Lincolnshire County Council

Carbon Management Plan

Final 2019

25th January 2019

Foreword from Cllr Eddy Poll

Climate change is one of the most significant challenges facing mankind and carbon dioxide is one of the main contributing causes. We recognise the scale and speed of climate change, and its potential adverse effect on our economy, environment and local community. Therefore as an organisation operating within the heart of Lincolnshire we are delighted to present this Carbon Management Plan (CMP).

Lincolnshire County Council (LCC) has made significant progress over the last ten years, assisted by our first two CMPs. As a result we have already started to meet our targets of reducing our CO_2e emissions and contribute to national efforts on carbon reduction.

As an integral part of our vision for the future, LCC is committed to developing sustainable practices that will continue to demonstrate our commitment to reduce carbon emissions and remain efficient and effective in our operations.

Furthermore, we are committing to the Government's **Emissions Reduction Pledge 2020** which has a voluntary 30% reduction target to reduce greenhouse gas emissions across the public sector by 20/21, compared to a 2009/10 baseline.

Cllr Eddy Poll
Executive Councilor for Commercial and Environmental Management

Foreword from the Carbon Trust

Cutting carbon emissions as part of the challenge against climate change should be a key priority for local and city governments around the world. The need to bring down carbon emissions to prevent global temperature increasing by more than two degrees over pre-industrial averages is now urgent. Local authority action is a key enabler of this, as councils hold many planning, housing, community engagement, taxation and transport powers. Taking action in these areas is necessary to bring about a successful and prosperous low carbon transition. A clear mitigation strategy for the council estate and operations is crucial part of this process - it helps to save money on energy, whilst also allowing Lincolnshire to lead by example in reducing the risk of dangerous climate change.

Following on from two previously successful CMP's which resulted in significant carbon and financial savings, LCC worked with the Carbon Trust in 2017-18 to develop their 3rd carbon management CMP3 (2018-2023). **This CMP commits LCC to a target of reducing CO_2e by 20% between 2018 and 2023, and underpins potential financial savings to the organisation of around £1.1m over this period**.

There are those that can and those that do. Local authorities can contribute significantly to reducing CO_2e emissions on a local and national scale. The Carbon Trust is proud to support LCC in their on-going implementation of carbon management and local area climate action planning.

Richard Rugg,
Managing Director, Carbon Trust

Contents

1. Executive Summary

1.1 This Carbon Management Plan (CMP) sets out our strategy and action plan for continuing to reduce carbon emissions over the next 5 years. It identifies the tangible and intangible benefits of Carbon Management and describes the governance arrangements to keep the programme on track. LCC has successfully implemented two previous CMPs, CMP1 and CMP2 and will continue to build on this success. CMP1 committed to a 20% reduction on the 2005/6 baseline by March 2012 and CMP 2 committed to a 22% reduction on the 2011/12 baseline by March 2018. This CMP outlines LCC's vision for managing and reducing emissions arising from our activities and operations between 2018 to 2023. We have committed to a 20% reduction in emissions by 2023, a target which if achieved, will contribute towards cumulative carbon savings of 20,103 tCO_2e over the 5 year life of CMP 3.

1.2. There are a range of reasons for LCC to take action on carbon. These include:

1) The financial case for action
    a. We are reducing the risk from future energy price increases; meeting our planned target would realise £1.1m million in cumulative savings
    b. To ensure economic growth across LCC achieved sustainably.
    c. To stimulate further job opportunities across the region, to develop a clear pathway towards clean growth across the county.

2) Legislative pressures and performance targets
    a. We have statutory requirement for Display Energy Certificates (DECs) and are aware of how they make the performance of our buildings visible to the public.
    b. Greenhouse gas emissions reporting.
    c. Adhere to BEIS voluntary targets.
    d. Emissions reduction pledge 2020.

3) The public perception of climate change
    a. We recognise the local impact of climate change on our services and communities
    b. We are leading by example as demonstrated by our signed commitment to Climate Local.
    c. To create a positive stance on climate change, to lead the way in developing regional mechanisms to reduce carbon emissions.

1.3. The development of CMP3 for LCC is a key deliverable to ensure the council meets its carbon reduction targets of 20% by:

1) Installing energy efficiency measures within LCC property portfolio.
2) Solar PV opportunities within LCC property portfolio.
3) Upgrading street lights to LED.
4) Supporting maintained schools to reduce energy use.
5) Reduction of transport emissions.
6) Increase electric vehicle charging facilities and electric car usage.
7) Increase and standardise recycling facilities within LCC offices.

8) Server & Data Rationalisation.
9) IT upgrades.
10) Sustainable Procurement of Services and Goods.
11) Awareness raising and Carbon Champions.
12) Reduction of water usage.

1.4. This will assist the council to work as efficiently as possible across all its services, operations and buildings. Work on the above will help the council contribute to the following International, National and Local drivers:

1) **The Paris Agreement.** – The central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change.

2) **The Climate Change Act**. - Commits the UK Government by law to reducing greenhouse gas emissions by at least 80% of 1990 levels by 2050. To help achieve these targets the Government wants the public and higher education sectors to lead by example through reducing bills and driving decarbonisation across the UK economy.

3) **DEFRA 25 Year Environmental Plan** - Sets out government action to help the natural world regain and retain good health. It aims to deliver cleaner air and water in our cities and rural landscapes, protect threatened species and provide richer wildlife habitats. 25 Year Environment Plan.

4) **Local Industrial Strategy -** In Greater Lincolnshire we have been working to develop a Local Industrial Strategy with the aim of future proofing our economy and boosting productivity. Clearly this means that there will be a significant degree of overlap with existing strategies and delivery plans – not least the GLLEP's Strategic Economic Plan. Specifically the LIS should:

    a. Identify local strengths and challenges, future opportunities and the action needed to boost productivity, earning power and competitiveness.
    b. Be based on clear rationale for intervention – tightly targeted around a specific problem with clarity around why intervention will make a difference.
    c. Have a long-term focus and take account of how the economy will evolve by 2050 – for example, how global trends such as technological change, Brexit, globalisation and demographic change are impacting on the local economy.
    d. Identify new ways of working – potentially across sectors, actors, organisations and boundaries.
    e. Take a partnership approach to identify what can be driven by businesses and local actors alongside national government support.
    f. Focus on improving living standards as well as economic growth. It is not just about more jobs but more good quality jobs and better pay.

g. Align with the national strategy – e.g. drivers of productivity and grand challenges

1.5. Reducing our energy consumption not only reduces harmful greenhouse gas emissions, but also delivers tangible cost savings. Therefore, this programme contributes directly to our goals of:

1) Making the best use of resources.

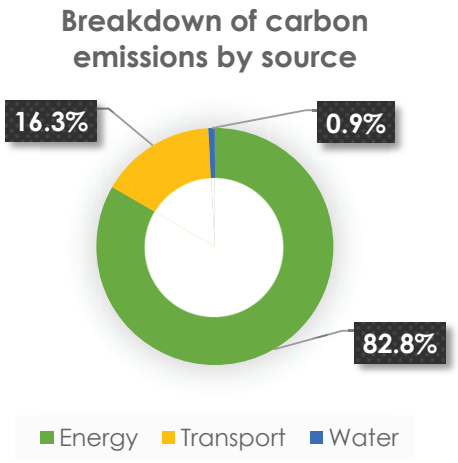
2) Investing in infrastructure and the provision of services.

3) Commissioning for outcomes based on the community's needs.

4) Promoting community well-being and resilience.

5) Influencing, co-ordinating and supporting other organisations that contributes to the life of Lincolnshire.

1.6. The inventory of Greenhouse Gas (GHG) emissions has been compiled in accordance with the World Resources Institute's globally recognised accounting methodology, the Greenhouse Gas Protocol (GHG Protocol). Emissions arise from our activities as a result of the consumption of energy in our buildings, transport etc. In 2016/17 LCC spent £10.7m on energy and emitted 28,679 tonnes of CO_2e. These emissions are generated for running schools and council services and through the operation of our vehicles. This baseline figure also includes water consumption from our buildings & schools and miles driven by our contractors on behalf of LCC.



1.7. Since 2012 we have reduced our footprint by 14,504 tonnes of carbon and reduced related costs by £9.4million. The cumulative carbon savings over the 5 year period was 37,010 tonnes of carbon. This reduction was achieved through working with LCC buildings, schools, street lighting and a reduction in transport mileage. We have therefore set an ambitious carbon reduction target, supported by concrete technical projects and embedding actions set out in this Plan.

20%

LCC will reduce the carbon emissions from our activities by 20%, from a 2016/17 baseline of 28,679 tonnes CO_2e by 2023

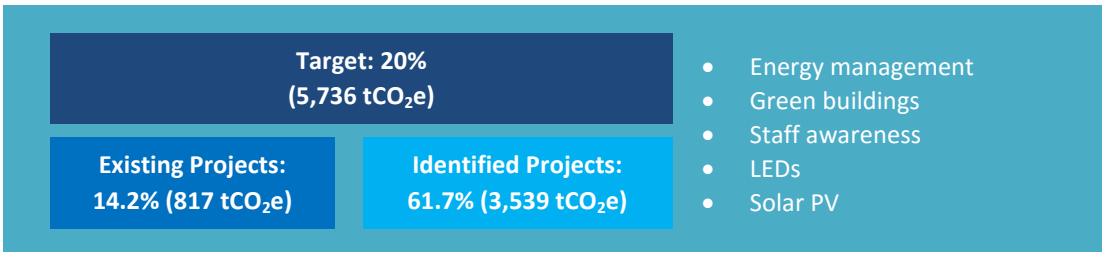
1.8. We have identified carbon reduction projects and activities in the following areas:

- Street lighting
- Corporate properties including:
  - Building Management Systems (BMS)
  - Boiler replacement
  - Re-roofing
  - Installation of Solar PV systems
  - Upgrading of lighting to LED
  - Building rationalisation
- LCC maintained schools

1.9. A range of other projects will also be developed during the lifetime of the plan. These are likely to include:

- Property
- IT
- Transport
- Fire & Rescue
- Procurement

1.10. The projects identified in this plan have the potential to reduce our emissions by 4,355 tonnes CO_2e and achieve 75.9% of our targeted reduction measured against the 2016/17 baseline.



1.11. This means that we will need to develop projects to make up the further 24.1 % and to compensate for the business-as-usual growth. To achieve this we will regularly review opportunities through the Corporate Environment Programme Board and continued liaison with key stakeholders (Corporate Property Team, Transportation, ICT, Street lighting and schools).We will also run opportunities identification workshops, commission surveys, work with other East Midlands Councils via a newly reinvigorated Sustainability Officer Group and local stakeholders to identify and implement best practice solutions.

1.12. We identified 22 projects with payback periods shorter than 10 years. This Plan contains the actions and projects LCC will undertake to reduce emissions and associated costs. This will be achieved through a variety of different projects, including upgrading building and street lighting to LEDs, upgrading building heating & BMS systems and energy efficiency work with LCC's maintained schools. The cost of implementing the projects in this plan has been estimated at £5,035,541, with anticipated financial savings of £178k per annum by 2023. If all the projects in this plan were implemented, the

overall payback period on the capital investment has been calculated as 6.5 years. Due to the long duration of the projects to be implemented, these projects will yield savings well beyond the lifetime of this plan.

1.13. We have secured funding of £5,035,541 from: LCC's revolving Salix Fund, Salix SEELS funding, Capital and R&M budget. The remaining identified projects have not been costed, but we will be looking to fund those projects and others that are identified during the lifetime of the plan from the above sources.

1.14. The CMP is a corporate document and as such will have LCC wide ownership. The sustainability team will monitor the progress of the plan and report to various internal groups with responsibility for plan delivery. To deliver this plan, we have set up a team and governance structure that will ensure successful implementation. This includes:

- Corporate Environment Programme Board
- Corporate Management Board
- Environmental Scrutiny Committee

1.15. The Project Sponsor is Andy Gutherson, County Commissioner - Economy & Place and he has the overall accountability for the delivery of this plan and the achievement of our targets. We will embed carbon management into our organisational structures and processes by setting up a Corporate Environment Programme Board who will oversee the management and progress of our CMP. We will undertake a review of our policies to understand how carbon management can be further integrated into our organisational strategy.

1.16. Progress against this plan will be reviewed annually in July and a report will be provided to Corporate Environment Programme board, Corporate Management Board and Environmental Scrutiny Committees and made publicly available on our website. The progress of the CMP will be discussed and reviewed by the Environment Programme Board. Progress will be monitored against the targets set within this plan and established KPIs at defined intervals.

2. Context

Why is carbon management important?

2.1 Over the past century, human activities have released large amounts of greenhouse gases, such as carbon dioxide (CO_2), into the atmosphere. The majority of these emissions have come from burning fossil fuels to produce energy, although industrial processes, deforestation and some agricultural practices also emit greenhouse gases into the atmosphere. These gases cause more heat to be trapped in the Earth's atmosphere, leading to an increase in global temperatures. This is known as global warming.

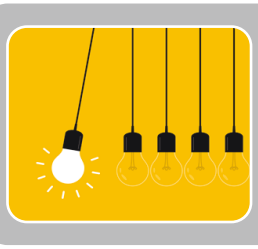
2.2 A warming planet will result in a multitude of adverse effects on natural systems, causing increases in extreme weather conditions, changing rainfall patterns and rising sea levels. The latest Intergovernmental Panel on Climate Change (IPCC) report is very clear that this will affect water supplies, agriculture, power, transport and infrastructure, as well as human health. Many of these impacts are already becoming apparent. Climate change is globally recognised as one of the greatest environmental and economic threats. LCC is determined to play a full part in delivering on our collective responsibility to reduce carbon emissions.

Our drivers for tackling climate change

2.3 The UK has made specific domestic and international commitments to reducing emissions of greenhouse gases. Many public sector bodies and private businesses are taking a strategic view of carbon emissions, under pressure from regulation, market forces and stakeholders. Local Authorities are subject to many of these drivers, shown in more detail below. LCC therefore recognises the significant role it can play in helping to accelerate national transitions towards developing a low carbon economy.

1) Climate Change Act

This act commits the UK government to reducing emissions by at least 80% in 2050 compared to 1990 levels. The 80% target includes GHG emissions from the devolved administrations, which currently accounts for around 20% of the UK's total emissions.



2) Leadership

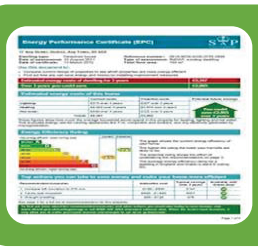
Taking strategic action towards reducing carbon emissions will ensure that LCC can lead the way in developing effective mechanisms to tackle climate change. This will help stimulate regional low carbon transitions across the Lincolnshire area.

3) Cost savings

With increasing pressure on local authorities to cut costs, reducing the amount spent on energy bills is a key driver for lowering our energy consumption.

4) Reputation

Stretching national targets are increasing pressure on local authorities to be seen as "doing their bit" and playing a leadership role on climate change action. LCC is leading by example by striving to minimise our environmental impacts as failure to act may lead to reputational risks that adversely affect the council's public image.



5) Building regulations

Building regulations contain requirements that relate to the conservation of both fuel and power. There are set minimum energy performance standards for new buildings and major refurbishments of existing buildings, which the council subsequently has to meet.

6) Local area drivers

In addition to the above we are driven to take action on climate change adpatation measures, local waste management, the decarbonisation of transport and intergrating our efforts with the local industrial strategy (LIS) in Lincolnshire (see section 6).

3. Emissions Baseline and Target

3.1 The carbon baseline is a record of our approximate carbon emissions in a chosen year 2016/17. Targets and performance in reducing emissions are measured against this figure as a percentage of the baseline value. This section outlines what parts of our organisation's emissions are included in the baseline and how we have calculated it.

Scope and Data Sources

3.2 The scope of LCC's baseline emission calculations covers: street lighting, council buildings, maintained schools, fire stations, museums and direct and indirect vehicles fuel operations that support our services. Academy schools are not included because we have limited influence and control over schools not directly maintained by the council. Additionally libraries and waste are not included in our footprint. The carbon footprint of LCC's waste is significant and detailed further in Section 6.7. The impact of adding such a large carbon source to our reporting was to greatly reduce the significance of the positive work LCC are doing to reduce its footprint in other areas. It was considered that dealing with the waste stream separately would have a positive impact on commitment across the authority.

3.3 The emission sources we've included in our baseline are listed below, divided into Scopes 1, 2 and 3, in accordance with the World Resources Institute GHG Protocol standards, to enable comparison with other organisations.

Emissions sources included in baseline scope	Data sources and quality
Scope 1 - includes all direct emissions from sources directly controlled by LCC - fuels consumed on site and from owned vehicles	
• Fuel use in buildings and estates (e.g. natural gas and burning oil)	• Primary data of high quality
• Fleet transport emissions (e.g. petrol and diesel)	• Primary data of high quality
Scope 2 – emissions from purchased energy produced off site.	
• Electricity consumption for street lighting and in buildings and estates	• Primary data of high quality
Scope 3 - all other emissions	
• Business travel (contractor and leased vehicles)	• Primary data of high quality

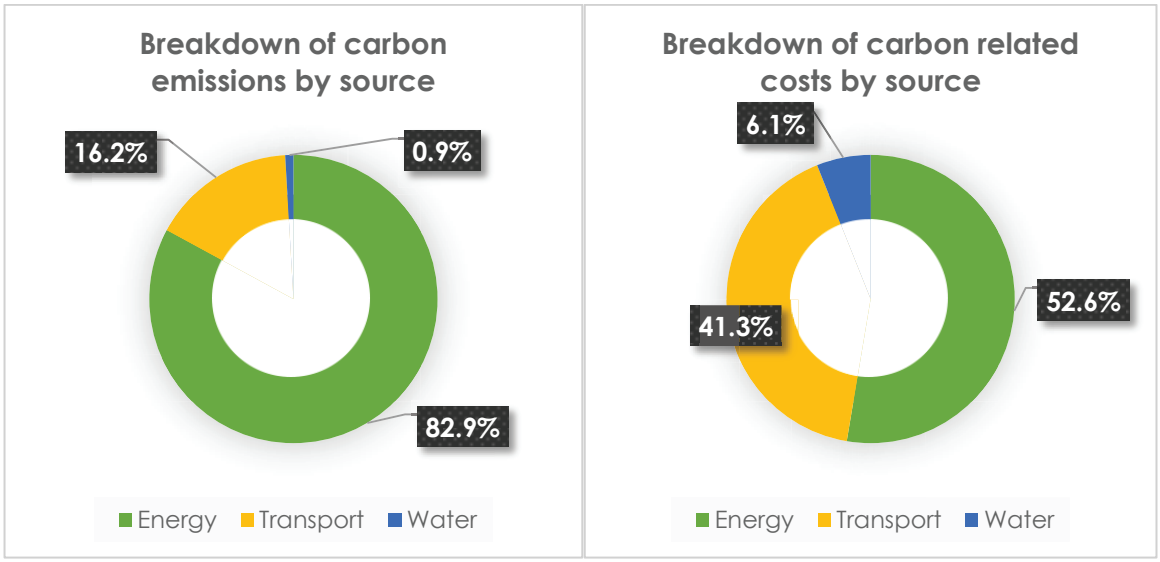
Baseline and carbon inventory

3.4 In order to develop a successful CMP up to 2023, we need to understand our current emission performance in a baseline year. We have chosen 2016/17 as our baseline year, which is the most recent financial year with a full data set.

3.5 Table 1 identifies emissions sources relevant to our plan's scope. The cost of providing power to our streetlights, buildings and transport services is high. In 2016/17 we spent £10.7m on these activities and emitted 28,679 tonnes of CO2e. 83% of these emissions arise from building energy use and street lighting.

	Energy	Transport	Water	Total
Baseline CO_2e emissions (tonnes)	23,783	4,635	262	**28,679**
Baseline Cost (£)	£5,629,370	£4,416,076	£647,374	**£10,692,819**

Table 1: Breakdown of baseline CO_2 emissions for 2016/17



Graph 1: Breakdown of baseline CO_2 emissions for 2016/17

3.6 The graph above shows our carbon emissions split into the sources of energy, transport and water. The graph on the right shows the relative cost of those emissions which differ due to the relative cost of the emissions sources.

Carbon Reduction Target and Value at Stake

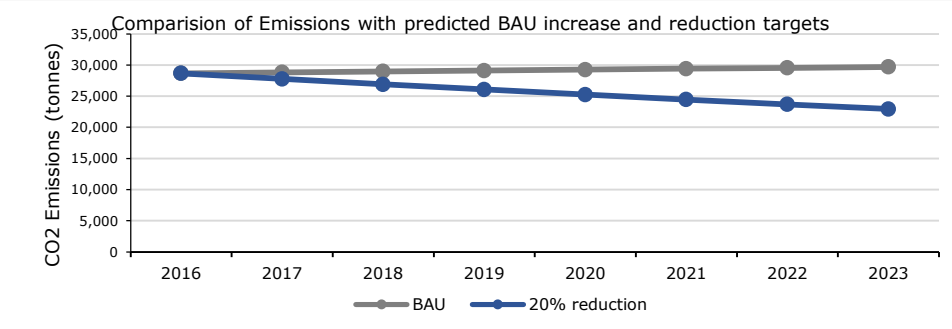
TARGET FOR 2023

We will reduce the carbon emissions from our activities by 20% by 2023, from a 2016/17 baseline of 28,679 tonnes CO_2e.

Our vision is to maintain a leading role in local efforts to reduce the impacts of climate change. To achieve this aim we have set targets that are challenging, yet realistic.

The Value at Stake

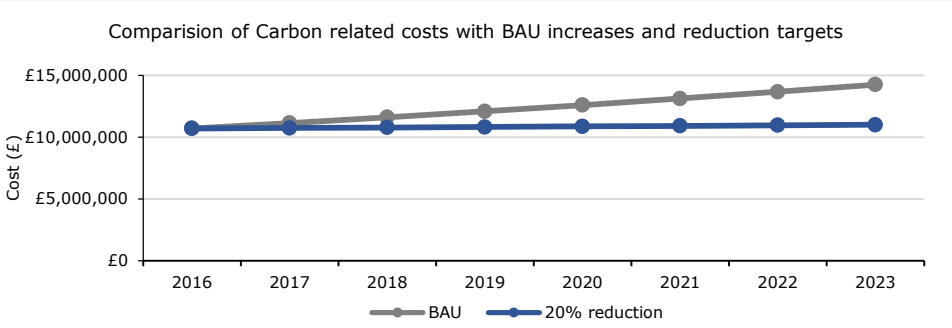
The Value at Stake (VAS) shows the cumulative potential savings, or avoidable costs/carbon emissions, associated with implementing our CMP and achieving our target against the alternative of doing nothing, i.e. Business as Usual (BAU). Achieving a 20% reduction in carbon emissions by 2023, against a 2016/17 baseline will result in final year emissions figure of 22,943 tCO_2e and cumulative savings of 27,730tCO_2e.



BENEFITS OF ACHIEVING THE TARGET

- **Cost savings**
- **Raised awareness of climate change amongst staff, stakeholders and the public**
- **Positive community leadership**
- **Contribute towards national targets**
- **Compliance with legislation**

With no action on carbon, annual utility costs for LCC could increase from £10.7m to £14.2m by 2023 – an increase of approx. £3.5m. Achieving a 20% reduction in carbon emissions over the whole five years could result in cumulative savings of £12.4m.



The VAS is a useful high level analysis that has been used early in the development process of producing our Carbon Management Plan to help support the case for action. It should be noted that project specific details about savings and costs should be read alongside this analysis. The capital costs of projects are not included in this analysis (see section 4).

4. Carbon management projects

We have identified projects that could save 4,355 tonnes of CO_2 and achieve 75.9% of our 20% target

4.1 This section of the plan lists and prioritises the opportunities identified for carbon emissions savings and sustainable practices that are critical to ensuring LCC achieves the five-year reduction target. The projects were identified through a project identification workshop, with staff representing different areas of LCC, energy survey of our sites and calculation provided by the properties team. We quantified the projects to understand the cost and benefits of each of them. We then prioritised them based on ease of implementation and savings potential, payback period under 10 years. A Carbon Management Projects Register will be maintained by the Sustainability Team to record, quantify and evaluate projects on an ongoing basis. It will be presented at the quarterly Environment Programme Board. Planned projects are described in more detail in Appendix 1

4.2 The projects are split into the following sections:

- Existing projects: those that are being implemented or have been implemented since the baseline year and will therefore deliver savings with respect to the baseline
- Planned / funded projects: those that have already been approved and have funding allocated
- Potential future projects: further opportunities identified, where emissions reductions and savings need to be calculated after discussions with the relevant area.

4.3 The following table summarises the key costs and savings associated with the projects in the project list.

Section Title	Project Category	Capital (£)	Annual energy cost saving (£)	Annual carbon saving (tCO_2e)	Average Payback (yrs)	% project contributes to meeting lifetime target
Existing projects	Committed Salix revolving fund projects	£296,394	£40,529	163.3	7.3	14.2%
Planned/funded projects	R&M Re-roof	£709,661	£3,200	35.7	222	3.1%
	R&M Boiler Replacement Programme	£170,500	£15,500	173.0	11	15.1%
	R&M BMS	£14,986	£1,000	10.2	15	0.9%
	PV – Buildings	£30,000	£3,320	7.6	9	0.7%

	Fenland Green Power Solar PV	External funding	£6,440	15.2	N/A	1.3%
	LED Lighting	£214,000	£30,500	109.0	7	9.5%
	Building Rationalisation	R&M funding	£16,000	168.0	N/A	14.6%
	Water Usage	£ TBD	£ TBD	TBD	TBD	TBD
	Replacement of Sodium Street Lighting Ballasts to LED	£3,600,000	£63,654	189.0	56.6	16.5%
Potential future projects	EV Charging via Street Lighting Columns	£ TBD	£ TBD	TBD	TBD	TBD
	Reduction of Transport emissions	£ TBD	£ TBD	TBD	TBD	TBD
	IT Upgrades	£ TBD	£ TBD	TBD	TBD	TBD
	Server & Data Rationalisation	£ TBD	£ TBD	TBD	TBD	TBD
	Fire & Rescue Vehicle Telematics	£ TBD	£ TBD	TBD	TBD	TBD
	Internal and External Communication	£ TBD	£ TBD	TBD	TBD	TBD
	School Visit Co-ordination	£ TBD	£ TBD	TBD	TBD	TBD
	Carbon - Environmental Impact Assessment	£ TBD	£ TBD	TBD	TBD	TBD
	Procurement of Services and Goods	£ TBD	£ TBD	TBD	TBD	TBD
	Go Paperless	£ TBD	£ TBD	TBD	TBD	TBD
	Carbon Champions	£ TBD	£ TBD	TBD	TBD	TBD
	Total	**£5,035,541**	**£180,143**	**871.0**	**N/A**	**75.9%**

Target Summary	
Target reduction from 2016/17 levels	5,736 tCO_2e
Predicted increase from BAU growth	1,019 tCO_2e
Identified savings	4,355 tCO_2e
Gap to target (inc. BAU growth)	2,400 tCO_2e

4.4 A Carbon Management Projects Register will be maintained by the Project Lead to record, quantify and evaluate projects on an ongoing basis.

Existing projects

4.5 This section includes projects that are already underway or have been completed since the baseline year. These schemes have been fully costed and, where relevant, Salix agreements signed.

ID	Project	Lead	Cost		Annual Savings (yr 1)		Pay back (yrs)	% of Target	Start Year
			Capital	Operational	Financial (Gross)	tCO_2			
1	Committed Salix revolving fund projects	Steve Golightly	£296,394		£40,529	163.3	7.3	11.8	2017
		Totals	£296,394		£40,529	163.3	7.3	14.2	

Planned / funded projects

4.6 This section shows projects that are definitely planned to take place and have funding allocated. They will be funded from LCC revolving Salix Fund, Salix SEELS funding, Capital and R&M budget. Project sheets detail the levels of confidence in the figures for each project.

ID	Project	Lead	Cost		Annual Savings (yr1)		Pay back (yrs)	% of Target	Start Year
			Capital	Operational	Financial (Gross)	tCO_2			
2	R&M Re-roof	Andy Fenn	-	£709,661	£3,200	35.7	221.8	3.1	2018
3	R&M Boiler Replacement Programme	Andy Fenn	-	£170,500	£15,500	173.0	11.0	15.1	2018
4	R&M BMS	Andy Fenn	-	£14,986	£1,000	10.2	15.0	0.9	2018
5	PV – Buildings	Dave Pennington	£30,000	-	£3,320	7.6	9.4	0.7	2018

6	Fenland Green Power PV	Andy Fenn	External	-	£6,440	15.2	N/A	1.3	2018
7	LED Lighting	Andy Fenn		£214,000	£30,500	109.0	7.0	9.5	2018
8	Building Rationalisation	Katie Gosling	-	-	£16,000	168.0	N/A	14.6	2018
9	Water Usage	Kevin Kendall	TBD	TBD	£ TBD	TBD	TBD	TBD	2018
10	Replacement of Sodium Street Lighting Ballasts to LED	Patrick Cant	£3,600,000	0	£63,654	189.0	9.4	16.5	2018
		Totals	£3,630,000	£1,109,147	£174,235	707.7		61.7	

Potential future projects

4.7 This section lists further projects under consideration, which are not yet funded. The numbers included are estimates and further work is needed to evaluate the projects in more detail.

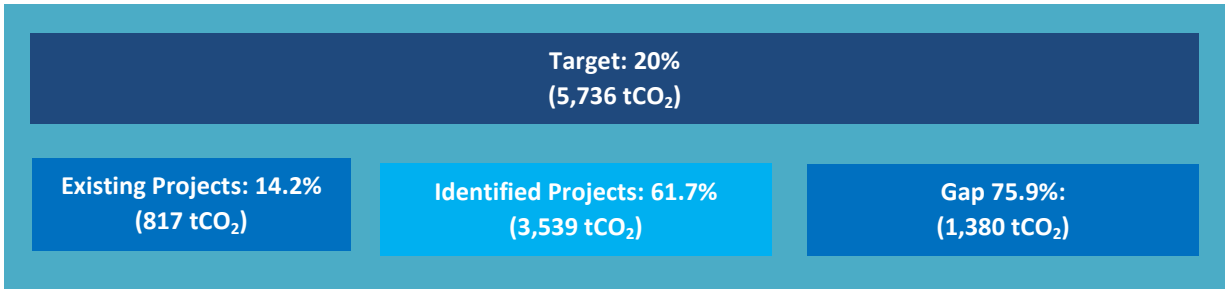
ID	Project	Lead	Cost		Annual Savings (yr 1)		Pay back (yrs)	% of Target	Start Year
			Capital	Operational	Financial (Gross)	tCO_2			
11	EV Charging via Street Lighting Columns	*Patrick Cant*	TBD	TBD	TBD	TBD	TBD	TBD	TBD
12	Reduction of Transport emissions	*Steve Roberts*	TBD	TBD	TBD	TBD	TBD	TBD	TBD
13	IT Upgrades	*John Wickens*	TBD	TBD	TBD	TBD	TBD	TBD	TBD
14	Server & Data Rationalisation	*John Wickens*	TBD	TBD	TBD	TBD	TBD	TBD	TBD
15	Fire & Rescue Vehicle Telematics	*Dave Hopkins*	TBD	TBD	TBD	TBD	TBD	TBD	TBD
16	Internal and External Communication	*Tim Smith*	TBD	TBD	TBD	TBD	TBD	TBD	TBD
17	School Visit Co-ordination	*Shaun Brown*	TBD	TBD	TBD	TBD	TBD	TBD	TBD
18	Carbon - Environmental Impact	*George Spiteri/Andy Gutherson*	TBD	TBD	TBD	TBD	TBD	TBD	TBD

	Assessment								
19	Procurement of Services and Goods	*Fiona Fielding*	TBD	TBD	TBD	TBD	TBD	TBD	TBD
20	Go Paperless	*Fiona Fielding*	TBD	TBD	TBD	TBD	TBD	TBD	TBD
21	Carbon Champions	*Cathryn Coates*	TBD	TBD	TBD	TBD	TBD	TBD	TBD
		Totals							

Projected Achievement towards Target

4.8 The figure below shows how far the existing and identified (planned and potential) projects take us towards the target. If all these projects are implemented, we expect to achieve 75.9% of our targeted savings. We will need to identify further 1,380 tonnes of emissions savings to fill the gap and make up for the BAU upward drift. The following mechanisms were put in place to ensure sustained project pipeline:

- Continued liaison with key stakeholders:
  - Corporate Property Team
  - Transportation
  - ICT
  - Street lighting
  - Schools
- Opportunity workshops.
- Regularly review opportunities through the Environment Programme Board
- Work with other East Midlands Councils via a newly reinvigorated Sustainability Officer Group.



5. Implementation

To implement existing and planned projects defined in this plan it will cost £5,035,541 of which £5,035,541 has already been allocated. It has not been possible to establish costs for all of the potential future projects and these will need to be established over the coming years.
When existing and planned projects are implemented it will result in estimated annual financial savings £180k. The overall payback period of the projects in this plan is 6.5 years (not accounting for R&M Re-roof and replacement of street lighting to LED) and 28 years when considering all projects.

5.1 This section covers the main elements required to move from planning to implementation. This includes our financing strategy, governance structure, monitoring and reporting mechanisms. We also describe the activities that will help us embed carbon management within LCC and drive the changes in behaviour that will lead to long-term, sustained savings and low carbon practice.

Carbon Management Plan Financing

5.2 In Section 4 we have described the projects we will implement to achieve our target; we have also identified capital and revenue costs for these projects. This section summarises the funding required year by year, describes where it will come from and identifies any gaps where funding may not yet be secured.

5.3 The cost of implementing existing and planned projects in this plan has been estimated at £5,035,541 over five years, of which £5,035,541 has already been allocated.

Assumptions

5.4 Key assumptions underlying our financial projections are:

- Electricity cost of 11p 2016/17 in the baseline year and an annual increase of 10% in the following years
- Gas cost of 1.5p 2016/17 in the baseline year and an annual increase of 8% in the following years
- BAU consumption will increase by 0.5% annually.
- Utility Price will increase by 4.0% annually[1]
- Transport prices will increase by 3.7%.[2]

[1] Based on BEIS 2017 electricity price projections "central scenario"

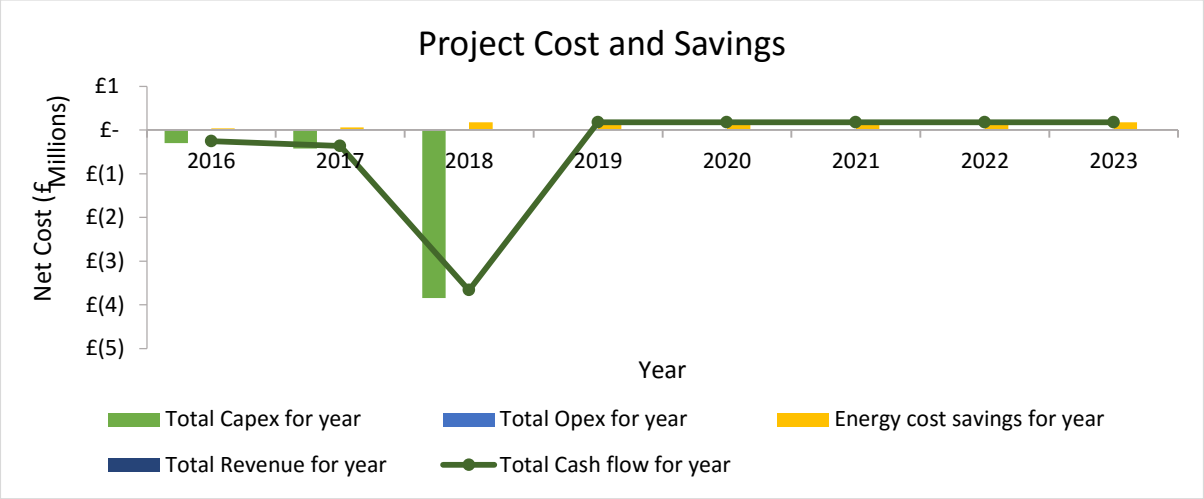
[2] Based on BEIS 2017 fossil fuel projections "central scenario"

5.5 Benefits / savings – quantified and un-quantified

Unquantified benefits:

- regulatory compliance
- improved reputation with staff, stakeholders and the public
- reduced maintenance costs relating to street lighting, signs and signals schemes
- financial savings from reduced water use and bills

5.6 We believe that our CMP offers a compelling and robust business case for implementation, taking into account direct cost savings to LCC, enhanced staff comfort, improved visitor experience, benefits to LCC reputation, and the vital leadership role of local government in tackling climate change.



5.7 If all the projects are implemented as planned it would result in estimated reduced energy expenditure of £174,235 per annum by 2023, based on 2018 prices. The overall payback period of the projects in this plan is approx. 6.5 years[3]. Whilst this payback time is longer than the lifetime of the plan, it reflects the long duration of a substantial number of projects outlined in the plan. These projects will provide cost and carbon savings well beyond 2023 and will payback their capital investment over this longer time period.

5.8 It should be noted that the analysis included in this section does not account for inflation and all figures are shown at today's prices. If inflation was included, we would expect energy cost savings to be higher as energy prices are increasing at a rate well above RPI. It should also be noted that costs for certain projects scheduled for later years may also be higher for the same reason but this will not be the case for all projects – certain technologies such as LED lighting continue to reduce in cost.

[3] Figure does not include R2 or R10

Embedding Carbon Management across LCC

5.9 To continue embedding a culture of carbon management across the organisation we need to ensure that organisational changes (processes, strategies and activities) are put in place, in addition to the more technical projects listed above, to support the transition to achieve and sustain our vision for carbon management.

5.10 This section describes the main activities and changes that will help us achieve this.

Corporate strategy and policy alignment

5.11 To ensure that carbon management is maintained, as an organisational priority, it needs to be considered as part of all decision making. In particular we will:

- Gain senior endorsement and publication of our carbon management plan and carbon reduction target through Council Executive.
- Continue to include the carbon reduction target in our Business Plan and other high level strategies.
- Update the Environmental Policy and create a Sustainability Strategy.
- Include carbon reduction in relevant policies – through review of key policies (e.g. procurement, mileage rates).

Change Action	Lead	Completion Date
Endorsement / sign off of this plan and the associated 20% reduction target by [senior staff]	Project Sponsor	January 2019
All business cases submitted to financial management to be appraised for carbon reduction as well as costs & payback	Project Lead / Project Sponsor / Finance	Ongoing
Inclusion of the risks arising from not meeting our carbon reduction target included in the Corporate risk register	Project Sponsor	February 2019
Inclusion of our Carbon reduction targets in Business Plan and Annual Report	Project Sponsor	Ongoing
Review and re-alignment of all CMP Environmental Statements to take account of the Carbon Management Plan	Project Lead / Project Sponsor	March 2019
Development of a sustainable procurement policy to take account of low carbon procurement	Procurement	April 2019
Review of existing policies to decide where alignment with the Carbon Management Plan is relevant	Project Sponsor	February 2019

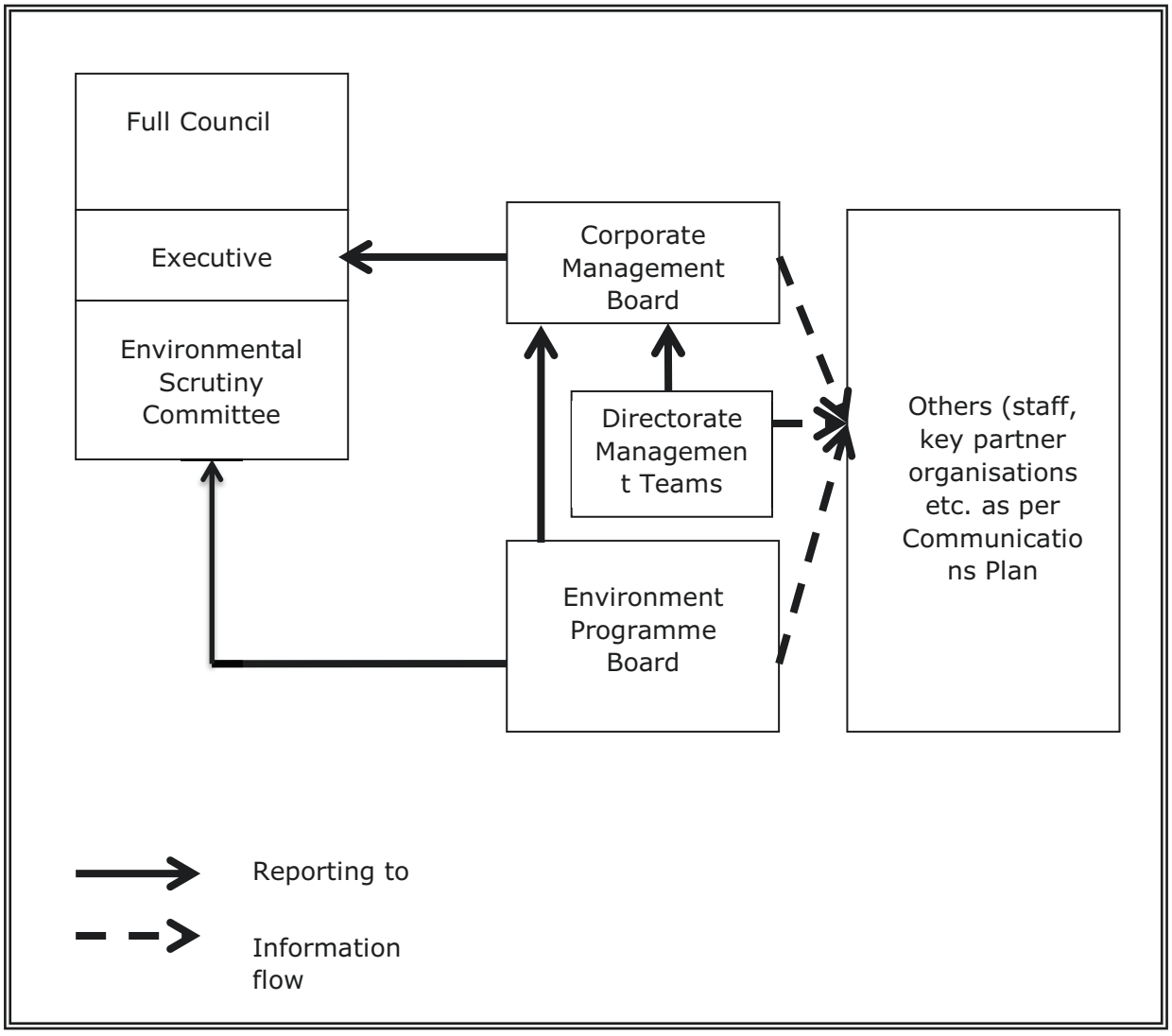
Responsibility – being clear that saving carbon is everyone's job

5.12 To make sure that carbon reduction is not just seen as the responsibility of a few people in the organisation, but is truly embedded and part of our organisational culture we will continue to work with the Communications Team to disseminate relevant information to staff colleagues.

ID	Change Action	Owner	When complete
01	Communication & engagement on the carbon management programme to LCC stakeholders	Project Lead	December 2018
02	Publication of this CMP on the intranet and internet	Project Lead	January 2019

Programme Management of carbon management

5.13 In this section our governance structure for carbon management is shown. The following sections provide further detail of who is responsible for which areas of work and how progress is reported.



5.14 In this section our governance structure for carbon management is shown (see above diagram).

5.15 Andy Gutherson (County Commissioner - Economy & Place) holds overall responsibility for the implementation of this carbon management plan, with day to day management of the Plan being carried out by Vanessa Strange (Strategic Accessibility and Growth Manager) and Steve Golightly (Senior Sustainability Officer), coordinating the activity to ensure results are achieved.

The Programme Board

5.16 The Carbon Management Plan is a key element of the Commissioning Strategy: Protecting and Sustaining the Environment.

5.17 The Council has established a Corporate Environment Programme Board to effectively manage operational delivery of the plan. The group meets quarterly and is chaired by the County Commissioner - Economy & Place and its membership seeks to cover:

- A representation of key officers involved in project delivery
- Specialist skills (Communications, ICT, Transport, Property etc.)

5.18 And its terms of reference, in brief, require it to provide:

- Ownership and support
- Monitoring and reporting
- Service area expertise
- Opportunity recognition
- Project lead

Succession planning

5.19 One of the greatest risks to the successful implementation of this plan is the loss of the Project Sponsor and/or Project Leader. Good succession planning is therefore essential. In the event of the Project Sponsor moving on, Kevin Kendall, County Property Officerwill take on the role and responsibility for this plan; in the event on the Project Leader leaving, Steve Golightly (Sustainability Team) will take over the coordination of the implementation of this plan.

Monitoring and reporting

5.20 This section describes actions we will take to improve the quality of our carbon emissions data and the data gathering process, and how we will measure and report on our progress. Robust data will provide us the basis to monitor and report on the results of our action and it will help to drive behaviour change. Our comprehensive metering will assist in this.

5.21 Appendix 2 lists the sources of data and where responsibility lies for its collection. Installed automatic metering provides day plus one half hourly data on electricity and gas consumption for over 90% of our sites. In some instances (smaller sites, those

where signal unavailable for example) that data is supplemented by bill or financial data. Nathaniel Dyas (Kier Lead Energy manager) will be responsible for capturing and monitoring building energy data utilising TEAM software. Carbon data will be compiled and monitored by Steve Golightly (Sustainability Team) for the purposes of reporting progress.

5.22 The following actions have been agreed with regards to further improving data and monitoring:

- Completion of metering programme and system of quarterly reporting on energy and water consumption.
- Agreement on strategy on how to get the best from our meters.
- Where appropriate use of finance systems to monitor energy consumption.

Monitoring and reporting

5.23 This section describes actions we will take to improve the quality of carbon emissions data and the data gathering process, and how will we report on our progress. Robust data will provide the basis to monitor and report on the results of our actions and it will help to drive behaviour change.

Data and monitoring

5.24 The following actions have been agreed with regards to data and monitoring:

ID	Change Action	Owner	When complete
01	Annual CMP Report to Scrutiny	Project Lead	Annually

Regular progress reporting

5.25 Vanessa Strange (Strategic Accessibility and Growth Manager) will report on progress of the carbon management programme quarterly to the Corporate Environment Programme Board and will generate regular highlight reports covering:

- Project Description.
- Overall summary - summary and status reflecting how the CMP3 project is performing.
- Progress against individual projects (red/amber/green).
- Key Milestones - tasks updated to reflect the % complete.
- Top Risks.
- Top Issues.

Annual reporting

5.26 The Project Leader will compile an annual report each July to report on progress of the carbon management programme. The report will be signed-off by the Project Sponsor and submitted to Environmental Programme Board, Economy and Environment

Scrutiny Committee and Corporate Management Board and will be available on the council's website.

5.27 The annual report will cover:

- Greenhouse gas emissions and carbon baseline data
- Performance and progress

Communication of progress to stakeholders

5.28 We will communicate our performance to staff and other stakeholders and use this as an opportunity to raise awareness of the carbon implications of their behaviour. A project to communicate to staff and the public messages about environmental matters including carbon savings is planned. The idea would be to encourage the buy in from staff as well as encouraging the public to save energy and understand what the council is doing.

Data Management

5.29 Effective data management has been a critical element of developing this plan. It underpins our strategy and target and it will continue to be a critical element as we monitor implementation progress. Having confidence in our figures, assumptions and data sources helps ensure that:

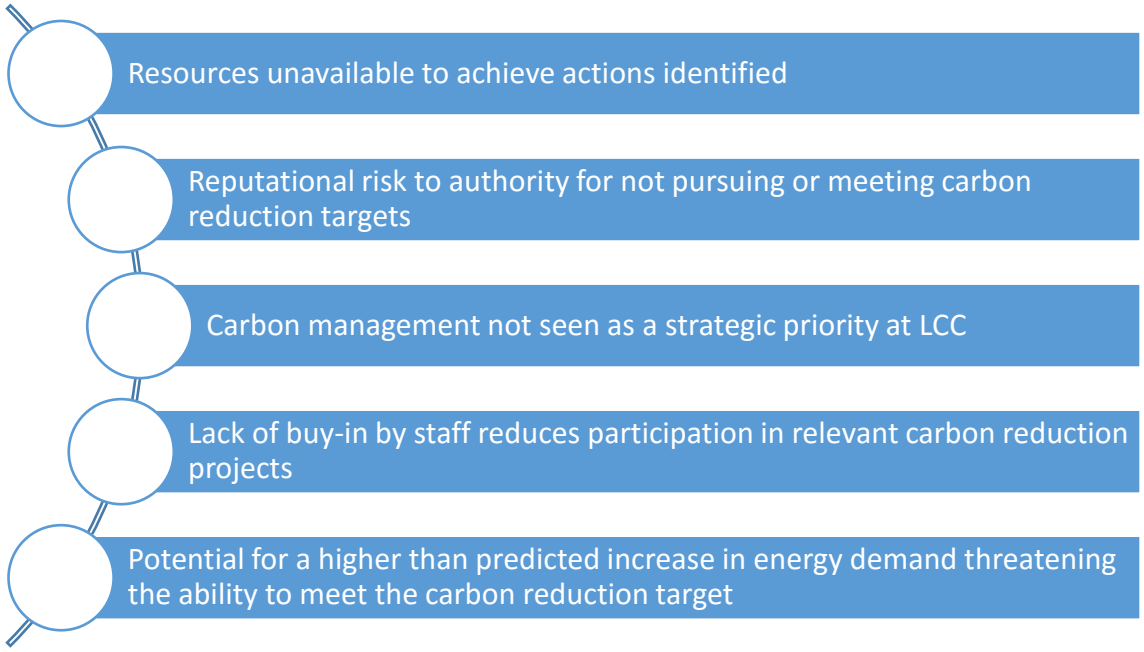
- **High priority areas are targeted:** a good understanding of where our emissions are coming from will allow us to identify high emitters and prioritise projects that tackle these.
- **Suitable carbon reduction targets are set:** targets should be challenging but achievable to ensure maximum impact.
- **Carbon reduction projects are accurately quantified:** this will allow us to predict the impact a project will have on carbon emissions and how effective our portfolio of projects will be at achieving our target.
- **Business / investment cases are credible and accurate:** accurate estimations of costs and savings ensure that funds are used in the most cost effective way.
- **The effectiveness of carbon reduction projects can be measured and demonstrated:** this allows progress against target to be tracked and strengthens the business case for future investment.
- **Continuity and succession planning is not problematic (data sources / referencing):** all activities should be well documented and referenced to ensure smooth hand over of responsibility.

Control of Risks and Issues

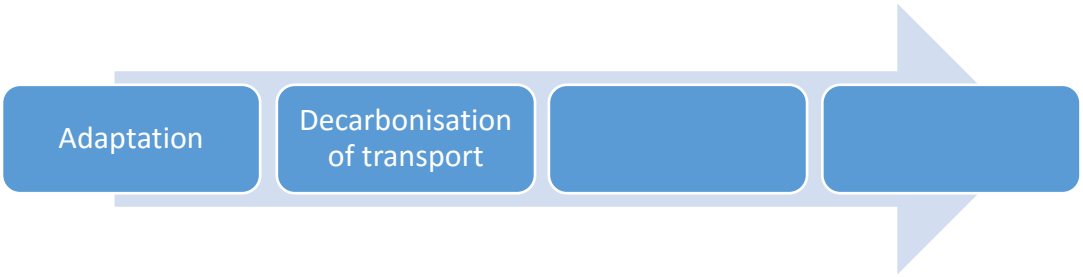
5.30 Any member of the Project Board or Project Team may raise an Issue or Risk with the Project Manager. They should be communicated verbally and confirmed in writing within 24hrs. The Project Manager will then record the Issue/Risk on the appropriate log and allocate a reference number. The Logs will be maintained with each Issue or Risk being allocated a status of either "Acknowledged", "In Progress" or "Resolved". All risks

are monitored and updated in a detailed Risk Register maintained by the Project Manager.

5.31 Some of the key risks associated with the plan are set out below:



6. Local area drivers in Lincolnshire



Climate Change Adaptation

6.1 This section outlines the potential effects of climate change on the Lincolnshire region, highlighting the crucial need for effective adaptation mechanisms across the region. It also outlines the follow-on actions that the council is taking towards reducing the impacts of climate change.

Objective: Develop an adaptation strategy

6.2 While transitioning to low carbon, energy efficient cities and regions are absolutely necessary. It is also important to consider the climate risks to low carbon infrastructure, as well as potential synergies and conflicts between adaptation and mitigation activities.

6.3 In the face of economic growth, LCC and surrounding regions are exposed to a number of weather and climate-related hazards as a result of a changing climate. Climate-related hazards that pose a distinct threat to the region include:

1. **Sea level rise:** 40% of Lincolnshire is at or below sea level thus is at risk from coastal flooding. Sustained sea level rise in the future is therefore likely to increase this risk and requires further investigation work.

2. **An increase in seasonal extremes:** UK climate change projections also indicate that extreme weather incidences are also set to increase. This will mean that Lincolnshire alongside the rest of the UK may experience more intense localised rainfall events. During the summer months, extreme temperatures may increase pressure on 25% of the country's Grade 1 agricultural land in Southern Lincolnshire along 12% of the country's food processing and production capacity. The agri-food industry depends on sustainable water resources.

3. **Rising temperatures:** Higher temperatures across the region, as predicted by the UK Climate Projections 2009 (UKCP09), will cause major disruption to current infrastructure across the region. Greater Lincolnshire has been highlighted as having low annual rainfall, and therefore any future temperature rises are likely to exacerbate such trends.

6.4 The low-lying nature of the region will contribute to exacerbating the effects of climatic changes. This makes the region susceptible to increasing storm activity and associated rising sea levels. Flooding can cause widespread damage to buildings and infrastructure across Lincolnshire and it is therefore vital that developments across the region are resilient in nature. To improve resilience across the region, the three following recommendations should be noted:

1. **Integrate mitigation and adaptation climate policies.** A lack of coherence between the two components of climate action may result not only in shortfall or failure to achieve projected policy targets, but can also lead to inefficient use of limited resources as co-benefit and synergies go unharnessed. The lack of consideration of mitigation in adaptation initiatives could lead to increased greenhouse gas emissions, while lack of consideration of adaptation in mitigation initiatives could lead to underperformance, due to direct climate hazards, as well as increase the vulnerability of communities.

2. **Create a risk management process.** Adaptation and disaster management uses a significant amount of resource and capacity if it is not adequately prepared for. By being aware, and preparing for the potential hazards through an iterative and learning risk management process, the depth and breadth of impacts can be reduced and some disasters can even be prevented.

3. **Ensure local and structural development plans are updated with latest climate projections.** Some of the measures that could build resilience to weather and climate-related hazards, such as building codes and zoning regulations, may be less effective if they are not regularly updated to incorporate the latest climate change projections, as well as other changes including shifts to societal structures, demography, environmental degradation, poverty and inequality. Policy tools for urban and country planning should incorporate climate change mitigation, climate change adaptation and disaster risk management considerations and good practice.

6.5 These recommendations will be considered and used to develop an adaptation strategy and implementation plan towards enhancing resilience across Lincolnshire.

Decarbonisation of transport

6.6 The need to decarbonise transport systems across the region is central to reducing its carbon emissions. Improving the sustainability of transport vehicles and networks will help to ensure smoother transitions towards low-carbon technologies. LCC recognises the significant carbon contribution that the transport sector has, and decarbonising transport systems must therefore be a priority as transport demands continue to rise across the region. Decarbonisation is being considered as part of the Lincolnshire Connected work currently being undertaken. Lincolnshire Connected focusses on major disruptors**:**

1. Decarbonisation
2. Mobility as a Service
3. Artificial intelligence

Waste management

6.7 LCC also recognises the significant carbon and cost saving opportunities that will arise with a feasible waste management plan. Reducing volumes of waste across the region will work towards lowering the operating costs (carbon and monetary) associated with sorting and disposing of waste items.

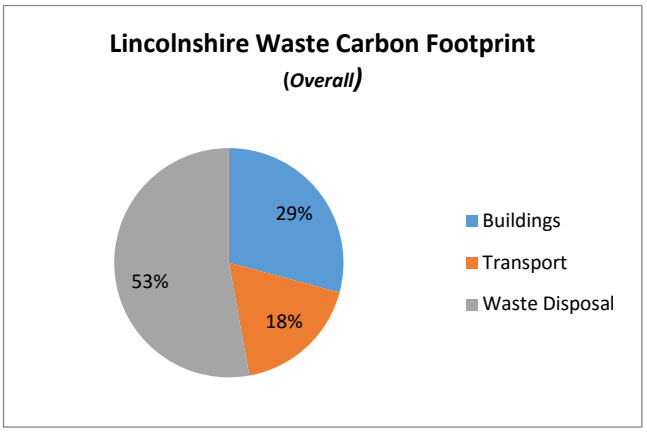
6.8 LCC has recently, in conjunction with the seven district Councils, carried out a baselining exercise to determine the size of the waste carbon footprint. The footprint covers the following elements:

1) Buildings:
   a. Energy from Waste facility.
   b. Seven Household Waste Recycling Centres (HWRC).
   c. Five Waste Transfer Sites (WTS).

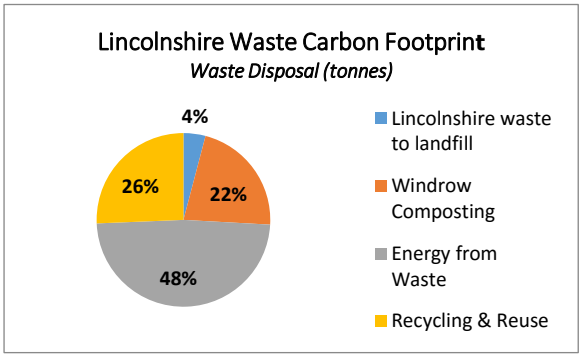
2) Transport
   a. Seven districts refuse collections
   b. LCC waste transfer haulage from WTS to energy from waste facility
   c. JCB loaders at WTS

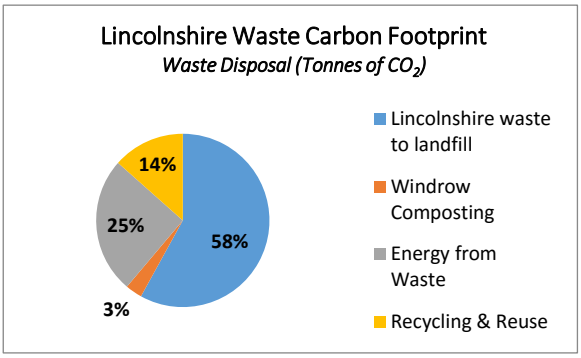
3) Waste Disposal:
   a. Waste to landfill
   b. Windrow composting
   c. Energy from waste
   d. Recyclables

6.9 The graph below details the percentage breakdown of Lincolnshire's waste and shows that waste disposal is by far the greatest component. The tonnage for all elements of Lincolnshire waste is 28,466 tonnes of CO_2.



6.10 The two graphs below detail the breakdown of Lincolnshire's waste disposal in tonnes and tonnes of CO_2.





6.11 Information in the two graphs above shows that although waste to landfill only accounts for 4% of the total waste in Lincolnshire it makes up 58% of the CO_2 tonnage. Therefore, efforts should be focused on dealing with emission s from waste to landfill.

6.12 It has been decided that waste will not be included in the Carbon Management Plan but will be dealt with by projects separately. However, the baseline will be updated annually and reported to the Environment Project Board.

Local Industrial Strategy

6.13 The Greater Lincolnshire Local Enterprise Partnership (GLLEP) is leading the development of a Local Industrial Strategy (LIS) for the county. In the Industrial Strategy White Paper, the Government sets out expectations that each area in England will produce a LIS and states that it will work in partnership with places to develop them. They will be developed locally and agreed with the Government.

6.14 These strategies will help identify priorities to improve skills, increase innovation and enhance infrastructure and business growth. This will guide the use of local funding streams and any spending from national schemes.

6.15 The White Paper sketches out a phased approach with the first set of LISs to be agreed by March 2019. The GLLEP is currently in the evidence-gathering phase. The timetable is as follows:

- Phase 1 (up to March 2018): Commissioning and reviewing research.
- Phase 2 (June – September 2018): Developing a first draft LIS, testing and developing solutions from June to September 2018.
- Phase 3 (October – December 2018): Testing and adjusting what will hopefully be a near-final draft.
- Phase 4 (December 2018 – onwards): Reaching agreement for our LIS with national Government.

6.16 In Greater Lincolnshire, stakeholder engagement will continue throughout the development period. This includes a series of MP-led round tables to talk to businesses about what support they need to develop.

6.17 The Government's Industrial Strategy White Paper identified five foundations to drive productivity. They are:

- Place
- Ideas and Innovation
- People
- Business Environment
- Infrastructure

6.18 The Government is still working through the detail of how the LIS and the Strategic Economic Plan (SEP) will work together. The SEP remains a central steering document for the work of the LEP with a significant programme of work being delivered. The LIS will not seek to duplicate this work, but will build upon it.

Appendix 1

Project: **Reference:**	***Project 1*** *Committed Salix revolving fund projects*
Owner (person)	*Steve Golightly*
Department	*Sustainability Team*
Description	*The Sustainability Team has been working with schools and corporate property over the last 4 years to help them reduce their energy and carbon emissions and this has included funding for energy saving measures. 15 LED lighting projects have been funded since the baseline of 2016/17.*
Benefits	*Financial savings:* • *£40,529* *Payback period:* • *7.3 years.* *CO_2 Emissions reduction:* • *Annual savings of 163.3 tonnes of CO_2.* *% of target – the percentage of your CO_2 saving target will this project annually contribute:* • *14.2%* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc:* • *The information is based on LED lighting surveys completed prior to the works being commenced.*
Funding	*Projects are being funded through LCC's Salix energy revolving fund.* *Operational costs, e.g. annual maintenance or running costs* • *Reduced running and maintenance costs.* *Source of funding: internal, external, investment criteria to be met etc.* • *LCC's Salix energy revolving fund.* *How /when decision on funding will be made* • *Projects have already been approved for funding.*
Resources	• *The project can be delivered using current resources.*

Ensuring Success	*Key success factors:* • *Delivery mechanisms already in place.* *Principal risks:* • *None.*
Measuring Success	*Consumption changes analysed by means of AMR or billing data.*
Timing	*Milestones / key dates e.g.* • *start date: 01/04/17* • *completion date: 01/04/18*
Notes	

Project: Reference:	***Project 2*** *R&M Re-roof*
Owner (person)	*Andy Fenn*
Department	*Corporate Property*
Description	*Annual programme of upgrading thermal elements (Windows, Roofs etc) in LCC's portfolio based on condition rating.*
Benefits	*Financial savings:* • *£3,200* *Payback period:* • *222 years (this is high due to the high cost of removing and replacing the roof).* *CO_2 Emissions reduction:* • *Annual savings of 35.7 tonnes of CO_2.* *% of target – the percentage of your CO_2 saving target will this project annually contribute:* • *3.1%* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc:* • *The information is based on the number of thermal elements that were upgraded on the 2017 / 2018 programme.*
Funding	*Existing project, funding already in place for the R&M Programme.* *Operational costs, e.g. annual maintenance or running costs* • *Reduced running costs (Not contributing to funding):* *Source of funding: internal, external, investment criteria to be met etc.* • *Internal (Through R&M funding).* *How /when decision on funding will be made* • *Decision making progress and governance already established with Corporate Property (Annual, based on Condition Survey information).*
Resources	• *The project can be delivered using current resources.*
Ensuring Success	*Key success factors:* • *Delivery mechanisms already in place however need to incorporate Carbon Assessment into the Business Case process.* *Principal risks:* • *Depends on the number of sites identified each year and their successfully disposal.*
Measuring Success	*Consumption changes analysed by means of AMR or billing data. Measured & evaluated annually (at the end of the heating season). Only measured and evaluated when a significant area of the building is being upgraded (50%+).*

Timing	*Milestones / key dates e.g.* • *start date: 01/04/18* • *completion date (when it will deliver savings): Annual over life of CMP (end of March each year)*
Notes	*Assumes a 20% improvement in efficiency, hence 20% energy saving.* *Costs based on gas price of 1.65 p/kWh.*

Project: Reference:	***Project 3*** *R&M Boiler Replacement Programme*
Owner (person)	*Andy Fenn*
Department	*Corporate Property*
Description	*Annual programme of replacing boilers in LCC's portfolio based on condition rating.*
Benefits	*Financial savings:* • *£15,500 annually.* *Payback period:* • *11 years.* *CO_2 Emissions reduction:* • *Annual savings of 173 tonnes of CO_2.* *% of target – the percentage of your CO_2 saving target will this project annually contribute:* • *15.1%* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc:* • *The information is based on the number of boilers that were upgraded on the 2017 / 2018 programme.*
Funding	*Existing project, funding already in place for the R&M Programme.* *Operational costs, e.g. annual maintenance or running costs* • *Reduced running & maintenance costs (Not contributing to funding):* *Source of funding: internal, external, investment criteria to be met etc.* • *Internal (Through R&M programme).* *How /when decision on funding will be made* • *Decision making progress and governance already established with Corporate Property (Annual, based on Condition Survey information).*
Resources	*No Additional resource (e.g. people) requirements for delivery as existing programme, the project can be delivered using current resources.*
Ensuring Success	*Key success factors:* • *Delivery mechanisms already in place.* *Principal risks:* • *Depends on the number of boiler changes identified each year.*
Measuring Success	*Consumption changes analysed by means of AMR or billing data.* *Measured & evaluated annually (at the end of the heating season)..*
Timing	*Milestones / key dates e.g.* • *start date: 01/04/18* • *completion date (when it will deliver savings): Annual over life of CMP (end of March each year)*

Notes	*Assumes a 20% improvement in efficiency, hence 20% energy saving.* *Costs based on gas price of 1.65 p/kWh.*

Project: **Reference:**	***Project 4*** *R&M BMS*
Owner (person)	*Andy Fenn*
Department	*Corporate Property*
Description	*Annual programme of upgrading heating controllers (BMS) in LCC's portfolio based on condition rating..*
Benefits	*Financial savings:* • *£1,000* *Payback period:* • *15 years.* *CO_2 Emissions reduction:* • *Annual savings of 10.2 tonnes of CO_2.* *% of target – the percentage of your CO_2 saving target will this project annually contribute:* • *0.9%* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc:* • *The information is based on the number of building management systems that were upgraded on the 2017 / 2018 programme.*
Funding	*Existing project, funding already in place for the R&M programme.* *Operational costs, e.g. annual maintenance or running costs* • *Reduced running costs (Not contributing to funding):* *Source of funding: internal, external, investment criteria to be met etc.* • *Internal (Through R&M funding).* *How /when decision on funding will be made* • *Decision making progress and governance already established with Corporate Property (Annual, based on Condition Survey information).*
Resources	• *No Additional resource (e.g. people) requirements for delivery as existing programme. Project will be delivered using current resource.*
Ensuring Success	*Key success factors:* • *Delivery mechanisms already in place.* *Principal risks:* • *Depends on the number boiler changes identified each year..*
Measuring Success	*Consumption changes analysed by means of AMR or billing data. Measured & evaluated annually (at the end of the heating season).*

Timing	*Milestones / key dates e.g.* • *start date: 01/04/18* • *completion date (when it will deliver savings): Annual over life of CMP (end of March each year)*
Notes	*Assumes a 20% improvement in efficiency, hence 20% energy saving.* *Costs based on gas price of 1.65 p/kWh.*

Project: **Reference:**	***Project 5*** *PV - Buildings*
Owner (person)	*Dave Pennington*
Department	*Corporate Property*
Description	*As part of the project work undertaken by LCC (New Builds, Extensions & Refurbishments) there is the possibility of including photovoltaic arrays on the appropriate projects.*
Benefits	*Financial savings:* • *£3,320* *Payback period:* • *9 years.* *CO_2 Emissions reduction:* • *Annual savings of 7.6 tonnes of CO_2.* *% of target – the percentage of your CO_2 saving target will this project annually contribute:* • *0.7%* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc:* • *Based on 2, 10kWp PV arrays being installed and generating 9,200 kWh each.*
Funding	*Project cost - funding from Capital Programme..* *Operational costs, e.g. annual maintenance or running costs* • *Annual maintenance for each establishment to pay (CP Operations Team are looking into a Service Contract due to F&R coming under Corporate Landlord).* *Source of funding: internal, external, investment criteria to be met etc.* • *Internal (Capital Programme).* *How /when decision on funding will be made* • *Funding already in place (Incorporate Carbon Assessment in Business Case).*
Resources	• *Additional resource (e.g. people) requirements for delivery - No additional resource as already forms part of the Capital Programme.*
Ensuring Success	*Key success factors:* • *Early Identification of the schemes is developed each year, then budget to be allocated for renewables as part of each project to inform the Carbon Assessment.* *Principal risks:* • *Technical, financial, etc (e.g. what happens if the project is insufficiently resourced?). Potential to use the funding for renewables*

	to target other areas to make the buildings more efficient, improved insulation, upgrade heating plant, etc. Also a financial risk due to budgetary pressures.
Measuring Success	*Generation consumption following successful installations compared to MCS predicted consumption.* *Timings when success will be measured / evaluated - to tie in with the FiT applications and subsequent metering readings requirements to claim the FiT payments*
Timing	*Milestones / key dates e.g.* • *start date: 01/04/18* • *Completion date (when it will deliver savings): Each year of CMPIII.*
Notes	

Project: **Reference:**	***Project 6*** *Fenland Green Solar Power PV*
Owner (person)	*Andy Fenn*
Department	*Corporate Property*
Description	*LCC have been approached by Fenland Green Power Cooperative as they have £75,000 which has been offered as a community fund and they are proposing on putting a PV array in four local schools in the Market Deeping Area.*
Benefits	*Financial savings:* • *£6,440* *Payback period:* • *Not Applicable – external funding* *CO_2 Emissions reduction:* • *Annual savings of 15.2 tonnes of CO_2.* *% of target – the percentage of your CO_2 saving target will this project annually contribute:* • *1.3%* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc:* • *Based on 4 10kWp PV arrays being installed and generating 9,200 kWh each.*
Funding	*Project cost via Fenland Green Power Cooperative.* *Operational costs, e.g. annual maintenance or running costs* • *Annual maintenance for each school to pay.* *Source of funding: internal, external, investment criteria to be met etc.* • *External.* *How /when decision on funding will be made* • *Funding already in place.*
Resources	• *Additional resource (e.g. people) requirements for delivery - Corporate Property, Procurement Lincolnshire, Legal Services, Diocese, VINCI.*
Ensuring Success	*Key success factors:* • *Keep Fenland Green Power onside, needs to tie in with R&M roof replacement programme and legal services will need to be engaged to draft contract for LCC and Diocese.* *Principal risks:* • *None.*
Measuring Success	*Generation consumption following successful installations compared to MCS predicted consumption.*

	Timings when success will be measured / evaluated - to tie in with the FiT applications and subsequent metering readings requirements to claim the FiT payments
Timing	*Milestones / key dates e.g.* • *start date: 01/04/18 already underway* • *Completion date (when it will deliver savings):* 31/03/2019 (Funding window closes).
Notes	

Project: **Reference:**	***Project 7*** *LED Lighting*
Owner (person)	*Andy Fenn*
Department	*Corporate Property*
Description	*LED Lighting installations in those properties identified via the Display Energy Certificate Programme.*
Benefits	*Financial savings:* • *£30,500* *Payback period:* • *7 years.* *CO_2 Emissions reduction:* • *Annual savings of 109 tonnes of CO_2.* *% of target – the percentage of your CO_2 saving target will this project annually contribute:* • *9.5%* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc:* • *Based on the 33 sites with poor lighting identified via the DEC Surveys.*
Funding	*Project Costs:* • *Based on the 33 sites with poor lighting identified via the DEC Surveys.* *Operational costs, e.g. annual maintenance or running costs* • *Reduced running costs.* *Source of funding: internal via business case.* • *Internal (Through R&M funding).* *How /when decision on funding will be made* • *Quarterly at Corporate Property CMP Board Meeting.*
Resources	• *Resource will come from Corporate Property (Operations) and VINCI / Kier via the OPS element of the contract.*
Ensuring Success	*Key success factors:* *Establish a robust method via the Corporate Property CMP Board meeting to assess and prioritise the identified works.* *Principal risks:* *Establish a robust method via the Corporate Property CMP Board meeting to assess and prioritise the identified works.*

Measuring Success	*Consumption changes analysed by means of AMR or billing data and measured & evaluated annually*
Timing	*Milestones / key dates e.g.* • *start date: 01/04/18* • *completion date (when it will deliver savings): Annual over life of CMP (end of March each year)*
Notes	*Assumes a 20% saving in site electricity.* *Costs based on gas price of 12 p/kWh.*

Project: **Reference:**	***Project 8*** *Building Rationalisation*
Owner (person)	*Katie Gosling*
Department	*Corporate Property*
Description	*As part of LCC's Corporate Asset Management Plan the property portfolio is reviewed continually and those properties no longer required are declared surplus and are subsequently sold.*
Benefits	*Financial savings:* • *£16,000.* *Payback period:* • *Not Applicable.* *CO_2 Emissions reduction:* • *Annual savings of 168 tonnes of CO_2.* *% of target – the percentage of your CO_2 saving target will this project annually contribute:* • *Potentially this will deliver 14.6% of our savings target.* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc:* • *Based on the average reduction in consumption from the 2017 - 2018 & 2018 - 2019 Disposal Programmes.*
Funding	*The total project cost:* • *Existing project, funding already in place in Corporate Property & VINCI.* *Operational costs, e.g. annual maintenance or running costs* • *Reduced running costs (Not contributing to funding):.* *Source of funding: internal, external, investment criteria to be met etc.* 1. *Internal (Through R&M funding).* *How /when decision on funding will be made* • *No additional resource (e.g. people) requirements for delivery as existing programme. Project will be delivered using current resource.*
Resources	*The project can be delivered using current resources.*
Ensuring Success	*Key success factors* • *Delivery mechanisms already in place however need to incorporate Carbon Assessment into the Business Case process.* *Principal risks:* • *Depends on the number of sites identified each year and their successfully disposal.*
Measuring Success	*Consumption assessment once the properties no longer belong to LCC. Measured & evaluated once notification has been received from the Valuation*

	Team that the property has left LCC's portfolios.
Timing	*Milestones / key dates e.g.* • *Start date: 01/04/18* • *Completion date: Annual over life of CMP (end of March each year)*
Notes	

Project: **Reference:**	***Project 9*** *Water Usage*
Owner (person)	*Kevin Kendall*
Department	*Corporate Property*
Description	*Look at a project to reduce water consumption within its properties including use within toilets and rainwater harvesting utilised in new or significantly refurbished properties.*
Benefits	• *Financial savings: £ [x]* • *Payback period: [x] years* • *CO_2 Emissions reduction: [x] tonnes of CO_2* • *% of target – the percentage of your CO_2 saving target will this project annually contribute* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc.*
Funding	• *Project cost, e.g. the initial cost of implementing the project* • *Operational costs, e.g. annual maintenance or running costs* • *Source of funding: internal, external, investment criteria to be met etc.* • *How /when decision on funding will be made*
Resources	• *The project can be delivered using current resources.*
Ensuring Success	• *Key success factors, or things that will need to happen for this project to succeed* • *Principal risks: technical, financial, etc (e.g. what happens if the project is insufficiently resourced?).*
Measuring Success	• *Team Sigma will be used to verify water savings by comparing water consumption pre and post implementation of water saving measures.*

Timing	• *Milestones / key dates e.g.*
	  ○ *start date: dd/mm/yyyy*
	  ○ *completion date (when it will deliver savings): dd/mm/yyyy*
	  ○ *interim deliverable / decision points*
	You could also lay these out as a milestone chart for clarity
	Break the timescale down into a handful of milestone points so progress can be measured

Notes	*Calculations will be required to be made in consultation with the Corporate Property Team and the Sustainability team.*

Project: **Reference:**	***Project 10*** *Replacement of Sodium Street Lighting to LED*
Owner (person)	*Patrick Cant*
Department	*Street Lighting*
Description	*Lincolnshire County Council (LCC) currently has 66,610 street lamps covering Class A, B and minor roads, broken down as follows:* • *21,600 street lights that have been replaced with LED lamps in a £3.6 Million project delivered over an 18 month period using LCC capital.* • *20,000 non SOX sodium lamps not proposed to be replaced at present due to technical difficulties in replacing with LED lamps.* *This project will replace 25,010 SOX sodium street lights with LED lamps over a 6 year period using a combination of LCC's Salix fund and Salix SEELS.*
Benefits	*Financial savings:* • *Year 1 annual savings of £63,654 and 189 tonnes of carbon.* • *Year 2 annual savings of £64,204 and 189 tonnes of carbon.* • *Year 3 annual savings of £66,497 and 189 tonnes of carbon.* • *Year 4 annual savings of £68,790 and 189 tonnes of carbon.* • *Year 5 annual savings of £71,083 and 189 tonnes of carbon.* • *Year 6 annual savings of £73,376 and 189 tonnes of carbon.* • *Total annual saving at end of project of £407,605 and 1,134 tonnes of carbon.* *Payback period:* • *56.6 years* *CO_2 Emissions reduction:* • *Year 1 annual savings of 189 tonnes of carbon.* • *Year 2 annual savings of 189 tonnes of carbon.* • *Year 3 annual savings of 189 tonnes of carbon.* • *Year 4 annual savings of 189 tonnes of carbon.* • *Year 5 annual savings of 189 tonnes of carbon.* • *Year 6 annual savings of 189 tonnes of carbon.* • *Total annual saving at end of project of 1,134 tonnes of carbon.* *% of target – the percentage of your CO_2 saving target will this project annually contribute:* • *Potentially this will deliver 16.5.3% of our savings target.* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc:* • *Street Lighting completes a "Confirm Report" monthly which includes an ELEXON Code for each item in their inventory.* • *The ELEXON Code will be changed to identify that the street lighting has been replaced with LED. This will be done for the 25010 street*

	lighting lamps monthly over the 6 year period. • *The "Confirm" monthly report is then sent to Western Power Distribution to validate and it is then forwarded to Total Gas & P, who provide our gas and electricity, which will reduce the electricity charges.* *The energy savings will then be seen from the next month.*
Funding	*The total project costs are £3,055,472 split over six years as follows:* • *Year 1 project cost of £509,245.* • *Year 2 project cost of £509,245.* • *Year 3 project cost of £509,245.* • *Year 4 project cost of £509,245.* • *Year 5 project cost of £509,245.* • *Year 6 project cost of £509,247.* *Operational costs, e.g. annual maintenance or running costs* • *There will be a significant reduction in running costs as well as a reduction in maintenance costs due to the longer life of LED lamps.* *Source of funding: internal, external, investment criteria to be met etc.* • *Funding is split as follows:* 2. *LCC's revolving Salix funding £1,315,000.* 3. *Salix SEELS funding £1,140,470.* 4. *Capital contribution for street lighting of £600,000.* *How /when decision on funding will be made* • *Street lighting capital contribution and LCC's Salix confirmed and awaiting a decision on Salix SEELS.*
Resources	*The project can be delivered using current resources.*
Ensuring Success	*Key success factors* • *Reduction in unmetered supply bills based on Elexon process*
Measuring Success	• *Reduction in energy consumption and costs as shown on monthly inventory*
Timing	• *Milestones / key dates e.g.* ○ *01/05/2018* ○ *completion date: 31/03/2024*
Notes	*Quantification reflects Salix Compliance Tool. Details can be traced through Steve Golightly.*

Project: Reference:	***Project 11*** *EV Charging via Street lighting Columns*
Owner (person)	*Patrick Cant*
Department	*Street Lighting*
Description	*Project to look at the feasibility of using use street lighting columns as Electric Vehicle charging points.*
Benefits	• *Financial savings: £ [x]* • *Payback period: [x] years* • *CO_2 Emissions reduction: [x] tonnes of CO_2* • *% of target – the percentage of your CO_2 saving target will this project annually contribute* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc.*
Funding	• *Project cost, e.g. the initial cost of implementing the project* • *Operational costs, e.g. annual maintenance or running costs* • *Source of funding: internal, external, investment criteria to be met etc.* • *How /when decision on funding will be made*
Resources	• *The project can be delivered using current resources.*
Ensuring Success	• *Key success factors, or things that will need to happen for this project to succeed* • *Principal risks: technical, financial, etc (e.g. what happens if the project is insufficiently resourced?).*
Measuring Success	• *Numbers of columns installed year on year can be used to gauge the success of the project.*

Timing	• *Milestones / key dates e.g.*
	  ○ *start date: dd/mm/yyyy*
	  ○ *completion date (when it will deliver savings): dd/mm/yyyy*
	  ○ *interim deliverable / decision points*
	You could also lay these out as a milestone chart for clarity
	Break the timescale down into a handful of milestone points so progress can be measured

Notes	*Include a note of the assumptions made in estimating the costs and benefits (e.g. quantification) or a reference to where the more detailed calculation can be found. This will ensure an audit trail.*

Project: **Reference:**	***Project 12*** *Reduction of Transport Emissions*
Owner (person)	*Steve Roberts*
Department	*Transport*
Description	*A project to reduce of emissions from transport by incorporating the following:* • *Encourage a greater use of lift share car park spaces.* • *Ensure staff use the most sustainable and cost effective method travel.* • *Review the provision of vehicles provided on the car lease scheme by reducing the present 120g CO2/km figure and provide more choice of low emissions vehicles and electric cars.* • *Encourage a greater use of pool cars to cut down business miles whilst allowing LCC to choose the type of vehicles.* • *Increase the provision of Electric charging points within LCC properties thereby encouraging staff to use electric/hybrid vehicles more.* • *Look at bringing back a driver training course that will encourage staff to drive more environmentally friendly and safely.* • *Encourage a greater us of pool bikes as well as mapping out there locations within LCC offices where pool bikes are located.*
Benefits	• *Financial savings: £ [x]* • *Payback period: [x] years* • *CO_2 Emissions reduction: [x] tonnes of CO_2* • *% of target – the percentage of your CO_2 saving target will this project annually contribute* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc.*
Funding	• *Project cost, e.g. the initial cost of implementing the project* • *Operational costs, e.g. annual maintenance or running costs* • *Source of funding: internal, external, investment criteria to be met etc.* • *How /when decision on funding will be made*
Resources	• *The project can be delivered using current resources.*
Ensuring Success	• *Key success factors, or things that will need to happen for this project to succeed* • *Principal risks: technical, financial, etc (e.g. what happens if the project is insufficiently resourced?).*
Measuring Success	• *The measures above should be able to be identified in a reduced amount of Business miles claimed by LCC staff.*

Timing	• *Milestones / key dates e.g.*
	  ○ *start date: dd/mm/yyyy*
	  ○ *completion date (when it will deliver savings): dd/mm/yyyy*
	  ○ *interim deliverable / decision points*
	You could also lay these out as a milestone chart for clarity
	Break the timescale down into a handful of milestone points so progress can be measured

Notes	*Include a note of the assumptions made in estimating the costs and benefits (e.g. quantification) or a reference to where the more detailed calculation can be found. This will ensure an audit trail.*

Project: **Reference:**	***Project 13*** *IT Upgrades*
Owner (person)	*John Wickens*
Department	*IT*
Description	*Project to look at updating the present video conferencing system to allow a more user friendly experience. Upgrade IT equipment to take advantage of newer technology that would reduce the need for printing.*
Benefits	• *Financial savings: £ [x]* • *Payback period: [x] years* • *CO_2 Emissions reduction: [x] tonnes of CO_2* • *% of target – the percentage of your CO_2 saving target will this project annually contribute* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc.*
Funding	• *Project cost, e.g. the initial cost of implementing the project* • *Operational costs, e.g. annual maintenance or running costs* • *Source of funding: internal, external, investment criteria to be met etc.* • *How /when decision on funding will be made*
Resources	• *The project can be delivered using current resources.*
Ensuring Success	• *Key success factors, or things that will need to happen for this project to succeed* • *Principal risks: technical, financial, etc (e.g. what happens if the project is insufficiently resourced?).*
Measuring Success	• *Metrics for measuring success would include a reduction in business miles and reduced paper use.* • *However, it may be difficult to separate out reductions in both these metrics from other initiatives.*

Timing	• *Milestones / key dates e.g.*
	  ○ *start date: dd/mm/yyyy*
	  ○ *completion date (when it will deliver savings): dd/mm/yyyy*
	  ○ *interim deliverable / decision points*
	You could also lay these out as a milestone chart for clarity
	Break the timescale down into a handful of milestone points so progress can be measured

Notes	*Include a note of the assumptions made in estimating the costs and benefits (e.g. quantification) or a reference to where the more detailed calculation can be found. This will ensure an audit trail.*

Project: **Reference:**	***Project 14*** *Server & Data Rationalisation*
Owner (person)	*John Wickens*
Department	*IT*
Description	*LCC has abnormally high data storage for a County Council of 150TB which is affecting system performance. Also at present there are some elements still hosted on servers within LCC and are likely to be for some time. Look at a project to rationalisation of these servers could help reduce the present £15K-£18K annual running costs.*
Benefits	• *Financial savings: £ [x]* • *Payback period: [x] years* • *CO_2 Emissions reduction: [x] tonnes of CO_2* • *% of target – the percentage of your CO_2 saving target will this project annually contribute* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc.*
Funding	• *Project cost, e.g. the initial cost of implementing the project* • *Operational costs, e.g. annual maintenance or running costs* • *Source of funding: internal, external, investment criteria to be met etc.* • *How /when decision on funding will be made*
Resources	• *The project can be delivered using current resources.*
Ensuring Success	• *Key success factors, or things that will need to happen for this project to succeed* • *Principal risks: technical, financial, etc (e.g. what happens if the project is insufficiently resourced?).*
Measuring Success	• *Team Sigma will be used to verify energy savings by comparing energy consumption pre and post implementation of energy saving measures.*

Timing	• *Milestones / key dates e.g.*
	  ○ *start date: dd/mm/yyyy*
	  ○ *completion date (when it will deliver savings): dd/mm/yyyy*
	  ○ *interim deliverable / decision points*
	You could also lay these out as a milestone chart for clarity
	Break the timescale down into a handful of milestone points so progress can be measured

Notes	*Include a note of the assumptions made in estimating the costs and benefits (e.g. quantification) or a reference to where the more detailed calculation can be found. This will ensure an audit trail.*

Project: **Reference:**	***Project 15*** *Fire & Rescue Vehicle Telematics*
Owner (person)	*Dave Hopkins*
Department	*Fire & Rescue*
Description	*Project to look at using telematics to monitor vehicles by combining a GPS system with on-board diagnostics and record – and map – exactly where a car is and how fast it's traveling, and cross reference that with how a car is behaving internally. This information can help in making decisions on the number of vehicles and types required and if the best use of them is being made.*
Benefits	• *Financial savings: £ [x]* • *Payback period: [x] years* • *A CO_2 Emissions reduction: [x] tonnes of CO_2* • *% of target – the percentage of your CO_2 saving target will this project annually contribute* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc.*
Funding	• *Project cost, e.g. the initial cost of implementing the project* • *Operational costs, e.g. annual maintenance or running costs* • *Source of funding: internal, external, investment criteria to be met etc.* • *How /when decision on funding will be made*
Resources	• *Additional resource (e.g. people) requirements for delivery and where they will come from* • *If this project will be delivered using current resources, say so*
Ensuring Success	• *Key success factors, or things that will need to happen for this project to succeed* • *Principal risks: technical, financial, etc (e.g. what happens if the project is insufficiently resourced?).*
Measuring Success	• *Business mileage usage pre and post implementation of measures can be used to determine the reduction and, therefore, success of the project.*

Timing	• *Milestones / key dates e.g.*
	  ○ *start date: dd/mm/yyyy*
	  ○ *completion date (when it will deliver savings): dd/mm/yyyy*
	  ○ *interim deliverable / decision points*
	You could also lay these out as a milestone chart for clarity
	Break the timescale down into a handful of milestone points so progress can be measured

Notes	*Include a note of the assumptions made in estimating the costs and benefits (e.g. quantification) or a reference to where the more detailed calculation can be found. This will ensure an audit trail.*

Project: Reference:	***Project 16*** *Internal and External Communications*
Owner (person)	*Tim Smith*
Department	*Comms*
Description	*Project to communicate to staff and the public messages about environmental matters including carbon savings. The idea would be to encourage the buy in from staff as well as encouraging the public to save energy and understand what the council is doing.*
Benefits	• *Financial savings: £ [x]* • *Payback period: [x] years* • *CO_2 Emissions reduction: [x] tonnes of CO_2* • *% of target – the percentage of your CO_2 saving target will this project annually contribute* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc.*
Funding	• *Project cost, e.g. the initial cost of implementing the project* • *Operational costs, e.g. annual maintenance or running costs* • *Source of funding: internal, external, investment criteria to be met etc.* • *How /when decision on funding will be made*
Resources	• *The project can be delivered using current resources.*
Ensuring Success	• *Key success factors, or things that will need to happen for this project to succeed* • *Principal risks: technical, financial, etc (e.g. what happens if the project is insufficiently resourced?).*
Measuring Success	• *Team Sigma will be used to verify energy savings by comparing energy consumption pre and post implementation of internal and external comms messages.*

Timing	• *Milestones / key dates e.g.*
	  ○ *start date: dd/mm/yyyy*
	  ○ *completion date (when it will deliver savings): dd/mm/yyyy*
	  ○ *interim deliverable / decision points*
	You could also lay these out as a milestone chart for clarity
	Break the timescale down into a handful of milestone points so progress can be measured

Notes	*Include a note of the assumptions made in estimating the costs and benefits (e.g. quantification) or a reference to where the more detailed calculation can be found. This will ensure an audit trail.*

Project: Reference:	***Project 17*** *School visit Co-ordination*
Owner (person)	*Shaun Brown*
Department	*Children's Services*
Description	*At present there are various agencies that visit schools and there is no co-ordination on what is able to be offered. As Children's Services teams regularly visit schools they are in a position to make schools aware of energy saving offers from the Sustainability Team or Corporate Property. They are also in a position to see if there is anything that appears to be happening at multiple sites that could be addressed through a dedicated project.*
Benefits	• *Financial savings: £ [x]* • *Payback period: [x] years* • *CO_2 Emissions reduction: [x] tonnes of CO_2* • *% of target – the percentage of your CO_2 saving target will this project annually contribute* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc.*
Funding	• *Project cost, e.g. the initial cost of implementing the project* • *Operational costs, e.g. annual maintenance or running costs* • *Source of funding: internal, external, investment criteria to be met etc.* • *How /when decision on funding will be made*
Resources	• *The project can be delivered using current resources.*
Ensuring Success	• *Key success factors, or things that will need to happen for this project to succeed* • *Principal risks: technical, financial, etc (e.g. what happens if the project is insufficiently resourced?).*
Measuring Success	• *Team Sigma will be used to verify energy savings by comparing energy consumption pre and post implementation of energy saving measures.*

Timing	• *Milestones / key dates e.g.*
	  ○ *start date: dd/mm/yyyy*
	  ○ *completion date (when it will deliver savings): dd/mm/yyyy*
	  ○ *interim deliverable / decision points*
	You could also lay these out as a milestone chart for clarity
	Break the timescale down into a handful of milestone points so progress can be measured

Notes	*Calculations will be required to be made in consultation with the Corporate Property Team and the Sustainability team.*

Project: **Reference:**	***Project 18*** *Carbon/Environmental Impact Assessment*
Owner (person)	*George Spiteri/Andy Gutherson*
Department	*Programme Management (Value for Money)*
Description	*At present projects do not complete a Carbon/Environmental Impact Assessment and, therefore, opportunities for carbon savings to be discussed within projects are being missed. If an impact assessment is made on each project with input from the Sustainability Team opportunities for carbon/energy savings will be not only be considered but considered at the correct time.*
Benefits	• *Financial savings: £ [x]* • *Payback period: [x] years* • *CO_2 Emissions reduction: [x] tonnes of CO_2* • *% of target – the percentage of your CO_2 saving target will this project annually contribute* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc.*
Funding	• *Project cost, e.g. the initial cost of implementing the project* • *Operational costs, e.g. annual maintenance or running costs* • *Source of funding: internal, external, investment criteria to be met etc.* • *How /when decision on funding will be made*
Resources	• *The project can be delivered using current resources.*
Ensuring Success	• *Key success factors, or things that will need to happen for this project to succeed* • *Principal risks: technical, financial, etc (e.g. what happens if the project is insufficiently resourced?).*
Measuring Success	• *Metrics for displaying performance or achievement* • *Timings when success will be measured / evaluated*

Timing	• *Milestones / key dates e.g.*
	  ○ *start date: dd/mm/yyyy*
	  ○ *completion date (when it will deliver savings): dd/mm/yyyy*
	  ○ *interim deliverable / decision points*
	You could also lay these out as a milestone chart for clarity
	Break the timescale down into a handful of milestone points so progress can be measured

Notes	*Include a note of the assumptions made in estimating the costs and benefits (e.g. quantification) or a reference to where the more detailed calculation can be found. This will ensure an audit trail.*

Project: Reference:	***Project 19*** *Procurement of Goods And Services*
Owner (person)	*Fiona Fielding*
Department	*Procurement*
Description	*At present 'whole life costs' are not taken into account on goods purchased by LCC. Also environmental and energy impacts are also not always factored into purchases. Also LCC should consider encourage companies to meet the environmental standards that LCC work to.*
Benefits	• *Financial savings: £ [x]* • *Payback period: [x] years* • *CO_2 Emissions reduction: [x] tonnes of CO_2* • *% of target – the percentage of your CO_2 saving target will this project annually contribute* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc.*
Funding	• *Project cost, e.g. the initial cost of implementing the project* • *Operational costs, e.g. annual maintenance or running costs* • *Source of funding: internal, external, investment criteria to be met etc.* • *How /when decision on funding will be made*
Resources	• *The project can be delivered using current resources.*
Ensuring Success	• *Key success factors, or things that will need to happen for this project to succeed* • *Principal risks: technical, financial, etc (e.g. what happens if the project is insufficiently resourced?).*
Measuring Success	• *Metrics for displaying performance or achievement* • *Timings when success will be measured / evaluated*

Timing	• *Milestones / key dates e.g.*
	  ○ *start date: dd/mm/yyyy*
	  ○ *completion date (when it will deliver savings): dd/mm/yyyy*
	  ○ *interim deliverable / decision points*
	You could also lay these out as a milestone chart for clarity
	Break the timescale down into a handful of milestone points so progress can be measured

Notes	*Include a note of the assumptions made in estimating the costs and benefits (e.g. quantification) or a reference to where the more detailed calculation can be found. This will ensure an audit trail.*

Project: **Reference:**	***Project 20*** *Go Paperless*
Owner (person)	*Kevin Kendall*
Department	*Corporate Property*
Description	*Look at a project to see about the feasibility of moving towards 100% paperless or considerably reducing the amount of paper presently used by LCC.*
Benefits	• *Financial savings: £ [x]* • *Payback period: [x] years* • *CO_2 Emissions reduction: [x] tonnes of CO_2* • *% of target – the percentage of your CO_2 saving target will this project annually contribute* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc.*
Funding	• *Project cost, e.g. the initial cost of implementing the project* • *Operational costs, e.g. annual maintenance or running costs* • *Source of funding: internal, external, investment criteria to be met etc.* • *How /when decision on funding will be made*
Resources	• *The project can be delivered using current resources.*
Ensuring Success	• *Key success factors, or things that will need to happen for this project to succeed* • *Principal risks: technical, financial, etc (e.g. what happens if the project is insufficiently resourced?).*
Measuring Success	• *A baseline for present paper consumption needs to be determined by establishing the reams of paper used each month in a year.* • *This can then be compared with data collected post reduction measures have taken place.*

Timing	• *Milestones / key dates e.g.*
	  ○ *start date: dd/mm/yyyy*
	  ○ *completion date (when it will deliver savings): dd/mm/yyyy*
	  ○ *interim deliverable / decision points*
	You could also lay these out as a milestone chart for clarity
	Break the timescale down into a handful of milestone points so progress can be measured

Notes	*Include a note of the assumptions made in estimating the costs and benefits (e.g. quantification) or a reference to where the more detailed calculation can be found. This will ensure an audit trail.*

Project: **Reference:**	***Project 21*** *Carbon Champions*
Owner (person)	*Cathryn Coates*
Department	*Business Support*
Description	*Use business support colleagues as Carbon Champions as they are embedded into all areas of LCC and at all locations within the County.*
Benefits	• *Financial savings: £ [x]* • *Payback period: [x] years* • *CO_2 Emissions reduction: [x] tonnes of CO_2* • *% of target – the percentage of your CO_2 saving target will this project annually contribute* *Give an idea of how confident these estimates are, e.g. using rules of thumb, costed by suppliers etc.*
Funding	• *Project cost, e.g. the initial cost of implementing the project* • *Operational costs, e.g. annual maintenance or running costs* • *Source of funding: internal, external, investment criteria to be met etc.* • *How /when decision on funding will be made*
Resources	• *The project can be delivered using current resources.*
Ensuring Success	• *Key success factors, or things that will need to happen for this project to succeed* • *Principal risks: technical, financial, etc (e.g. what happens if the project is insufficiently resourced?).*
Measuring Success	• *Team Sigma will be used to verify energy savings by comparing energy consumption pre and post implementation of energy saving measures.*

Timing	• *Milestones / key dates e.g.*
	  ○ *start date: dd/mm/yyyy*
	  ○ *completion date (when it will deliver savings): dd/mm/yyyy*
	  ○ *interim deliverable / decision points*
	You could also lay these out as a milestone chart for clarity
	Break the timescale down into a handful of milestone points so progress can be measured

Notes	*Calculations will be required to be made in consultation with the Corporate Property Team and the Sustainability team.*

Appendix 2

Data	Name	e-mail	Phone	Job Title	Location	Description
Accommodation (Buildings)	Nathaniel Dyas	Nathaniel.Dyas@kier.co.uk	01522 836279	Lead Energy Engineer	2nd Floor County Offices Newland Lincoln LN1 1YL	Information includes electricity, gas and oil data for LCC buildings. Buildings covered include Offices, Children's Centres, Economic regeneration, Fire & Rescue, Highways and Planning, Museums, maintained Schools, Social services, Waste Services, Youth Centres.
Accommodation (Serco)	Wendy Lester	Wendy.Lester@bankslong.com	01522 518956	Office Administrator	Banks Long & Co 15 St Mary's Street Lincoln LN5 7EQ	Electricity use at Thomas Parker House. 2 other contacts are: Emma Surphlis Emma.Surphlis@bankslong.com Bob Swainson Bob.Swainson@bankslong.com
LCC Lease (Mileage)	Penelope Chadwick	Penelope.Chadwick@lincolnshire.gov.uk	01522 555397	Performance and Contract Care Team	Thomas Parker House 13/14 Silver Street LINCOLN LN2 1DY	Information covers lease mileage used by LCC employees using the Lease car scheme.
Fire & Rescue (Mileage)	Julia Skinner	Julia.Skinner@lincoln.fire-uk.org	01522 580314 07787 704267	Contracts Manager Lincolnshire Fire and Rescue	South Park Avenue Lincoln LN5 8EL	Information covers Lincolnshire Fire & Rescue vehicle mileages. This includes Fleet & Lease miles.
LCC Business (Mileage)	Mark Stubbs	Mark.Stubbs@lincolnshire.gov.uk	01522 555555	People Management HR Systems Analyst	Serco Local & Regional Government Thomas Parker House, 13/14 Silver Street Lincoln LN2 1DY	Information covers business miles for all directorates and councillors.
Lincs Lab (Mieage)	James Corringan	James.Corringan@lincolnshire.gov.uk	01522 550463	Quality and Safety Systems Manager	St. Georges Lane Riseholme Lincoln LN2 2LQ	Information covers mileage from their vehicles.

Data	Name	e-mail	Phone	Job Title	Location	Description
Waste Contract (Mileage)	Andy McGinn	Andy.McGinn@lincolnshire.gov.uk	01522 552867 07795 441090	HWRCs/WTSs Operations Officer	Energy from Waste Facility North Hykenham	Covers the mileage used in transporting bulk waste from LCC's Waste Transfer Site to the Energy from Waste Facility.
Kier - Highways (Mileage)	James Geraghty	James.Geraghty@kier.co.uk	01256 979967 07824 474217	Sustainability Advisor	Kier Services Highways Bridgwater House Jays Close Basingstoke Hampshire RG22 4BS	Information covers fuel use in delivering LCC highways contract, fuel use from business travel, and fuel use at 3 sites.
LCC Libraries (Mileage)			01522 503476			
LCC Rental (Mileage)	Luke Jones	luke.jones@lincolnshire.gov.uk	01522 554822	Business Support	Lancaster House 36 Orchard Street Lincoln LN1 1XX	Covers fuel use from LCC car hire. At present the contract is with Enterprise rent-a-car.
Outsourced services (Kier)	James Geraghty	James.Geraghty@kier.co.uk	01256 979967 07824 474217	Sustainability Advisor	Bridgwater House Jays Close Basingstoke Hampshire RG22 4BS	Covers fuel usage used by Kier to deliver the LCC highways contract.
Winter Maintenance (Mileage)	James Geraghty	James.Geraghty@kier.co.uk	01256 979967 07824 474217	Sustainability Advisor	Kier Services Highways Bridgwater House Jays Close Basingstoke Hampshire RG22 4BS	Information covers fuel use from winter maintenance vehicles.
Street Lighting	Patrick Cant Arthur Laughton	Patrick.Cant@lincolnshire.gov.uk Arthur.Laughton@lincolnshire.gov.uk	01522 555574 01522 555570	Senior Engineer Engineer	Crown House	Annual electricity consumption for Street Lights and traffic and Signals.
Water	Nathaniel Dyas	Nathaniel.Dyas@kier.co.uk	01522 836279	Lead Energy Engineer	2nd Floor County Offices Newland Lincoln LN1 1YL	Covers water usage at all LCC buildings and maintained schools.