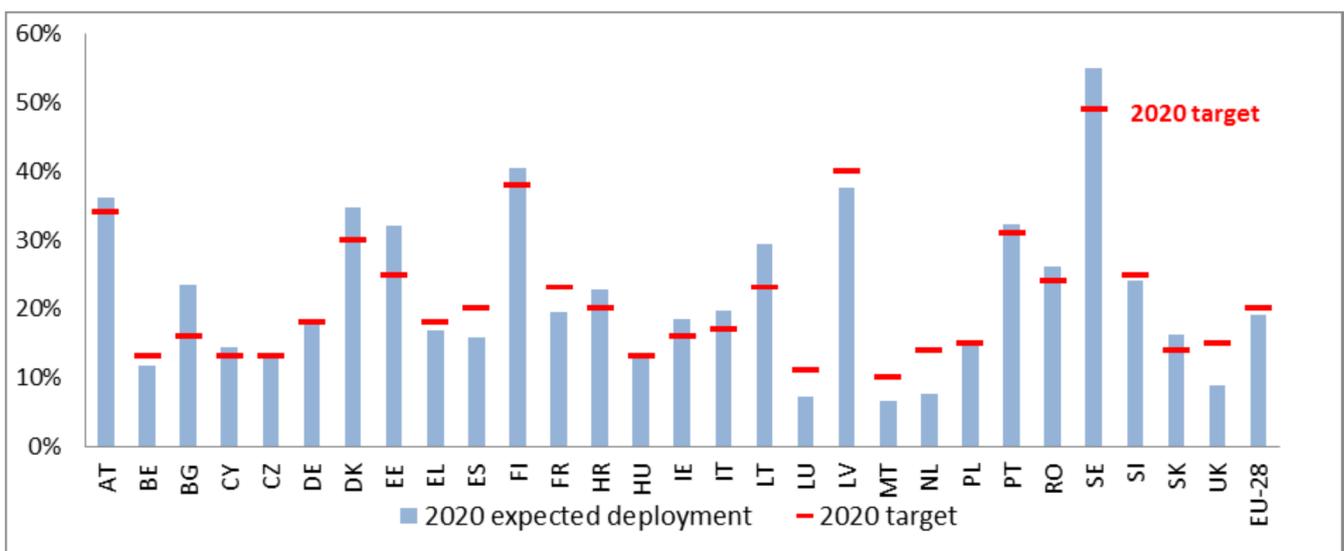
Joint Research Centre (JRC). The graph above shows the (%) change 1990 – 2012 in emissions by country.

The Intergovernmental Panel on Climate Change (IPCC) is made up of hundreds of the world’s specialist climatic scientists, working to give the most up to date scientific knowledge on climate change. The Fifth Assessment Synthesis Report provides the most comprehensive assessment of climate change yet undertaken. The collective effort ensures accuracy and reliability.

Their video is a general summary of the work that is written for governments and policy makers. It explains how implementing a substantial and sustained reduction in Carbon emissions now, may prevent the predicted devastating effects of climate change in the future. It focusses on information about atmospheric warming, melting of ice sheets, sea level rise and global carbon emissions <https://www.youtube.com/watch?v=F-Hcu3jH8G4>

More information on the IPCC reports can be found at <http://www.ipcc.ch/index.htm>

The UK’s transition to sustainable energy and progress towards renewable energy targets is key to achieving carbon emissions reductions targets. To 2013 5.1% of energy was being generated from renewable sources. The European Commission have noted that the UK has a long way to go towards its 15% by 2020 legally binding target as shown in the graph below.

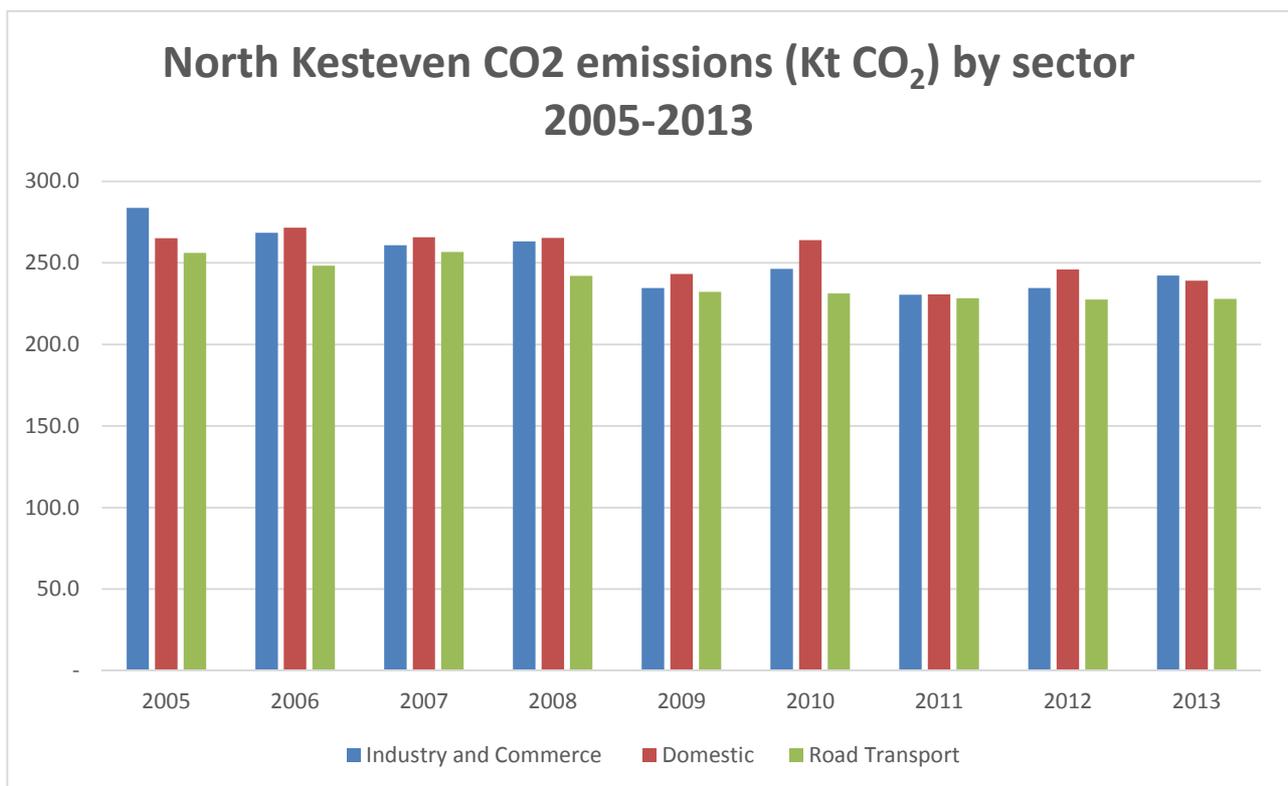


Graph sourced from the [European Commission http://ec.europa.eu/energy/en/news/eu-track-meeting-20-renewable-energy-target](http://ec.europa.eu/energy/en/news/eu-track-meeting-20-renewable-energy-target)

Review of the Climate Change Act – Agreement at international level on greenhouse gas emission targets could result in a change to the UK’s Climate Change Act through the setting of more ambitious targets.

Section 4 NK CO₂ target 2012 – 2020

Setting a target to reduce emissions in North Kesteven is the easy part. Identifying where and how carbon dioxide will be saved is hard, particularly when attempting to forecast savings to 2020 and 2050. Currently we rely on data provided by the Department of Energy and Climate Change which has a 2 year time lag. The LCNKP could use carbon modelling software, such as Vantage Point, to create a scenario and help work out what measures will need to be put in place to reduce emissions. This is not thought to be necessary at this time with data from DECC being available and easily accessible. The latest figures are shown in the table below.

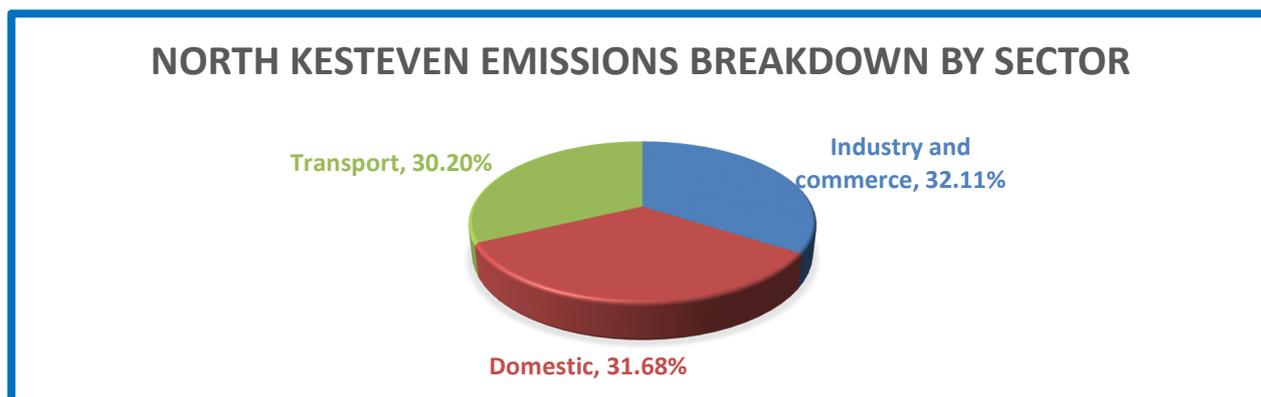


Based on individual organisations' carbon reduction targets, proposed emissions savings from carbon management plans and the intended effects of national policies (e.g. the switch to 30% of electricity coming from renewable energy sources, Government Renewable Energy strategy) potential emission reduction savings from the three different sectors have been made. This represents just one scenario for meeting an agreed 2020 carbon emissions reduction target. Further explanation of how a 20% CO₂ reduction target, identified in the summary to this report, could be met by each sector follows.

Industrial and commercial sector

This section covers the CO₂ emissions arising from Industry and Commerce as defined by National Indicator 186. This Indicator is no longer collected by national government but the definition is still used to provide comparable data with other authorities. Emissions from this sector accounted for 32.11% of all NK's emissions in 2013

Latest available data



2005 – 2013 Industry and Commerce Sector emissions reductions						
	Electricity	Gas	Large Industrial installations	Other fuels	Agriculture	Total
CO₂ tonnage reduction	23,264.6	1,247.9	9,630	14,014.3	2,846.3	41,469.4
% reduction	14.35%	2.97%	42.20%	25.26%	11.95%	14.61%

N.B. % values do not add up to 100% as per DECC data

The latest data gives an indication where savings have been made. Although it is not possible to know exactly how these decreases came about, it is clear that the largest reduction in tonnes of emissions is from a reduction in the consumption of electricity and other fuels (this will cover oil in a low gas connectivity area such as NK), plus a reduction in the number of large industrial installations which equates to the largest percentage reduction in emissions. Therefore, the reason for the largest reductions in absolute [tonnes of] emissions is likely to include; rising energy prices; energy efficiency projects; savings in years with mild winters in an area with low connectivity to the gas mains; lower emissions vehicles and mileage travelled; lower emission agricultural practices; corporate carbon management plans and CO₂ targets. Due to issues around confidentiality it is not possible to identify which organisations are the most intensive energy and fuel consumers. However due to the collaborative work agreed by the LCNKP we can breakdown emissions further

within this sector to the contributions made by the Low Carbon NK Charter signatory organisations. We will also be able to establish the anticipated CO₂ reduction to be achieved by 2020 based on individual organisations' targets.

Projects under this theme will focus on energy efficiency as well as any projects related to the installation of renewable or clean energy. The table below details the renewable electricity generated in the district from non-domestic installations. The figures stated are based only on the projected generation figures stated in submitted and approved planning applications (i.e. not actual generation figures) from 2012/13 onwards when renewable energy project data began to be collated by the planning authority (NKDC). Whilst data is limited and is therefore not an exhaustive account of generation in the district, two very large energy generation projects were given approval before 2012/13 and due to the contribution they make the publicised figures for these are also included to give a more accurate account of the actual volume of energy produced within the district. Total electricity consumed in the district is also included and gives an indication of the proportion of commercial energy demand which is being generated locally.

Non-domestic renewable energy generation (kW)					
	Pre 2012/13*	2012/13	2013/14	2014/15	Total
Solar	Not available	15,120.50	30,636.00	50,057,782.98	50,103,539.48
Wind	Not available	0	10.00	500.00	510.00
Biomass	49,240.00	0	0	14,440.00	63,680.00
Total	49,240.00	15,120.50	30,646.00	50,072,722.98	50,167,729.48
Total Industrial and Commercial electricity consumption	Not applicable	250,500,000 (250.5 gWh 2012)	Not available	Not available	-
Estimated proportion of consumption generated locally from renewable sources	-	-	-	-	20.03% (based on 2012 consumption and total generation)

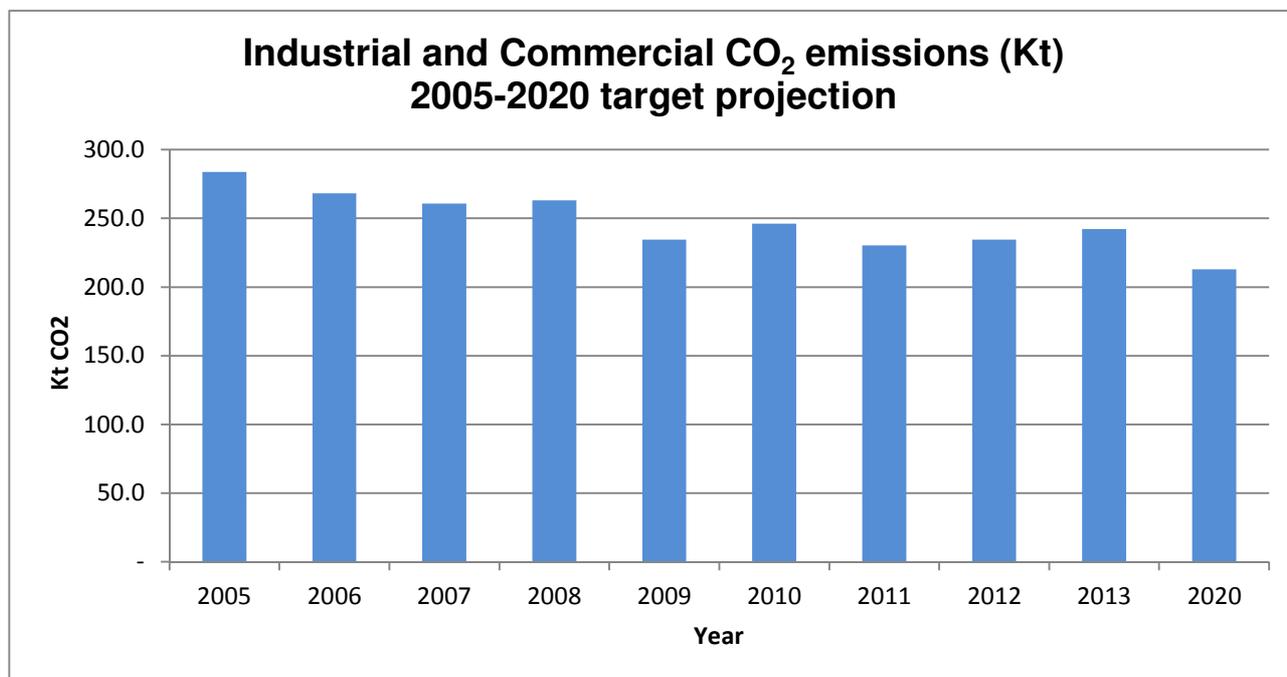
*North Hykeham Energy from Waste plant and Sleaford Renewable Energy Plant

At over 20%, renewable energy generation in NK surpasses the national generation figure of 5% as well as the legally binding 15% national target.

Based on a nominal average cost to purchase energy of 10p per kWh, renewable energy generated in the district in 2014/15 is worth around £5,016,773 per year. With energy prices rising an average of 10% per year this could mean that the value of the energy generated could be double in ten years. This simple valuation does not take into account the addition of income received by the generators from subsidies as this is specific to technology, size

and the amount of subsidy being paid at the time when it was installed. However, as the majority are solar PV installations a simple calculation based on the lowest feed-in-tariff payments (6.38p per unit generated in March 2015) for this technology would result in an annual value to local businesses of £3,196,606.

Industry and commercial carbon dioxide emissions in North Kesteven forecasted to 2020 (based on a 25% target).



The following table identifies potential projects and provides an estimation of CO₂ emission reduction by 2020 to support the 25% target for the industrial and commercial sector and an overall target of 20% for North Kesteven.

Aspirational goal	Explanation of measure/assumptions	Delivery	Estimated annual CO ₂ increase/saving (tonnes)
All organisations affected by the CRC and ESOS to adopt aspirational CO ₂ targets.	The CRC (Carbon Reduction Commitment energy efficiency scheme) affects all organisations with an energy use of at least 6,000MWh per year. See the National Focus section for ESOS eligibility.	All organisations that are affected by the CRC i.e. Lincolnshire County Council, and large companies, plus those affected by ESOS.	tbc (based on a combination of individual organisations targets)

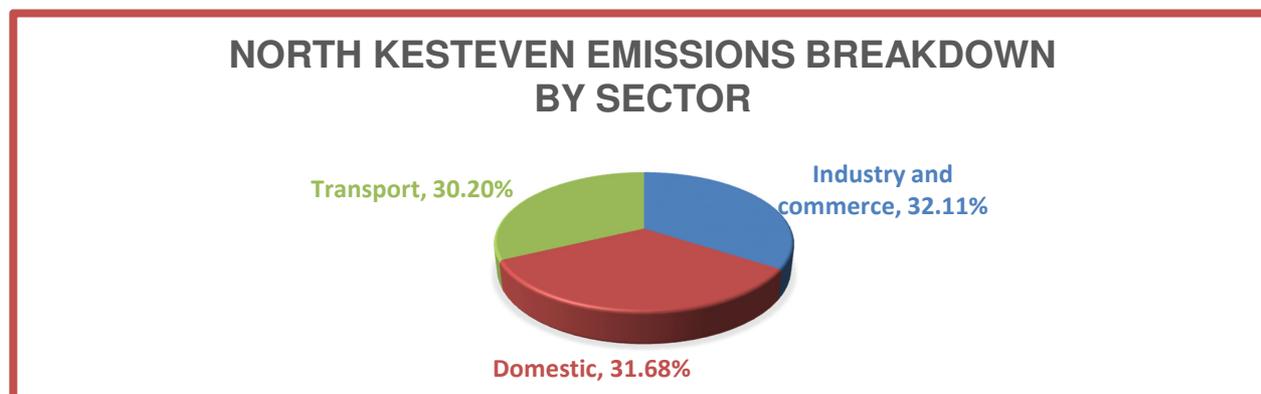
Increase membership and activities in North Kesteven of Sustain Lincolnshire	Sustain Lincs promotes energy saving in Small and Medium sized Enterprises (SMEs) in North Kesteven.	Sustain Lincolnshire, NKDC SustainNK and Economic Development Teams, chamber of commerce.	2,838 (based on 1% of Industry & Commercial baseline)
Introduction of new renewable to grid electricity	<p>The Government aims to see 30% of the UK's Industrial and Commercial electricity generated by renewable or green electricity by 2020</p> <p>N.B. There is a significant risk around the implementation of large scale renewables and nuclear power by 2020.</p> <p>Central Lincolnshire energy study identifies suitable locations for potential renewable energy and district heating schemes and potential carbon reduction. Including the energy from waste plant which is now operational at Teal park.</p>	Government, Energy suppliers.	36,344 (Assumes 15% UK's electricity generated by renewable or green electricity by 2020 – based on 2013 total emissions)
TOTAL estimated savings			39,182 t CO₂

Based on the projects identified in the table above a further 12.16% CO₂ reduction in the industrial and commercial sector could be achieved by 2020 in addition to the 14.61% reduction already achieved between 2005-2013. Therefore it is reasonable to assume that a 25% target for this sector by 2020 (based on 2005 baseline) is achievable.

Domestic sector

This section covers emissions from households in North Kesteven. Electricity, gas and fuel use in the home accounted for 31.68% of all NK's emissions in 2013.

Latest available data



2005 – 2013 Domestic Sector emissions reductions				
	Electricity	Gas	Other fuels	Total
CO₂ tonnage reduction	14,950.1	5,603.2	5,519.4	26,072.7
% reduction	13.16%	5.10%	13.23%	9.83%

N.B. values do not add up to 100% as per DECC data

The most significant carbon saving measures are associated with improving the energy efficiency of North Kesteven's housing stock. High levels of insulation and the move to greener forms of energy production via the national grid and micro renewables e.g. solar panels fitted to homes, will lower the carbon footprint of our housing stock.

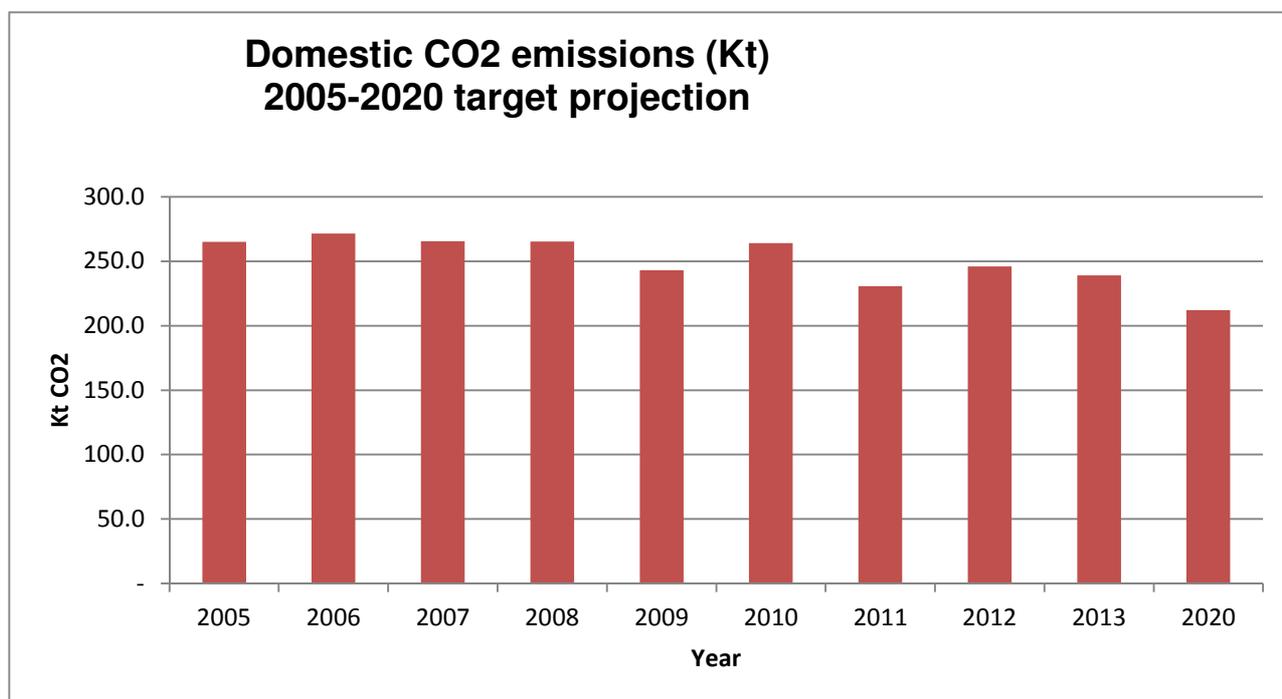
It is predicted that the demand for energy in homes will fall due to the increasing costs of gas and electricity and the increased availability of energy savings products and schemes e.g. solid wall insulation. The Green Deal was introduced in 2013, there has been low take up of this finance scheme nationally and the government announced in March 2015 that though property assessments could still be undertaken, the offer of finance for energy efficiency measures would not continue. In NK 818 assessments were undertaken and 1131 households received a financial contribution and installed energy efficiency measures. Reductions to domestic emissions are also being achieved as a result of the offer by energy suppliers to install energy saving measures to achieve the carbon emissions reduction targets set for them by government.

The government rescinded the requirement in Building Regulations that all new homes be zero carbon from 2016. However, this preceded the EU Energy Performance of Buildings Directive target which will need to be met and requires all new homes to be Nearly Zero-Energy Buildings by 2020.

2101 Solar PV systems and 5 wind turbines (DECC Feed-in-tariff applications, data limited due to majority installed under permitted development rights i.e. without the need for planning permission) have been installed since 2013. A government announcement and consultation suggests that from January 2016 Feed-in-Tariff rates will either dramatically reduce or be stopped altogether. Reports from local installers suggest that a current rush to install will precede a dramatic reduction in the number of installations on domestic properties.

Additionally, from 2018 it will be illegal to rent out properties with the lowest energy efficiency ratings (EPC ratings F and G). Based on the estimated number of poor quality older housing stock in North Kesteven this could affect around 1600 properties. How this will be addressed is a work in progress.

Domestic carbon dioxide emissions in North Kesteven forecasted to 2020 (based on a 20% target)



The following table identifies potential projects and provides an estimate of CO₂ emission reduction by 2020 to support the 20% target for the domestic sector and an overall target of 20% for North Kesteven.

Aspirational goal	Explanation of measure/assumptions	Delivery	Estimated annual CO ₂ increase/saving (tonnes)
Cavity Wall insulation for	No of houses already insulated data from Home Energy	NKDC and HELP data Energy suppliers	2,651 t CO ₂

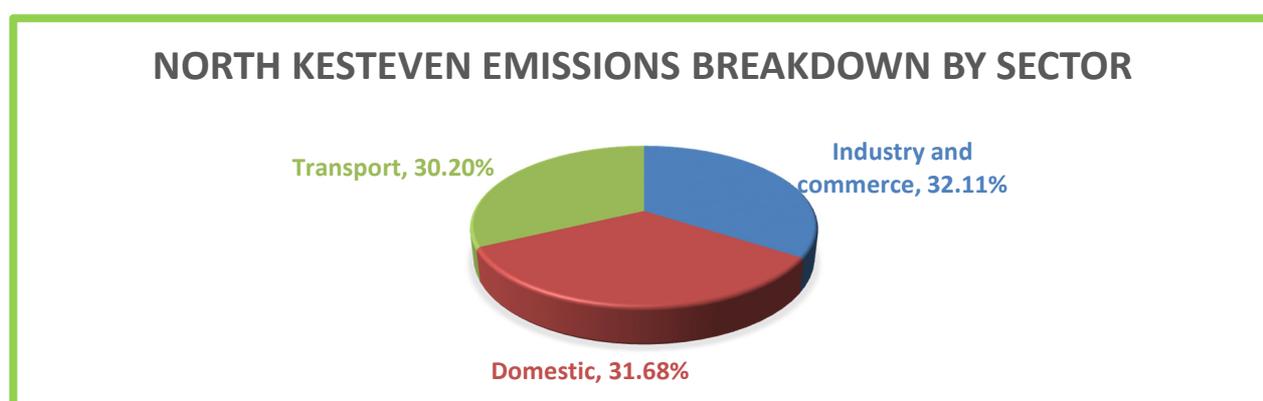
homes that are suitable	Lincolnshire Partnership (HELP)/warmfront etc. Data for properties from recent stock condition survey to establish no. of suitable homes Data monitoring software for Lincolnshire SAP 2009 enable houses without insulation to be targeted.		(1% of baseline)
Loft insulation for homes	As above	As above	2,651 t CO2 (1% of domestic baseline)
All new housing is to be built to Sustainable Homes level 6 (zero carbon) from 2016 onwards (though withdrawn) and the move towards the EU Energy Performance of Buildings Directive	Based on the Government's 'Code for Sustainable Homes' that was launched in 2006. Incorporate planning policies which will ensure that new development in North Kesteven contributes to a reduction in CO ₂ emissions through the Local Plan (currently being developed).	Central Lincs JPU, NKDC planning, housing developers NKDC JPU, NKDC	Neutral (due to the increased number of houses)
Promote the adoption of energy saving measures in the home.	National roll out of smart meters by energy suppliers by 2020	NKDC Government, Energy Suppliers	1,325 (0.5% of domestic baseline)
Introduction of new renewable energy technologies to generate	The Government aims to see 30% of the UK's domestic electricity generated by renewable or green electricity by	Government, Energy suppliers. NKDC , JPU	35,855 (Assumes 15% UK's electricity generated by

electricity distributed through the national grid.	2020 (nb There is significant uncertainty around the implementation of large scale renewables and nuclear power by 2020.) Central Lincolnshire energy study identifies suitable locations. Local Plan (currently being developed) to set out policy.		renewable or green electricity by 2020 – based on total 2013 sector emissions)
Increase the uptake of micro renewables by households	Based on government FiT application Driven largely by financial incentives e.g Feed in Tariffs (FITs) and Renewable Heat Incentive (RHI) (NB reductions in financial incentives likely to have impact on this target)	Government FiT uptake figures, Energy suppliers.	3,740 (based on 2000 4kWp PV array installations producing 3,500 kWh per year using Energy Saving Trust estimate)
Achieve a year on year improvement in energy efficiency of Council owned residential property	New homes built to fabric first policy Ongoing maintenance and upgrades e.g. boiler replacement Identify further potential for renewable technology (solar PV, solar hot water, air and ground source heat pump technology already installed)	NKDC	Already accounted for
TOTAL estimated savings			46,222

Based on the projects identified in the table above a further 11.27% CO₂ reduction in the domestic sector could be achieved by 2020 in addition to the 9.83% reduction already achieved between 2005-2013. Therefore it is reasonable to assume a 20% target for this sector by 2020 (based on 2005 baseline) is achievable

Transport

This section covers emissions from transport in North Kesteven, which accounted for 30.2% of all NK's emissions in 2013.



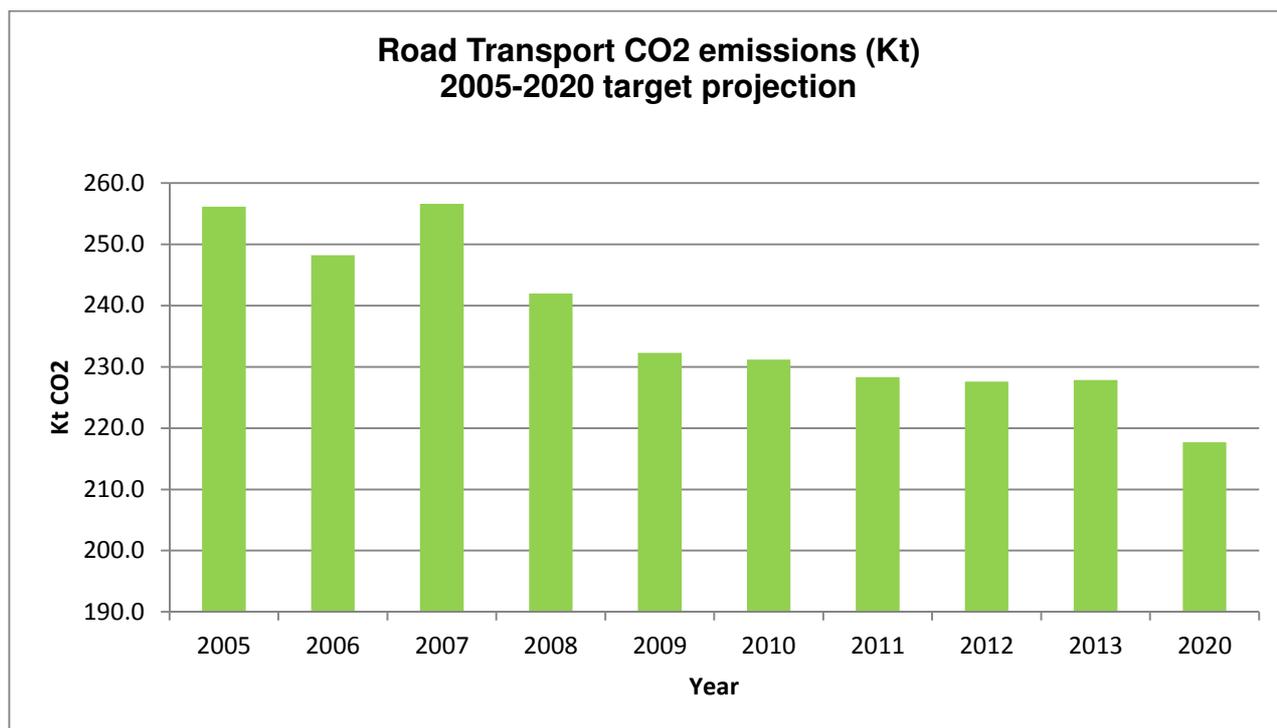
2005 – 2013 Transport Sector emissions reductions					
	Road transport (A roads)	Road transport (minor roads)	Diesel railways	Other transport	Total
CO2 tonnage reduction	25,652.9	3,074.1	106.7	349.5	28,270.9
% reduction	13.50%	5.18%	3.33%	9.87%	11.04%

N.B. values do not add up to 100% as per DECC data

A decrease of 11% is evident from 2005 to 2013. These savings can be attributed to the increased efficiency of vehicles and a reduction nationally in vehicle use and the average number of miles driven annually, for all but Light Goods Vehicles which has increased by almost a fifth in 10 years (source Department for Transport Annual Road Traffic estimates statistical release 5 June 2014

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/317454/annual-road-traffic-estimates-2013.pdf). By 2020, the increased efficiency in vehicles is expected to contribute to a 15% reduction in transport CO₂ emissions based on 2005 figures.

Transport carbon dioxide emissions in North Kesteven forecasted to 2020 (based on a 15% target).



The following table identifies potential projects and provides an estimate of CO₂ emission reductions by 2020 to support the 15% target for transport and an overall target of 20% for North Kesteven.

Aspirational goal	Explanation of measure/assumptions	Delivery	Estimated annual CO ₂ increase/saving (tonnes)
Improvements in vehicle efficiency	Reduction in miles travelled and efficiency improvements are anticipated to reduce emissions from vehicles by 13% by 2020 compared to 2005.	Department of Transport, car manufacturers	33,297 (based on 13% of transport baseline)
Promotion of travel plans for businesses and organisations in North Kesteven	Travel plans encourage more people to use public transport and alternatives to the car. Awareness raising events for Bike to Work Week etc Sustrans/LCC cycle officer support for businesses	LCC, NKDC, individual organisations/companies LCC, Sustrans, NKDC	2,561 (based on 1% of transport baseline)
Increased use of public transport	New developments (including the three proposed sustainable urban extensions) to integrate public transport. Promotion by public transport companies	JPU, LCC, NKDC, developers and transport companies Transport companies	Already accounted for
Proportion of road transport fuels replaced by increase in electric vehicle use.	Includes the installation of electric car charging points (including free domestic charging points national scheme)	NKDC, LCC, Department of Transport, car manufacturers	7,684 (Based on a national study into electric vehicle potential, the percentage of fuel displaced by electric vehicles is assumed to be 3%)

Smarter and greener driving	Promoted through employers and the Energy Saving Trust. Potential for a 5% improvement in driver efficiency.	LCC, NKDC, North Kesteven employers	12,807 (based on 5% of transport baseline)
Traditional road transport fuels replaced with biofuels	Based on EU biofuels policy, it is estimated that 10% of fuel used in 2020 will come from biofuels. Biobuses emit up to 40% less CO ₂	Government/ Department of Transport	Already accounted for
Improvement to cycle lanes and safe storage	Improvements to cycle access planned as part of the LN6 sustainable transport bid	LCC, NKDC, Sustrans	Already accounted for
TOTAL estimated savings			56,349 tCO ₂

Based on the projects identified in the table above a further 4.45% CO₂ reduction in the transport sector could be achieved by 2020 in addition to the 11% reduction already achieved between 2005-2013. Therefore it is reasonable to assume that a 15% target for this sector by 2020 (based on 2005 baseline) is achievable.

Section 5 Climate Change Adaptation

The UK climate projections (UKCP09) provide information on how the UK's climate is likely to change in the 21st century, as it responds to rising levels of greenhouse gases in the atmosphere. In general terms the projections for North Kesteven are:

- Warmer and wetter winters
- Hotter and drier summers but with more extreme weather events.

By assessing the District's vulnerabilities, the aim is to use this information to guide the work of Lincolnshire County Council, North Kesteven District Council and partner organisations over the next 40 years. Building climate change adaptation considerations into this work will help the district incorporate appropriate adaptations into routine maintenance work and capital projects. Not only will this help the community to cope with the negative impacts of climate change, but it will also put the District in an excellent position to grasp the numerous business opportunities that will arise.

The adaptation action plan will contain existing initiatives. In some areas, such as flood risk management, a great deal of work has already been undertaken. In other areas such as engaging in adaptation based business opportunities, there is much to be done to raise the profile across the business community.

Selected key issues to be included in the Climate Change Adaptation Action Plan

- The Environment Agency are looking at current and future flood risk to people, property and infrastructure and agricultural land and the options for managing it in the Upper Witham Flood Risk Management Strategy. Its findings will form the basis of how to manage flood risk in the future within North Kesteven and will build on work already carried out in the area.
- District authorities have a statutory duty to provide advice to private (specifically small to medium enterprises) and third sector organisations to support them to produce emergency and business continuity plans (see business continuity section on www.lincolnshireprepared.co.uk). Current projects being delivered by Lincolnshire County Council in North Kesteven on behalf of NKDC focus on identifying possible symbioses between small business continuity and community resilience, plus the specific issues faced by care homes and caravan sites during emergency situations.
- Water management in terms of an increased demand on consumption and treatment.
- Lincolnshire County Council, as Lead Local Flood Authority, is required to implement and monitor a Local Flood Risk Management Strategy consistent with the [National Flood and Coastal Erosion Risk Management \(FCERM\) Strategy](#) produced by the Environment Agency.
- Raising awareness on effects of warmer weather, increased temperatures and more sun exposure. For example Cancer Research UK promotes a SunSmart campaign to raise awareness of the risks associated with exposure to the ultraviolet radiation.

- In 2010, Lincolnshire County Council established the flood Risk and Drainage Management Framework to facilitate effective coordination between local partners to deliver the local Flood Management Plan.
- Central Lincolnshire Joint Planning Unit produced a green infrastructure study in 2011 to underpin and support development of spatial planning policies through the Local Development Framework (LDF).

Section 6 Delivery Plan

Reducing North Kesteven's carbon footprint whilst communicating action on climate change and adapting the district, requires a partnership approach to ensure effective implementation.

Education and communication

Delivering real progress in tackling climate change requires the support of the people who live and work in North Kesteven. Individuals' perceptions of, and beliefs about, climate change are affected by direct experience as well as the social, cultural and political context (<http://www.nature.com/nclimate/focus/views-about-change/index.html>).

Polls seeking public opinion vary widely depending on the way the questions are asked. Therefore it is necessary to ensure the public are provided with clear messages about climate change to ensure individuals are able to make well informed decisions to reduce their carbon footprints.

Lincolnshire County Council and North Kesteven District Council (through the SustainNK team) have provided and supported a range of activities, to encourage a better understanding of climate change to residents, schools and businesses. There are now over 2000 residents in receipt of the quarterly SustainNK newsletter and around 2000 more are engaged annually through direct contact with the team.

Communicating the need to tackle climate change will remain a priority, and importantly, its significance in delivering reductions in CO₂ will not be overlooked. For example, the scenario for reaching a 25% national reduction in CO₂ emissions by 2020 relies on a 10% reduction in electricity and gas use. Changing attitudes to the way electricity and gas are used will be important in contributing to this target.

Actions

- An informal mailing network (partner email addresses are not hidden in correspondence) is now used to enable members to communicate, keep each other informed of actions and initiatives, consultations and share information.
- Carbon management projects and actions that have been identified as contributing to the agreed target will be reviewed each year to ensure the agreed target can still be met and any shortfalls in emission savings are recognised early on.
- A webpage on the SustainNK website (www.n-kesteven.gov.uk/sustainnk) – managed by the North Kesteven District Council Sustainability Team - has been created for the Low Carbon NK Plan, and the Low Carbon NK Charter which includes a list of partner organisations.

Meeting long term targets

Meeting an agreed target by 2020 based on a 2005 baseline is dependent on both local and national projects delivering significant carbon savings. However, meeting this target will require changes in our approach and attitude to using and sourcing energy. Based on the Government's Low Carbon Transition Plan, 30% of the nation's electricity needs will be met by renewables by 2020. The scenarios that will be developed to estimate how the agreed target reduction in CO₂ will be met are reliant on the national energy infrastructure making this change to renewables.

The annual update of the Low Carbon NK Plan will outline the progress of the switch to renewable forms of electricity and if required, new CO₂ reduction scenarios will be produced to take any shortfalls into account.

Next Steps

This Low Carbon NK plan was prepared by the SustainNK team at North Kesteven District Council and circulated to all partners for comments. The NK plan is reviewed on an annual basis to establish progress towards the target and take into account changes that are likely to impact on North Kesteven's carbon footprint.

Further information

For further information on sustainability and climate change in North Kesteven please contact:

SustainNK Team

North Kesteven District Council

Kesteven Street

Sleaford

Lincolnshire NG34 7EF

Email SustainNK@n-kesteven.gov.uk Tel. 01529 414155

Section 7 Glossary

Greenhouse gases (GHGs) - gases in the atmosphere, which absorb thermal infra-red radiation emitted by the Earth's surface, the atmosphere and clouds. GHGs include water vapour, carbon dioxide, methane and nitrous oxide.

Mitigation – taking action to reduce the causes of climate change by reducing the amount of greenhouse gases in the atmosphere.

Adaptation – taking action to cope with the consequences of climate change, such as an increased risk of flooding.

Carbon Dioxide - or CO₂ is a gas in Earth's atmosphere. It occurs naturally and is also a by-product of human activity such as burning fossil fuels and land-use change. It is the principal greenhouse gas linked to manmade climate change.

Biofuel - A fuel derived from recently dead biological material and used to power vehicles (can be liquid or gas). Biofuels are commonly derived from cereal crops but can also be derived from dead animals, trees and even algae. Blended with petrol and diesel biofuels can be used in conventional vehicles.

Renewables - Energy is derived from natural processes that are replenished constantly. They include geothermal, solar, wind, tide, wave, hydropower, biomass and biofuels.

CRC energy efficiency scheme - The UK's first mandatory carbon trading scheme that covers all organisations that consume over 6000 MWh of electricity in a year.

North Kesteven District Council’s commitment to carbon reduction

North Kesteven District Council (NKDC) takes its responsibility to protect the environment very seriously and has been working on the sustainability and climate change agendas for a number of years. Action has continued to progress in the East Midlands as a region. All Local Authorities in the East Midlands signed the Nottingham Declaration in 2007, completed a climate change risk assessment and local carbon impacts profile report. In 2012, North Kesteven District Council signed up to Climate Local, the successor to the Nottingham Declaration, renewing its commitment to the issues surrounding the changing climate and carbon emissions.

The Council calculates and monitors the greenhouse gas emissions from its operations and services on an annual basis. A carbon management programme delivers projects that contribute towards NKDC’s aspirational target of a 40% reduction in emissions by 2020 (in line with the national government target). In the last five years the Council has reduced its carbon footprint by 34.24% resulting in financial savings of £157,412.

In addition, the Council’s Sustainability Team works with businesses, residents and local communities to reduce carbon emissions in the District. In 2013 the council launched the Low Carbon NK Charter and Plan, essentially a district carbon management plan, to monitor and work in partnership with others in the district to reduce emissions and adapt to a changing climate. Summaries from Low Carbon NK Partners are listed in Appendix B of this Plan, a summary of NKDC specific projects is below (full details are available from the Sustainability Team).

Implemented projects

Offices	Leisure facilities	Council homes
Boiler replacement	Boiler replacement	800 A rated boilers
Motion sensor and LED office lighting	Lighting upgrade NK Sports Centre	220 solar PV installations on council homes
Voltage optimisation unit	Voltage optimisation unit NK Sports Centre	12 solar hot water systems
Loft and wall insulation	Sleaford Leisure Centre refurbishment	Air source heat pumps

Staff business miles reduction	Majority of heritage sites switched to a certified 100% renewable energy green electricity tariff	6 ground source heat pumps
Heat from renewable straw power plant		4 Code for Sustainable Homes level 4 straw houses
Solar panels		New homes built to higher insulation (fabric first policy) standard
IT server rationalisation		493 Loft and wall insulation upgrades alongside boiler upgrades
Desktop computers replaced with Thin Client devices		23 solar hot water systems fitted
Switched to a certified 100% renewable energy green electricity tariff		New homes built to higher insulation (fabric first policy) standard

Proposed projects

Offices	Leisure Facilities	Council homes
Investigate extension of lighting motion sensors	NK Sports Centre refurbishment (in progress) and new Combined Heat and Power unit	Continued programme of boiler and insulation upgrades
	Reinvestigate any potential for solar PV installations across all sites	Continued investigations and trials to aid building to high energy and thermal efficiency levels
	Investigate sites with increased energy consumption	

Further information

For further information on sustainability and climate change in North Kesteven contact SustainNK Team, North Kesteven District Council, Kesteven Street, Sleaford, Lincolnshire, NG34 7EF Email SustainNK@n-kesteven.gov.uk Tel 01529 414155

APPENDIX B

Summary of Low Carbon NK Charter signatories' targets and emissions reductions

Organisation name	Summary of activities, policies, projects investigated and implemented.	CO _{2e} tonnes reduction (if available)	Energy generated (if available/applicable)	Target (if applicable)
1Life	<p>Corporate Environment and Energy Policy in place committing to reductions across sites.</p> <p>See NKDC Implemented projects table for information on the action taken at leisure and culture sites managed for North Kesteven District Council</p>	<p>256.2 tonnes CO_{2e} 2008/09-2014/15 (these savings are from delivery of NKDC's leisure contract. Sites no longer managed by 1Life have been removed therefore savings appear lower than previously reported. These savings are included in NKDC's emissions reduction figure)</p>		5% per year
Aaron Services Ltd.	<p>2008-2015 36.5% reduction in tonnes CO_{2e} per £m turnover</p> <p>2014-2015 17.3% reduction in tonnes CO_{2e} per £m turnover</p> <p>2014-2015 2.8% reduction in total absolute emissions</p>	<p>31.36 tonnes CO_{2e} per £m turnover (across whole business)</p> <p>11.39 tonnes CO_{2e} (across whole business)</p> <p>41.36 tonnes CO_{2e}</p>		5% per year (CO ₂ per £M turnover)

	<p>2014-2015 reduction is mainly due to a reduction in emissions from employee owned vehicle travel. Emissions from the company van fleet have increased only marginally (<1%), despite an increase in the amount of vehicles. This reflects the impact Aaron Service's investment in low emission and highly fuel efficient vehicles is having on keeping any emissions increases from this element low.</p> <p>Projects;</p> <ul style="list-style-type: none"> • Replaced many older vehicles in the company van fleet with new models with high fuel efficiency, leading to a decrease in the amount of fuel consumed. • Diary control and route planning has decreased total mileage by fleet and employee owned vehicles. 			
Allen Signs Limited (also see Doublered Print)				
Anglian Water	<p>2010-2015 Gross emissions down across business</p> <p>2014/15 – 10.48 Gwh/5,633 t/CO_{2e} electricity saved (included in total figures opposite). 8% reduction in use of grid electricity. 83% reduction in use of natural gas. Renewable energy generation from biogas, CHP and wind.</p> <p>Have Climate Change Charter, Small Steps Big Impact report and annually produce a Greenhouse Gas emissions report</p>	2010-2015 30,595 tonnes CO _{2e} per £m turnover (across whole business)	100GWh of renewable energy produced	50% 2010-2035

	http://www.anglianwater.co.uk/environment/why-we-care/why-we-care.aspx			
Baker Plant Hire LTD	Update not received before publication			
Branston Ltd	Request for update sent			
Brook & Mayo	<p>2015 activities</p> <ul style="list-style-type: none"> • 11% reduction in electricity use • July 2015 - the installation of Solar PV's to the office in North Hykeham. • September 2015 – one of the Contract Managers changed his car for a Hybrid vehicle and the office also installed a charging unit for the vehicle itself. <p>We are still working towards reducing our carbon footprint by :</p> <ul style="list-style-type: none"> • retiring older vans and replacing them with more economical ones • Monitoring our water, electricity and fuel usage monthly • Taking part in Zero Waste Week, Walk to Work week • Training all the engineers on energy efficient driving <p>Projects already underway</p> <ul style="list-style-type: none"> • Installation of chips to ECU to reduce Carbon Emissions • Installation of 2nd control panel to AC unit to reduce unnecessary AC use • Change of waste suppliers to allow further items to be recycled and with a view to reduce our landfill collection from weekly to bi-monthly 		17287 kwh generated by solar panels	

	<ul style="list-style-type: none"> • Change of Energy Supplier to Haven with excellent environmental credentials • Changed Fuel Card suppliers to allow engineers to fill up at a more choice of stations, reducing unnecessary driving • Continue to promote Access LN6 services to reduce/improve staff commuting 			
Butlers (Ray Butler LTD)	Request for update sent			
Carbon Point Ltd.	Request for update sent			
Carre's Grammar School	Request for update sent			
DiS contractors	Request for update sent			
Doddington Hall	Request for update sent			
Doublered Print (also see Allen Signs Limited)	<p>Moved to new more energy and thermally efficient building.</p> <p>Promoting environmental sustainability</p> <ul style="list-style-type: none"> • Clients offered multiple options in quotes to provide the most environmentally friendly option <p>Reducing damage to natural environment</p> <ul style="list-style-type: none"> • Water based and eco solvent inks used <p>Travel</p> <ul style="list-style-type: none"> • Staff still car share their commute <p>Electricity</p>			No set target

	<ul style="list-style-type: none"> • LED lighting installed and zoned to enable switching off unnecessary lighting • Printers set to go into sleep mode when inactive <p>Heating</p> <ul style="list-style-type: none"> • Gas central heating in offices and gas powered air blower heater in printing workshop, used very little and operated manually for short periods as very effective and building retains heat for hours <p>Waste</p> <ul style="list-style-type: none"> • Incoming packaging reused as packaging for outgoing work • Paper and boards used for work are selected to be closest to required size to reduce waste after cutting • Waste and recycling segregated and collected separately. • Metal recycled. Old banner stands are accepted back from customers and are dismantled to recover metal. 			
E A Dring (Farms) Limited	Request for update sent			
EnergyMyWay	Request for update sent			
FCC Environment	Energy from Waste Plant North Hykeham, treating up to 150,000 tonnes of waste per year with electricity generation equivalent to powering 23,000 homes.		81,013 MWh of electricity exported to the national grid (calendar year 2015)	N/A
Framework Housing Association	<ul style="list-style-type: none"> • Have five year environmental strategy • Have travel policy • Bike to Work Scheme • Staff paid 12p/p/m for biking 			

	<ul style="list-style-type: none"> • IT have to buy from Greenpeace green guide irrespective of cost, but monitoring the latter to glean financial impact • Improving SAP levels of properties to current Code for Sustainable Homes (level 3) • Service Managers must choose two targets – detail covered by environmental strategy means that that there are more than two possibilities • managers are putting together viewable (also by central finance department) log of utility data • Buying two staff bikes • Looking into buying staff bus passes as lack of parking means at least an hour a day is lost moving car • Improving use of virtual communication to reduce travel e.g. video conferencing • Staff will have energy efficiency included into suite of e-learning • Signage will be put up – offices; heating instructions and Carbon Trust posters/stickers. properties; heating instructions and top money/energy efficiency tips • Energy efficiency information will go in housing handbooks for tenants • Skills for independence course for tenants (covering moving in/out/on) will include energy efficiency alongside education on managing bills • Plan to incorporate water efficiency education for tenants • TRVs to be installed in all properties and sensor taps in all new properties 			
FreeWatt Ltd	Request for update sent			
Groundwork Lincolnshire	Request for update sent			

Hill Holt Wood	Site is off-grid. Emissions from NKDC's contract are included in NKDC figures in Appendix A.			
Hodgson Brothers LLP	Request for update sent			
Hodgson Elkington LLP	Completed formal Travel Plan as part of carbon management plan and instrumental in helping establish the same for the LN6 area.	31.59 tonnes CO _{2e} a 7.57% reduction in tonnes CO _{2e} 2013/14-2014/15 -		Aspirations and targets to reduce Carbon Footprint as a business
Hurstons Ltd	Request for update sent			
Jeakins Weir	Request for update sent			
K H Marshall LTD	Request for update sent			
Larkfleet Group	Request for update sent			
Lincoln Country Weddings Ltd	<p>Projects already underway;</p> <ul style="list-style-type: none"> • 4kWp solar panel array, additional 11kWp and 30 kWp systems installed. • LED lighting throughout • 190kW biomass boiler fed with waste rape crop straw bales. Supplies house, bridal shop, holiday homes (all have underfloor heating) and wedding venue (hot air heating), ceiling fan installed to circulate heat due to high ceiling. • Rainwater harvesting being installed • Gas powered tumble dryer 	In the process of calculating carbon footprint	In the process of calculating	No target set
Jdezire Ltd				
Lincoln Holiday Homes				

	<ul style="list-style-type: none"> • Electric car charging point installed • Electric car investigated, no suitable offers available at present • Bikes available to holiday home residents • Recycling information in holiday homes 			
Lincolnshire County Council	<p>Projects to improve energy efficiency and lower energy consumption have taken place in buildings across the county council's estate. Buildings in the corporate, heritage and schools sectors have been included as part of an increasing work programme. Best reductions and paybacks have been achieved through LED lighting schemes, boiler optimisation, boiler room insulation & voltage optimisation. The council has a revolving fund enabling energy efficiency investment. To date £1,701,681 has been invested and as a result annual energy costs reduced by £355,776 with annual CO₂ savings of 1,821 tonnes.</p> <p>There has been significant investment in PV and other renewable technologies. Fire & Rescue have installed 150kWp of solar PV whilst 330kWp has been installed at LCC museums, central library and waste transfer sites. LCC schools including academies have installed over 600kWp of solar PV with William Farr School just about to add a further 185kWp to their existing 50kWp system making it one of the biggest roof mounted solar PV systems on a UK school. As a result of investment in solar PV on waste transfer stations and some household waste recycling centres, Waste Services are carbon neutral.</p>	<p>8,400 tonnes CO₂e a 10% reduction to 2014/15 from 2011/12 baseline.</p> <p>5,580 tonnes CO₂e (reduction 2013/14 to 2014/15)</p>	Approximately 500,000 kWh per annum from renewable energy projects across sites in Lincolnshire	22% to 2018

	<p>Work has also been ongoing to improve the nature of travel for business; further promotion of the benefits of low-carbon modes of transport along with public transport has taken place. To help reduce building and transport emissions LCC has embarked on a 'work smarter' project and provided over 400 hot desks at 74 locations. To further encourage unnecessary travel LCC is making staff aware of, and encouraging the use of, the 7 video conferencing sites around the county. Driver training courses have been provided for staff and the council's popular lease car scheme incentivises low emission cars.</p> <p>Further information and greenhouse gas reports available at http://www.lincolnshire.gov.uk/residents/environment-and-planning/sustainability/environmental-policy/greenhouse-gas-reporting/</p>			
Lindum Group Ltd	Request for update sent			
Lindum Homes				
M C Mountain & Son Ltd	<p>Carbon footprint calculated and monitored annually.</p> <p>Environmental policy in place</p>			
Mid UK Recycling Ltd	<p>Summary of changes which have occurred over the past 12 months:</p> <ul style="list-style-type: none"> • Successful ESOS registration 			

	<ul style="list-style-type: none"> • Installation of two biomass boilers resulting in the replacement of oil burning heaters at our Barkston Heath and Transport workshops • Transport – Introduction of 21 vehicles out of 68 with Euro 6 specified engine efficiency. As an example of the efficiency of this engine, the emission output in Tokyo is cleaner than standard atmospheric conditions. All other transport vehicles are running on Euro 5 which is very efficient • Mountain Transport continue to conduct ‘SAFED’ driver training on an annual basis. (Safe and Fuel Efficient Driving scheme). • Increase in the transfer of Refuse Derived Fuel production to Specified Recovered Fuel production. SRF is supplied to UK cement works as a coal replacement fuel. This has also reduced the requirement to export RDF to western Europe. • Introduction of a further two optical separator plants to refine dry mixed recycling residue • Introduction of a further 2 electric 360 grab machines. The electric machines remove the reliance on diesel and additional lubricants such as transmission fluid. There are no exhaust emissions from these machines • Exchange of 12 JCB loading shovels for Liebherr loading shovels. Each machine will save approximately 2l of diesel every hour. • We are going through a process of replacing halogen internal lighting for energy efficient fittings. 			
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	<p>Three buildings have been completed so far. This will be a rolling program over the next two years</p> <ul style="list-style-type: none"> • Established the Honey Pot Lane Composting Facility. This site has been connected to a anaerobic digestion boiler and the entire site electricity runs on this boiler <p>In addition to the above we have been focusing on safety systems and have successfully introduced 'Safe Contractor' and OHSAS18001 safety management system certification.</p> <p>My next target is to introduce the requirements of ISO14001 management system</p>			
Moy Park	Request for update sent			
Noble Foods	Request for update sent			
North Kesteven District Council	See Appendix A	<p>34.24% reduction to 2014/15 from 2008/09 baseline</p> <p>1,252 tonnes CO₂e (reduction 2013/14 to 2014/15)</p>		40% by 2020
Pennell's Garden Centre	<p>120kWp Solar PV array electricity generation</p> <p>48 tonnes of Bales of Card collected for recycling</p>		115.73 MWh	

	<p>Reviewing lighting within the centre to switch more to LED in 2016</p> <p>In addition to projects already underway;</p> <ul style="list-style-type: none"> • Environmental Policy in place. Publicised on website and information desk. • Electricity - LED bulbs in concession area (largest retail area and newest building) and GUs replaced with LED bulbs. Otherwise as bulbs fail they will be replaced with LEDs. • Gas – New controls fitted to hot air blowers which has resulted in visible savings. • Oil – Hot house heating operated based on need. • Transport – One plug in hybrid • Water - Mains feeds kitchen, restaurant and toilets. Extraction licence for own gravel pit for irrigation. Investigated rainwater harvesting, it was not cost effective in comparison to extraction licence and effectively using rainwater via that source. • Waste – Bail and sell 50-60 tonnes of cardboard p/yr. Plant pot recycling in place, but due to material type and cleanliness issues this is limited. Recycling bins in some areas of the site. Skips hired from Lindum. Some recycling conducted, but having contamination issues which is limiting. • Maintenance – All systems annually serviced and regularly maintained 			
Peter B Hayman	Request for update sent			
Place Architecture Ltd	Request for update sent			

Robert Doughty Consultancy Ltd	<p>Projects implemented;</p> <ul style="list-style-type: none"> • LED lighting installed • Two vehicles changed, newer vehicles have lower emissions. • Seven Anaerobic Digester client projects in total ranging from 250KW to 5MW, 5 plants have already been built. <p>Working with SustainNK team. Carbon footprint from electricity consumption measured totalling 13.7 tonnes.</p>	1.74 tonnes CO ₂ e an 8.67% reduction from 2014 to 2015	8000 MWh/yr plus 8000 MWh/yr in waste heat	No target set Environmental Policy to be updated
Rockstar (Lincoln) Ltd	Request for update sent			
The Rossendale Group	Request for update sent			
Siemens Industrial Turbomachinery Ltd	Request for update sent			
Sills and Betteridge	Request for update sent			
Sleaford Corn Exchange Ltd				
Sleaford Quality Foods	<p>Reduction in electricity consumption of 90,909 kWh and a reduction of 18% on total 2014/15 electricity consumption.</p> <p>LED lighting installed</p>	<p>40.5 tonnes</p> <p>5% reduction in total carbon emissions</p>		
Sleaford Renewable Energy Plant	Renewable energy plant, burning straw to generate enough power for 65,000 homes	150,000 tonnes	38 MW of electricity	N/A

			3118 MWh of heat	
Trent Build Ltd	Request for update sent			
Turnbull Building and Plumbing Supplies	Request for update sent			
Utility Aid	Request for update sent			
Waldeck Engineering	Request for update sent			
William Alvey CE School	Request for update sent			
Wright Vigar	<p>Projects already underway</p> <ul style="list-style-type: none"> • LED lighting • Secondary glazing and insulation • Heating is on a timer • Paper use reduced – incoming documents scanned, draft accounts emailed, online book keeping solution for document approval and invoicing, trialling electronic document signing software. • Recycled paper used • Travel reduced – tablets, remote access and network connection between offices (Lincoln office working with LCC Travel Team), video conferencing • Recycling collected – confidential paper and a mixed recyclables collection <p><u>2014/15-2015/16 Projects underway</u></p>		N/A	No target set

	<ul style="list-style-type: none"> • Carbon footprint of energy use measured. Totalling 11.41 tonnes. Business miles are also in the process of being calculated. • Tweaked Environmental Policy template and have used externally for tenders. • All clients now have access to online data exchange Portal, which allows electronic signing of documents, postage, paper and labour savings have resulted. Clients still like a final hard copy e.g. to take to bank. Training is being undertaken and the system is being tweaked. • Tax App is available to update clients instead of producing and sending printed literature • Started paper reduction project in May. 3 paper versions of accounts used to be sent to clients. Now draft is emailed for client to check and only two final bound copies are sent to clients to be signed and one returned. • Trial complete, implementation underway (3-6 months/May-Aug 2016) – getting emailing software so clients formally (paper) invoiced in June will be emailed reminders to pay and asked to request duplicate if required rather than automatically sending to all. The service will be opt out for clients. <p>Cycle Scheme in place for staff and cheap servicing available – purchases made</p>			
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