

# Public Document Pack



Date: **24 August 2022**  
Our ref: **Overview & Scrutiny Panel/Supplementary Agenda**  
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## OVERVIEW & SCRUTINY PANEL

30 AUGUST 2022

A meeting of the Overview & Scrutiny Panel will be held at **7.00 pm on Tuesday, 30 August 2022** in the Council Chamber, Council Offices, Cecil Street, Margate, Kent.

### Membership:

Councillor Rev. S Piper (Chair); Councillors: Fellows (Vice-Chair), Austin, Boyd, Currie, Coleman-Cooke, Huxley, Keen, Leys, Pat Moore, Paul Moore, Rattigan, Tomlinson and Wing

## SUPPLEMENTARY AGENDA

Item  
No

Subject

4. **NET ZERO STRATEGY AND ACTION PLAN** (Pages 3 - 136)



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## NET ZERO STRATEGY AND ACTION PLAN

**Overview & Scrutiny Panel** 30 August 2022

<b>Report Author</b>	Dr Hannah Scott, Climate Change Officer
<b>Portfolio Holder</b>	Cllr Bob Bayford, Cabinet Member for Environmental Services & Special Projects
<b>Status</b>	For Decision
<b>Classification:</b>	Unrestricted
<b>Key Decision</b>	No
<b>Previously Considered by</b>	Climate Change CAG: 14th July CMT: 12th July
<b>Ward:</b>	All wards

### **Executive Summary:**

Thanet District Council called a Climate Emergency on 11th July 2019. Officer and cross party councillor working groups were formed to create and initiate actions on a first environmental action plan. All of the actions within that action plan were completed and in December 2021, the councillor working group was changed to the Climate Change Cabinet Advisory Group to produce this strategy and action plan, focussed specifically on the reduction of greenhouse gas emissions.

An updated TDC pledge which includes actions to address District wide emissions was recommended by the cabinet advisory group on 4th July 2022. This net zero pledge is as follows:

To do what is within our powers and resources to:

- make Thanet District Council net zero by 2030 in our core carbon footprint (this includes emissions we have direct control over e.g. the estates and activities that we own and manage)
- address emissions that TDC has partial control over (those outside of the core carbon footprint e.g. projects, procurement and social housing) as soon as possible, and by 2050 at the latest.
- support KCC, the Government, business, industry and the community to make Thanet as a whole net zero by 2050.

In order to make these targets possible we will:

- call on Westminster to provide the powers and resources to make the targets possible;

- continue to work with partners across the county and region to deliver this new goal through all relevant strategies;
- investigate all possible sources of external funding and match funding to support this commitment

The strategy shows how we will meet our net zero pledge and is split into addressing emissions in TDC's core carbon footprint, wider TDC emissions and Thanet wide emissions. The data for TDC's core carbon footprint and Thanet wide emissions has been calculated and 12 priorities to address these emissions have been agreed.

Each of the 12 priorities are described in the strategy document and then specific, immediate actions to 2024 are set out. The actions have been agreed with the relevant TDC directors and officers across the council and the action plan will be monitored monthly by the Cabinet Member for Environmental Services & Special Projects, the Director of Finance and Climate Change Officer, and every two months by the Climate Change Cabinet Advisory Group. It will also be externally audited, the report submitted to the OSP and Cabinet on an annual basis.

Members are asked to read the Draft Net Zero Strategy attached and also note the Equality Impact Assessment and detailed Carbon Reduction Plan attached.

## **Recommendation:**

That the OSP comments on and then recommends the proposed Net Zero Strategy to Cabinet for decision.

Cabinet will be asked to agree the following:

- 1) That the Cabinet approves the proposed amended wording of the TDC pledge
- 2) That the Cabinet approves the Net Zero Strategy 2022 for public engagement.
- 3) That the Cabinet recognises that the strategy cannot be fully implemented without external funding being available and agrees, in accordance with the pledge, to lobby external agencies and government.

## **Corporate Implications**

### **Financial and Value for Money**

The agreed actions to 2024 within the strategy demand the time of officers and directors in TDC rather than direct expenditure currently.

The actions described within the action plan are often the groundwork necessary to understand the work associated with the more significant actions fully e.g. the decarbonisation of the estates and the electrification of the fleet, which are necessary steps to reach net zero by 2030 within our carbon footprint.

One of the agreed actions is to create a business case for an energy efficiency and decarbonisation officer who could be employed on an invest to save basis. Their remit would include:

- The rising cost of energy
- Energy efficiency and decarbonisation projects to reduce emissions as quickly as possible.

The carbon reduction plan, produced by consultants Laser, has estimated that to reach net zero in our core carbon footprint by 2030 an investment of approximately £9.6 million will be needed. In their model there will be approximately £4 million savings to 2030 and therefore **the net cost to the council by 2030 will be approximately £5.6 million.**

The main investments needed to reach net zero by 2030 include:

- 1) Energy efficiency measures throughout the estates
- 2) LED lighting
- 3) A small solar PV array
- 4) Changing the gas boilers to heat pumps at at least the Kent Innovation Centre and Ramsgate Leisure Centre
- 5) Electric car derived vans
- 6) Electric waste carrier vehicles
- 7) Cost of offsetting schemes to absorb the left-over emissions at 2030 (This is currently projected to be 1200 tonnes of CO<sub>2</sub>e)

Financial savings by 2030 will be achieved from:

- 1) Adding energy efficiency measures such as new LED lighting, slower flow tap/shower fittings and insulation to decrease electricity and gas use in the offices, depots and leisure centres.
- 2) Adding rooftop solar
- 3) Estates rationalisation to reduce the energy use in total

Early energy efficiency measures such as insulation and solar pv should provide profit on the investment to 2030 and the installation of LED lighting will be profitable by 2050. These projects could be carried out on an invest to save basis.

The electrification of the car derived vans save money through cheaper fuel and maintenance. Although they do not fully break even over their lifetime, it is a project that will be investigated early.

The other larger actions will likely need external funding as they do not return the initial investment by 2030 or even by 2050 e.g. large heat pump installation and the electrification of the waste carrier vehicles. There are some savings from heat pumps due to their excellent efficiency and there are savings associated with electric waste carrier vehicles e.g. decreased cost of fuel and maintenance, however these savings do not offset the large initial investment needed.

There are possible external funding streams for the installation of the heat pumps (the Public Sector Decarbonisation Fund) but there is no government funding for the electrification of waste carrier vehicles currently.

By 2050 cumulative investment will have risen to £27 million. The increase in cost is mainly due to the assumed purchase of new electric waste carrier vehicles every 7 years and the cost of offsetting the left-over carbon emissions. There will however be continued savings and so the overall **cost to TDC of net zero by 2050 is approximately £9.5 million.**

## **Further details are within the Carbon Reduction Plan**

Cabinet has agreed to consider using the risk management reserve for projects which have been agreed, if external funding from government cannot be applied for, or match funding is required. It is important that we have sufficient staff resources available to allow the authority to access external funding opportunities for climate change initiatives. As such, use of the risk management reserve will also be considered to employ staff during essential projects (e.g. project managers), if the external funding does not cover this and these positions are necessary for the successful completion of an essential carbon reducing project. Any proposed use of the risk management reserve for these purposes would be subject to the usual budget approval process.

## **Legal**

The Climate Change Act 2008 places national targets on the reduction of emissions by 2050. The Council has powers to do anything an individual could, under the power of general competence in the Localism Act 2011. This includes taking steps to reduce Council emissions, which contribute to the local and national targets.

In 2019, the UK became the first major economy in the world to legislate binding targets to reach net zero emissions by 2050. Following this, TDC called a climate emergency and committed to the pledges as set out above. The TDC Net Zero Strategy and action plan is the first step in TDC's journey to meeting these pledges.

## **Risk Management**

It is important to address greenhouse gas emissions to avoid the serious risks of climate change e.g. heatwaves, sea level rise, flash floods and societal disruption. This climate disruption will mean that some areas of the world will become uninhabitable and there could be food insecurity worldwide.

The world has already experienced devastating fires in Australia and Greece, heat waves in North America and India, floods in Germany, melting ice caps and dying coral reefs due to ocean warming. The past decade has contained the hottest years on record and this year the UK hit 40°C, showing that we need to act fast to avoid further severe impacts of climate change.

These risks are made clear in the IPCC's most recent report "Climate Change 2022: Impacts, Adaptation and Vulnerability" which assesses the impacts of climate change, looking at ecosystems, biodiversity, and human communities at global and regional levels. It also reviews vulnerabilities and the capacities and limits of the natural world and human societies to adapt to climate change.

The Climate Change Risk and Impact Assessment for Kent and Medway (CCRIA) was produced in 2019 by KCC; it describes the changes Kent might face, and the potential risks to Kent's society, economy and environment.

It explains:

"Understanding the potential future impacts of warmer, wetter winters and hotter, drier summers is crucial for future prosperity, environmental quality, and health and wellbeing of communities.

Based on the Met Office's UK Climate Projections (UKCP) for the south east, by 2080

- summers are likely to be hotter by around 5°C to 6°C
- winters are likely to be warmer by around 3°C to 4°C
- summer rainfall is likely to decrease by 30% to 50%
- winter rainfall is likely to increase by 20% to 30%
- sea level rise is likely to increase by 0.8m.

The impacts of climate change are likely to be felt acutely in Kent with its long, strategically important coastline, large number of properties at risk of flooding and warm summers compared with the rest of the United Kingdom. It is imperative that the impacts of climate change are considered alongside other drivers of change including economic fluctuations, population growth and demographic shifts."

The risks of not acting, or delaying acting, on climate change will affect us all, but the poorest in society will suffer the greatest risk, for example, through the rising cost of food and the lack of financial resilience to disasters. If we do not act quickly, the risks of ecological breakdown and extreme heating will get worse. It is important that we address climate change now as a matter of fairness and equality.

The Stern Report demonstrated that the cost of doing nothing to combat climate change far exceeded the cost of tackling climate change. The cost of living crisis will not get better, but worse if we ignore this emergency. The benefits of strong and early action far outweigh the economic costs of not acting and so we will act now.

## **Corporate**

### **Equality Act 2010 & Public Sector Equality Duty**

## Agenda Item 4

*Members are reminded of the requirement, under the Public Sector Equality Duty (section 149 of the Equality Act 2010) to have due regard to the aims of the Duty at the time the decision is taken. The aims of the Duty are: (i) eliminate unlawful discrimination, harassment, victimisation and other conduct prohibited by the Act, (ii) advance equality of opportunity between people who share a protected characteristic and people who do not share it, and (iii) foster good relations between people who share a protected characteristic and people who do not share it.*

*Protected characteristics: age, sex, disability, race, sexual orientation, gender reassignment, religion or belief and pregnancy & maternity. Only aim (i) of the Duty applies to Marriage & civil partnership.*

This report relates to the following aim of the equality duty: -

- *To eliminate unlawful discrimination, harassment, victimisation and other conduct prohibited by the Act.*
- *To advance equality of opportunity between people who share a protected characteristic and people who do not share it*
- *To foster good relations between people who share a protected characteristic and people who do not share it.*

An EIA was completed for the Net Zero Strategy and is attached. It is summarised below.

Climate change will disproportionately affect the poorest in society. These are over represented in certain protected characteristics e.g. young and old, female residents and the disabled.

Those more well off will be able to avoid some impacts of climate change whereas poorer members of the public will not have the financial resilience e.g. to move or to buy items to assist them during heat waves or floods.

The cost of living will increase due to climate change and so will cause further inequalities. Food prices will increase in an unstable world, as will general day to day products. Health inequalities already exist in Thanet and this will be tested as climate change causes various public health crises in the future.

Some new low carbon technologies e.g. electric cars and heat pumps are unaffordable for many residents currently. We will promote alternative ways to reduce emissions which do not cost any extra or that can be achieved through grants to ensure a fair transition.

How does the strategy, policy, service, project, activity or decision actively meet the public sector equality duties to:

**Eliminate unlawful discrimination** (including harassment, victimisation and other prohibited conduct)

The strategy does not negatively impact the groups identified in the Act.

As climate change affects resources, it is likely that people will compete for limited resources. This could increase discrimination between different groups in society. The strategy aims to avoid the worst impacts of climate change.



Likely increased migration to the UK and Thanet from countries with disrupted climates - impact on housing and resources.

**Advance equality of opportunity** (between people who share a protected characteristic and people who do not share it)

The mitigation of climate change is essential for the advancement of equal opportunities. Climate change will disproportionately affect the poorest in society, as well as those with disabilities and current ill health

**Foster good relations** (between people who share a protected characteristic and people who do not share it). Could it have an adverse impact on relations between different diverse groups?

A world that avoids the worst of climate change will reduce the chance of social unrest and resource wars that would destabilise society and reduce current standard of living.

The net zero strategy aims to not only avoid the serious impacts of climate change but stimulate the economy and create a healthier society. For example, TDC will work with KCC to increase employment within the housing retrofit sector. This will not only increase job opportunities but also produce warmer, more energy efficient homes. Net zero actions also reduces air pollution and encourages us to be healthier, by eating more fruit and vegetables and walking and cycling more.

## Corporate Priorities

This report relates to the following corporate priorities: -

- *Growth*
- *Environment*
- *Communities*

## 1.0 Introduction and Background

1.1 Please read the Net Zero Strategy attached. A summary of the document is set out below:

The Intergovernmental Panel on Climate Change (IPCC, 2021) published its most detailed report on climate change in 2021 showing that the warming of the planet is due to human activity. The world is heating up due to the extraction and burning of fossil fuels (coal, oil and natural gas) to power our homes, transport and industry. The production of emissions (mainly methane) from the agricultural industry also plays a part. Worldwide agricultural practices are also responsible for over 90% of worldwide deforestation, as forests are cleared for food (mainly meat) production<sup>1</sup>.

These emissions will cause extreme heat waves, drought and floods which will affect people's health, infrastructure and food production, and the Isle of Thanet will not be immune from these effects. Heatwaves, fires and floods have already been seen

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<sup>1</sup>

<https://www.fao.org/newsroom/detail/cop26-agricultural-expansion-drives-almost-90-percent-of-global-deforestation/en>

around the world, including the UK this summer. We are on the brink of world wide disruption.

- 1.2 To reduce emissions the UK needs to stop using fossil fuels, and instead produce renewable electricity by solar, wind and nuclear. Everything that can be run on electricity needs to be run on electricity e.g. transport, heating and some industrial processes.
- 1.3 In 2019, the UK became the first major economy in the world to legislate a binding target to reach net zero emissions by 2050.
- 1.4 Reaching net zero is a matter of equality. Climate change will disproportionately affect the poorest, youngest/oldest and disabled. For example, these groups will be affected by heatwaves more than others in society.  
The cost of living crisis will also get worse due to climate change as the price of food and other items increase in a disrupted world. It is therefore important that we address climate change now.
- 1.5 Thanet District Council called a climate emergency on 11th July 2019. This included the following pledge:
  - Pledge to do what is within our powers and resources to make Thanet District Council carbon neutral by 2030, taking into account both production and consumption emissions;
  - Call on Westminster to provide the powers and resources to make the 2030 target possible;
  - Continue to work with partners across the County and region to deliver this new goal through all relevant strategies;
  - Investigate all possible sources of external funding and match funding to support this commitment;
- 1.6 As the meaning behind the specific terms in the initial pledge became more explicit, it became necessary to update the pledge. This includes using the words “net zero” instead of “carbon neutral” as net zero is a stronger commitment. Carbon neutral means that you can offset emissions by supporting projects such as solar farms. However, these projects do not directly remove/absorb emissions from the atmosphere. Net zero means that any leftover (residual) emissions must be absorbed by carbon sequestration projects and directly removed from the atmosphere e.g. woodland creation projects. This is why net zero is a more robust term.
- 1.7 It also separates the core carbon footprint emissions and consumption emissions, to make it clear what we have full and partial control over. We do not have full control over our consumption emissions. Most companies in the UK have not set 2030 targets and therefore reaching net zero by 2030 within our consumption is out of our control and unachievable. Many companies have however set 2050 targets. We will instead work with companies to encourage them to reduce their emissions as quickly as possible and only buy products/services from companies that are serious about

reducing their emissions in the future. We will aim to reduce emissions from procurement as quickly as possible, however it is simply not possible to reach net zero by 2030 for consumption as it is not within our control.

1.8 In summary, the updated pledge includes the term “net zero” to make it a stronger pledge and clarifies that our 2030 pledge is for emissions we have direct control over. It adds a new sentence which addresses emissions that we have only partial control over e.g. consumption. Emissions from projects, procurement and social housing have been included here to ensure all emissions are addressed. Furthermore, in December 2021, Cabinet approved the addition of a pledge around Thanet wide emissions.

1.9 The updated net zero pledge which is recommended by the Climate Change CAG is as follows:

- make Thanet District Council net zero by 2030 in our core carbon footprint (this includes emissions we have direct control over e.g. the estates and activities that we own and manage)
- address emissions that TDC has partial control over (those outside of the core carbon footprint e.g. projects, procurement and social housing) as soon as possible, and by 2050 at the latest.
- support KCC, the Government, business, industry and the community to make Thanet as a whole net zero by 2050.

In order to make these targets possible we will:

- call on Westminster to provide the powers and resources to make the targets possible;
- continue to work with partners across the county and region to deliver this new goal through all relevant strategies;
- investigate all possible sources of external funding and match funding to support this commitment

## **2.0 The Strategy and Action Plan**

2.1 The strategy sets out how we will meet our pledges by setting out 12 priorities and detailing a summary of the initial actions to March 2024 for each priority.

2.2 We recognise that the route to net zero must be fair and that currently some new technologies e.g. electric cars and heat pumps, are not affordable for the majority of residents. The actions within this plan will not add to the inequalities in society. It however calls on residents to help in the fight against climate change in whatever way they can and encourages individuals to take action. It encourages residents to look up websites such as Giki Zero and Take the Jump Campaign to see fun ways to reduce their carbon footprint.

2.3 The Net Zero Strategy aims to not only avoid the serious impacts of climate change but stimulate a greener economy and create a healthier society. For example, TDC will work with KCC to increase employment within the housing retrofit sector. This will not only increase job opportunities but also produce warmer, more energy efficient homes. Net zero actions also reduces air pollution and encourages us to be healthier, by eating more fruit and vegetables and walking and cycling more.

## 2.4. **TDC emissions**

The core carbon footprint of TDC was calculated. This included the buildings TDC owns and manages as well as the two leisure centres which are leased to Your Leisure. The total carbon footprint was 4054 tonnes and was dominated by:

- The heating of the estates and leisure centres
- The diesel used in our fleet, especially in the waste carrier vehicles

There were also some emissions from business transport, water use and the equipment used in open spaces. Emissions from the waste produced from the offices and buildings were negligible.

- 2.5. The 2030 target will therefore concentrate on reducing emissions in our estates by:
- 1) Reducing energy use through behaviour change, adding LED lighting and insulation and fitting reduced flow tap and shower heads as the first steps.
  - 2) Swapping the gas boilers for low emissions alternatives. Currently the most efficient option is air or ground source heat pumps.
  - 3) Adding solar pv to reduce the cost of electricity use and produce our own renewable electricity.

Some actions will be able to take place on an invest to save basis but the air source heat pumps will likely require external funding e.g the public sector decarbonisation fund.

2.6 It will also concentrate on a plan to purchase electric vehicles for our fleet. We will first look at a plan to purchase electric car derived vans as they are more affordable than the larger vehicles. With regards to the waste carrier vehicles, this plan will require much more consideration as the cost of electric waste carrier vehicles is more than double the diesel version and the charging infrastructure at the depot will be very expensive.

2.7 Other emissions outside the core carbon footprint that we want to address are emissions from 1) projects 2) procurement and 3) social housing. These are outside the 2030 target because the emissions are not fully within our control e.g. many companies that we procure from are not working to a 2030 target.

We will estimate the emissions within these sources and set ambitious targets. The emissions from TDC's social housing stock have already been estimated (9215 tonnes of CO<sub>2</sub>e) and a Social Housing Decarbonisation Strategy has been produced as a matter of priority and will be published alongside this strategy.

2.8 The first six priorities in the strategy are therefore:  
**TDC Emissions**

## **Core carbon footprint: 2030 aim:**

1. Addressing the emissions from TDC owned and managed offices and buildings plus leisure centres
2. Addressing the emissions from TDC fleet and equipment
3. Sequestering/offsetting left over emissions e.g. Woodland Creation

## **Reducing emissions TDC has partial control over:**

4. Addressing the emissions in decisions and projects
5. Addressing the emissions within TDC purchases (Procurement)
6. Addressing the emissions within our social housing and other buildings we own

In the strategy each priority is described and the agreed actions to March 2024 are laid out.

- 2.9 **District Wide Emissions:** The district wide emission data is separated into emissions from the energy people in Thanet use, the emissions from the land and the emissions from consumption of everything else by the people of Thanet.
- 2.10 The emissions from energy production in Thanet is 515000 tonnes. This is more than 100 times the emissions of the basic TDC carbon footprint (4054) and shows why it is important that TDC supports KCC and others to reduce the district wide emissions from energy use as far as possible. The emissions produced by and absorbed by the land is very small compared to the overall emissions.
- 2.11 The emissions from consumption which includes all the services used (NHS, education), everything eaten and everything purchased adds another estimated 971,068 tonnes to the overall emissions. This is the largest part of Thanet's carbon footprint. This is why it is important to reduce our meat consumption and consider our purchases. The total carbon footprint for Thanet is estimated at 1,486,068 tonnes of CO<sub>2</sub>e. The general over consumption of things is not only causing excess greenhouse gas emissions, but is also destroying the natural world and causing biodiversity collapse.
- 2.12 The last six priorities in the strategy deal with Thanet wide emissions:

## **District Wide Emissions:**

7. Addressing emissions in the current housing stock: Thanet housing retrofit action
  8. Addressing emissions produced by Thanet's transport
  9. Addressing emissions produced by Thanet's businesses (commercial and industry)
  10. Addressing emissions from new housing and development: Local planning
  11. Stimulating renewable energy production and Thanetwide carbon sequestration
  12. Addressing Thanet wide consumption emissions including emissions from food and purchases: Climate Change Education and Communication.
- 2.13 The strategy describes each of these six priorities and sets out agreed actions within them. Thanet District Council does not have control over the emissions from general housing, transport and businesses but we will assist KCC and others, who do have

more control, to reduce them. For example, the Home Energy Officer will work with KCC on a Thanet Retrofitting Action Plan, Planning officers will work with KCC on transport emissions and will address the emissions in the local plan. The communications team will assist with climate change education and advice. The Climate Change Officer will oversee many of the actions.

## 2.14 **Funding and monitoring**

The agreed actions within the strategy demand the time of officers and directors in TDC. The actions currently do not include the most expensive actions but instead are the groundwork needed to understand and plan these more expensive actions fully e.g. the decarbonisation of the estates and the electrification of the fleet. Funding for many of the larger actions will need to be sourced from external funding streams e.g. the public sector decarbonisation fund. There are no funding streams for electric vehicles currently, and so we will need to lobby the government with regards to this.

2.15 The progress on the strategy will be monitored by the Director of Finance, the Cabinet Member for Environmental Services and Special Projects and the Climate Change Officer on a monthly basis and by the Climate Change CAG group every two months. A full report will go to cabinet each year. Furthermore, the action plan will be audited by an external auditor and a report will go to the Overview and Scrutiny Committee annually.

2.16 The Full Net Zero Strategy and the Carbon Reduction Plan is attached.

## 3.0 **Options:**

- 3.1 Comment on the Draft Net Zero Strategy 2022 and recommend to Cabinet for decision. This is the recommended option so that the strategy can progress to public engagement.
- 3.2 Comment on the Net Zero Strategy and make any suggestions before recommending to Cabinet for decision. It is important for the Panel to note that actions within the strategy are time critical because we are in a climate emergency.

Contact Officer: *Dr Hannah Scott. Climate Change Officer*

Reporting to: *Chris Blundell (Director of Finance)*

### **Annex List**

*Annex 1: Draft Net Zero Strategy 2022 - attached as a PDF*

*Annex 2: Carbon Reduction Plan - Laser consultants - attached.*

*Annex 3: [Equality Impact Assessment](#)*

### **Background Papers**

*Title: [Kent's changing climate - KCC Climate Change risk and impact assessment](#)*

Title: [Climate Change Committee: the sixth carbon budget](#)

Title: [Climate Change 2022: Impacts, Adaptation and Vulnerability](#)

Title: [The Stern review](#)

## **Corporate Consultation**

**Finance: *Chris Blundell, Acting Deputy Chief Executive & S151 Officer***

**Legal: *Sameera Khan (Interim Head of Legal & Monitoring Officer)***

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Thanet District Council

# NET ZERO STRATEGY 2022

[thanet.gov.uk/climate-emergency](https://thanet.gov.uk/climate-emergency)

Agenda Item 4  
Annex 1

AUTUMN 2022

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# FOREWORD

## From Cllr Bob Bayford, Cabinet Member for Environmental Services and Special Projects

The world is under threat from global climate change which will impact everyone. The Isle of Thanet will not be immune to these impacts and that is why the council declared a climate emergency back in 2019. Tackling Climate Change is a priority for us.

Thanet District Council will act quickly, doing what we can within our resources and powers to reduce the greenhouse gas emissions that we directly produce and aiming for net zero by 2030.

We will also aim to reduce emissions that are partially within our control as soon as possible e.g within our projects, the things we buy and our social housing

Furthermore, we want to support Kent County Council, the Government, business, industry and the community to reach net zero by 2050 for the whole District, and avoid the worst impacts of climate change.



The purpose of this strategy is to show how we will meet our net zero pledge and how we will work with others in this mammoth task. However, we won't be able to do this by ourselves and so we call on residents to help in the fight against climate change in whatever way they can.

# INTRODUCTION

## What is climate change?

Fossil fuels are stored carbon which were formed thousands of years ago from the bodies of animals and plants. Since the industrial revolution humans have been mining and burning them. The burning of this stored carbon has produced large volumes of carbon dioxide gas which is now at extreme levels in our atmosphere. Carbon dioxide gas holds heat in our atmosphere and is causing the warming of the planet. The planet will continue to heat up unless we stop burning fossil fuels.

Although the impact isn't as significant as the burning of fossil fuels, the change in our eating habits also contributes to global warming. In the past we did not eat as much meat as we do now. However, over the past 50 years, more cows and sheep have been reared. These animals produce another gas which holds heat in our atmosphere called methane. Methane levels have been increasing each year and will continue to do so until we reduce our meat consumption. Worldwide agricultural practices are also responsible for over 90% of worldwide deforestation, as forests are cleared for food (mainly meat) production<sup>1</sup>.

The impact of the high level of carbon dioxide and methane (greenhouse gases) in our atmosphere will cause worldwide heatwaves, droughts and flash floods. Sea levels will also rise causing low lying areas to flood and

pests and diseases will also move north from tropical regions.

This climate disruption will mean that some areas of the world will become inhabitable due to heat, sea level rise or collapsed food systems and there could be great food insecurity. We have already seen devastating fires in Australia and Greece, heat waves in North America and India, floods in Germany, melting ice caps and dying coral reefs due to ocean warming. The past decade has contained the hottest years on record and this year the UK hit 40°C, showing that we need to act fast to avoid further severe impacts of climate change.

The reality of this situation can cause eco-anxiety. Please see Appendix A if you would like assistance with this.

**However, you can do something about climate change - individual action does make a difference and will not just prevent climate change but will produce a more positive, vibrant future.**

If you would like to calculate your carbon footprint: Giki zero is easy to use and fun: <https://zero.giki.earth/>

The Jump campaign encourages people to reduce their carbon footprint in fun and interesting ways:

<https://takethejump.org/>

<sup>1</sup> <https://www.fao.org/newsroom/detail/cop26-agricultural-expansion-drives-almost-90-percent-of-global-deforestation/en>

## What is being done in the UK and in Kent?

In 2019, the UK became the first major economy in the world to legislate a binding target to reach net zero emissions by 2050. Following the release of the Sixth Carbon Budget (CCC<sup>2</sup>, 2020)<sup>3</sup> Prime Minister Boris Johnson agreed to legislate a new target to reduce the United Kingdom's emissions by 78% by 2035, including emissions from international shipping and aviation (gov.uk, 2021).

Major announcements have included the banning of new gas boilers in new developments by 2025, the halt of the sale of petrol and diesel cars by 2030 and hybrid cars by 2035 and the greening of electricity by 2035. These actions put the UK on route to net zero by 2050.

As an overview, in order to reach net zero the UK needs to do the following:

- Produce electricity from renewable sources - e.g. solar and wind.
- Everything that can be powered by electricity needs to be powered by electricity e.g. transport, industry and equipment. This is because electricity can be generated by renewables whereas gas, petrol and diesel cannot (in the volumes that we need).
- Heating will also need to become electrified in the future e.g. by installing air source or ground source heat pumps.

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<sup>2</sup> The Climate Change Committee is an independent, statutory body established under the Climate Change Act

<sup>3</sup> <https://www.theccc.org.uk/publication/sixth-carbon-budget/>

- Individuals will need to make low carbon choices such as reducing use of personal vehicles, reducing meat consumption and considering purchases.

Kent County Council produced a Climate Change Risk and Impact Assessment for Kent and Medway<sup>4</sup> and reported on the risks to Kent due to climate change. These include flash floods, droughts and heat waves which could cause disruption to homes, businesses and transport as well as risks to health.

They concluded that decisions made today will have lasting effects on residents, services, the natural environment, infrastructure and finances over the coming decades.



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<sup>4</sup> <https://www.kent.gov.uk/environment-waste-and-planning/climate-change/kents-changing-climate/climate-change-risk-and-impact-assessment>

## Thanet District Council's work

TDC called a Climate Emergency on 11 July 2019. An officer working group and a cross party councillor working group was formed to initiate actions on a first environmental action plan. All of the actions within this first action plan have been completed and in December 2021, the working group was changed to a cabinet advisory group to produce this strategy and action plan, focussed specifically on the reduction of greenhouse gas emissions.

## TDC's Climate Change pledge <sup>5</sup>

We pledge to do what is within our powers and resources to:

- make Thanet District Council net zero by 2030 in our core carbon footprint (this includes emissions we have direct control over e.g. the estates and activities that we own and manage)
- address emissions that TDC has partial control over (those outside of the core carbon footprint e.g. projects, procurement and social housing) as soon as possible, and by 2050 at the latest.
- support KCC, the Government, business, industry and the community to make Thanet as a whole net zero by 2050.

In order to make these targets possible we will:

- call on Westminster to provide the powers and resources to make the targets possible;
- continue to work with partners across the county and region to deliver this new goal through all relevant strategies;
- investigate all possible sources of external funding and match funding to support this commitment

<sup>5</sup> See Appendix B for notes on this updated wording.

## What can I do?

You could also make a pledge within your financial means to reduce emissions created by food, home, travel, purchases or activities.

 <p><b>Food is about a quarter of your carbon footprint. (It is 26% of the world's total greenhouse gases). The single biggest way to reduce your impact right now is to reduce your meat and dairy intake. Pledge to:</b></p> <ul style="list-style-type: none"> <li>• Eat less meat, especially beef and lamb as these animals produce methane (a strong greenhouse gas). Also, agriculture, especially the meat industry, is responsible for 80% of worldwide deforestation.</li> <li>• Learn some vegetarian/vegan recipes and increase the fruit and veg in your diet</li> <li>• Always make a shopping list and meal plan before you go shopping to avoid food waste</li> </ul>	 <p><b>Energy and emissions go into producing every new product and item, so buying new things comes with a high carbon cost. Pledge to:</b></p> <ul style="list-style-type: none"> <li>• Always consider if you really need to purchase an item before you buy it.</li> <li>• Hire/borrow items e.g. gardening/DIY tools</li> <li>• Share items between neighbours/family members e.g. puzzles/computer games/tools.</li> <li>• Buy pre loved items from charity shops or social media groups (e.g. Freecycle.org)</li> <li>• Refrain from buying something for a month or even a whole year e.g. pledge to not buy brand new clothes (apart from underwear maybe!).</li> </ul>
 <p><b>The electricity and gas we use to power and heat our homes produces about a quarter of our greenhouse gas emissions which make up our carbon footprint. Pledge to:</b></p> <ul style="list-style-type: none"> <li>• Change to a 100% renewable electricity supplier</li> <li>• Investigate installing (more) wall and roof insulation for a better insulated home (contact our home energy officer for assistance with funding opportunities <a href="mailto:energysaving@thanet.gov.uk">energysaving@thanet.gov.uk</a>)</li> <li>• Turn off appliances/heating/lighting/gadgets when not using them.</li> </ul>	 <p><b>The things we do for fun can bump up our carbon footprint. Pledge to:</b></p> <ul style="list-style-type: none"> <li>• Investigate new hobbies that are low carbon e.g. singing, walking, jogging (google Couch to 5km), cycling.</li> <li>• Consider having fun without buying things.</li> <li>• Find great places to visit locally rather than flying abroad in the future.</li> </ul>
 <p><b>Everytime we get into a vehicle (unless it is fully electric and the electricity comes from renewable sources) greenhouse gases are produced. Pledge to:</b></p> <ul style="list-style-type: none"> <li>• Walk/cycle where possible and get fit!</li> <li>• Adapt your future commute to be car free.</li> <li>• Pledge to reduce your future flying (<a href="http://flightfree.co.uk">flightfree.co.uk</a>)</li> </ul>	 <p><b>We can really inspire others to think about their carbon footprint and reduce climate change. Pledge to:</b></p> <ul style="list-style-type: none"> <li>• Speak to friends and colleagues and tell them what you are doing.</li> <li>• Encourage your family and workplace to reduce their carbon footprint.</li> <li>• You can also try calculating your footprint and getting tailored suggested for free through Pawprint: <a href="http://www.pawprint.eco/">www.pawprint.eco/</a></li> </ul>

The Jump campaign encourages people to take the JUMP in at least one of the six categories below to reduce your carbon footprint. See the website for more information on each 'jump' <https://takethejump.org/>

<p><b>HOLIDAY LOCAL</b></p> <p>One flight every three years</p>	<p><b>DRESS RETRO</b></p> <p>Three new items of clothing per year</p>	<p><b>CHANGE THE SYSTEM</b></p> <p>At least one life shift to nudge the system</p>	<p><b>EAT GREEN</b></p> <p>A plant based diet — no waste, healthy amount</p>	<p><b>END CLUTTER</b></p> <p>Keep products for at least seven years</p>	<p><b>TRAVEL FRESH</b></p> <p>If you can, no personal vehicles</p>
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# THE STRATEGY

The strategy shows how we will meet this pledge and is split into addressing emissions in TDC's core carbon footprint, wider TDC emissions and Thanet wide emissions.

The data for TDC's core carbon footprint and Thanet wide emissions has been calculated and is clearly laid out, and 12 priorities to address these emissions have been agreed. Each priority is described and then specific, immediate actions to 2024 are then set out. The actions have been agreed with the TDC directors and officers across the council and the action plan will be monitored at regular intervals by the cabinet advisory group, as well as externally audited.

The strategy sets out how we will:

- Reduce the greenhouse gas emissions in TDC core carbon footprint which we have direct control over and how we will aim to reach net zero by 2030.
- Reduce emissions in other areas that TDC has only partial control e.g. emissions within our projects, procurement and social housing emissions, reaching net zero as quickly as possible.
- Support KCC to reduce emissions from housing, transport, industry and commercial sectors District wide
- Assist the reduction of greenhouse gas emissions in the Thanet through local planning policies
- Assist residents with the right information to make low carbon choices to reduce emissions from their carbon footprints, addressing emissions from consumption.

With regards to district wide emissions, KCC has responsibility for the following areas:

- Schools
- Highways
- Transport
- Waste Disposal

The UK Government is responsible for emissions from airports, ports or military transport. The Government's approach for achieving net zero aviation by 2050 is set out in their **Jet Zero Strategy**.

And so TDC will play a supporting, rather than direct role in reducing these emissions.

We will also work with all residents of the district. The Climate Change Committee points out:

"More than ever before, future emissions reductions will require people to be actively involved. This need not entail sacrifices. Many people can make low carbon choices, about how they travel, how they heat their homes, what they buy and what they eat. The experience of the UK Climate Assembly shows that if people understand what is needed and why, if they have options and can be involved in decision-making processes, they will support the transition to Net Zero."



## The principles of the Net Zero Strategy

We aim to ensure that this will be a **fair transition** to net zero which will not financially impact those already disadvantaged in Thanet. Some new low carbon technologies e.g. electric cars and heat pumps are unaffordable for many residents currently. The actions within this plan will not add to the inequalities in society.

It however calls on residents to help in the fight against climate change in whatever way they can and encourages individuals to feel empowered to take action. We will promote ways to reduce emissions which do not cost any extra or that can be achieved through grants.

The net zero strategy aims to not only avoid the serious impacts of climate change but stimulate the economy and create a healthier society. For example, TDC will work with KCC to increase employment within the housing retrofit sector. This will not only increase job opportunities but also produce warmer, more energy efficient homes which will be cheaper to run. Net zero actions also reduces air pollution and encourages us to be healthier, by eating more fruit and vegetables and walking and cycling more.

The risks of not acting, or delaying acting, on climate change will affect us all, but the poorest in society will suffer the greatest risk, for example, through the rising cost of food and the lack of financial resilience to disasters. If we do not act quickly, the risks of ecological breakdown and extreme heating will get worse.

**It is important that we address climate change now as a matter of fairness and equality.**

The Stern Report <sup>6</sup> demonstrated that the cost of doing nothing to combat climate change far exceeded the cost of tackling climate change. The cost of living crisis will not get better, but worse if we ignore this emergency.

**The benefits of strong and early action far outweigh the economic costs of not acting and so we will act now.**



<sup>6</sup> <https://www.lse.ac.uk/granthaminstitute/publication/the-economics-of-climate-change-the-stern-review/>

# 1. REDUCING THE CORE CARBON FOOTPRINT OF TDC, AIMING FOR NET ZERO BY 2030

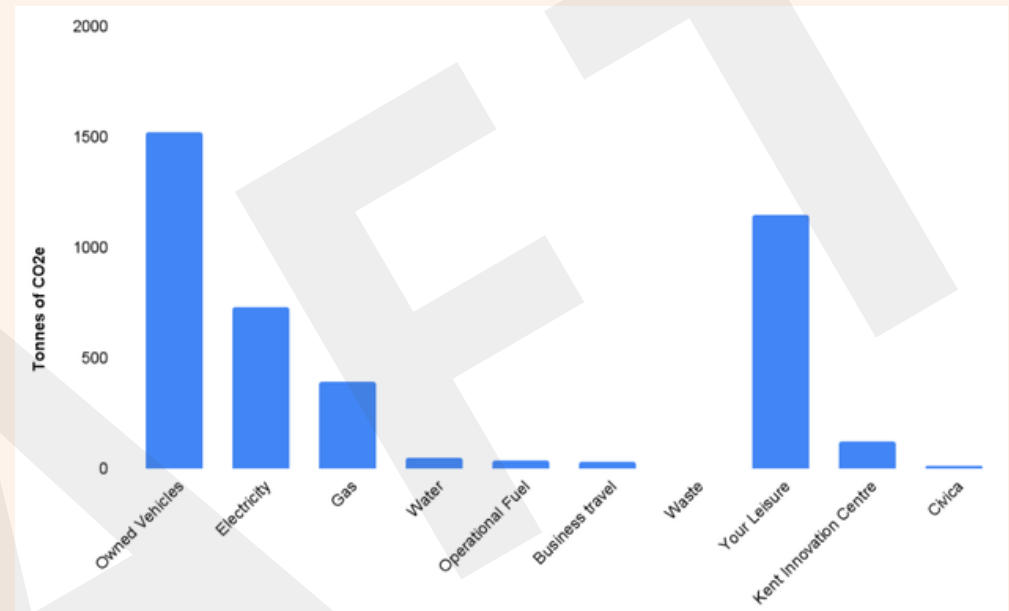
The core carbon footprint of the council includes all estates we own and manage and our core activities. The leisure centres which are leased to Your Leisure have also been added, as it is viewed that they would likely be run by the council if they were not leased out.

TDC's carbon footprint totals 4054 tonnes of CO<sub>2</sub>e. The graph below shows how this is broken down into various emission sources.

From the left, it shows greenhouse gas (GHG) emissions from our owned vehicles, emissions from electricity use and gas use (mainly in our offices and the crematorium), emissions from our water use, operational fuel (equipment such as lawn mowers/strimmers) and emissions from our business travel. The last bars on the right hand side are emissions from the two leisure centres, the Kent Innovation Centre and outsourced services (Civica).

This shows that a large percentage of emissions are from our owned vehicles. Further investigation shows that a large proportion of these are from the waste collection rounds.

The heating and powering of our offices is also a significant part of our carbon footprint. There is also a



large volume of emissions from the two leisure centres (Ramsgate and Hartsdown), which is mainly from their gas use.

Emissions from our water use are not large but still significant, as are the emissions from our business travel and the fuel used in our open spaces department (operational fuel). The emissions from TDC's waste is so small it cannot be seen on the graph as it is only the waste from the offices and depots that we occupy.

## Aiming for Net Zero by 2030

An overview of what TDC needs to do to reach net zero is as follows:

We need to reduce our reliance on gas throughout the buildings we own and manage and also the leisure centres (~1200 tonnes) by:

- Increasing insulation
- Replacing the gas boilers with air source /ground source heat pumps where possible. Heat pumps can use renewable electricity rather than polluting fossil fuels.

We will need to reduce our electricity use and source renewable electricity (~730 tonnes) to reduce our emissions associated with electricity. Addressing the emissions from TDC owned and managed offices and leisure centres is priority 1 in the strategy.

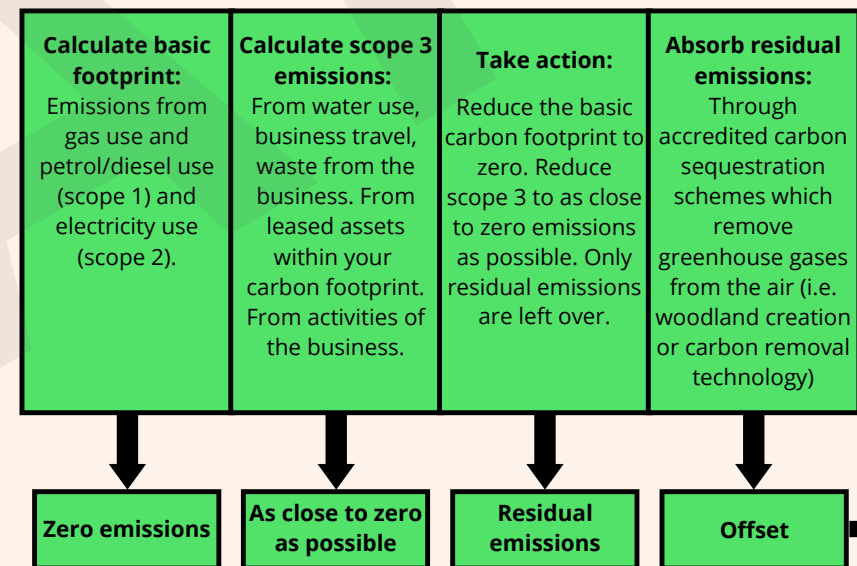
TDC also needs to reduce emissions from the fleet (~1500 tonnes) by electrifying as many vehicles as possible. This is because electricity can be sourced through renewable means whereas fossil fuels cannot be. We also need to reduce business travel (~30 tonnes) as much as possible.

We will also need to invest in electric equipment in our open spaces department (~40 tonnes) and also reduce water use (~50 tonnes) where possible.

Addressing the emissions from TDC fleet and equipment is priority 2.

In order to reach net zero, TDC must reduce the emissions from the calculated carbon footprint to such a small volume that the leftover emissions can be absorbed by woodland creation or by accredited carbon sequestration projects (priority 3).

See the figure below for further explanation on the correct route to net zero.



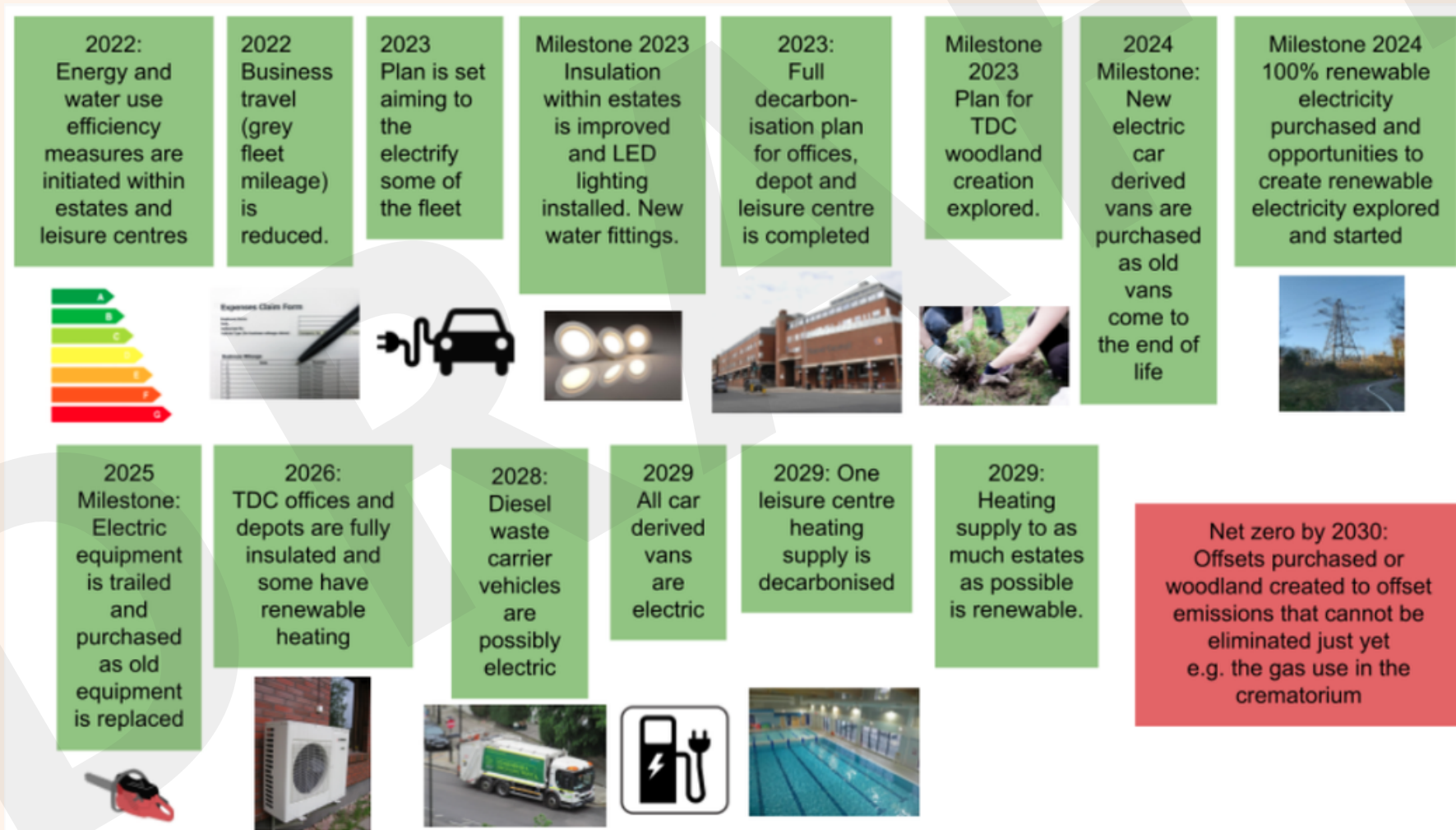
Annex 1  
Agenda Item 4

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## Overview of priorities 1 - 3

Below is an overview of a theoretical route that we are aiming towards to reach net zero by 2030. It is clear that TDC will need to source external funding to install heats pumps in our offices and a leisure centre and to assist with the electrification of the large vehicles in the fleet including the waste carrier vehicles.

As stated in our pledge: We will call on Westminster to provide the powers and resources to make the 2030 target possible.



## Cost of reaching Net Zero by 2030

TDC employed consultants, Laser, to assist them in creating a carbon reduction plan for the 2030 net zero target. Please see Appendix D for the emissions reduction model.

Laser concluded that to reach net zero by 2030 an investment of approximately £9.6 million will be needed.

There will be approximately £4 million savings to 2030 and therefore **the net cost to the council by 2030 will be approximately £5.6 million.**

The main investments needed to reach net zero by 2030 include:

1. Energy efficiency measures throughout the estates
2. LED lighting
3. A small solar PV array
4. Changing the gas boilers to heat pumps (at least at the Kent Innovation Centre and Ramsgate Leisure Centre)
5. Replacing the diesel car derived vans for electric
6. Replacing the diesel waste carrier vehicles for electric
7. Offsetting the left over emissions

Early energy efficiency measures such as installation and solar pv should provide profit on the investment to 2030 and the installation of LED lighting will be profitable by 2050. These projects could therefore be carried out on an invest to save basis.

Many of the other actions will need external funding as they do not return the investment by 2030 or even by 2050 e.g. heat pump installation and the electric waste carrier vehicles. There are possible funding streams for the installation of the heat pumps (the Public Sector Decarbonisation Fund) but there is no government funding for the electrification of waste carrier vehicles currently.

**Further details are within the Carbon Reduction Plan.**



## 2. REDUCING EMISSIONS TDC HAS PARTIAL CONTROL OVER

TDC also wants to address the emissions from other activities which are outside the scope of our net zero 2030 target and set targets to reduce these by 2050 at the very latest. The reason why they are outside the 2030 target is because they are not completely within our control. For example, the emissions from our essential coastal engineering works is mainly due to emissions created in the concrete industry. We will however always source the lowest carbon concrete and building materials possible.

The emissions within our purchases (procurement) are also outside our 2030 target as many companies that we purchase from are aiming towards a 2050 target, not a 2030 target. However, we will not ignore the emissions from our procurement - we will calculate them and set targets to reduce them by stipulating new procurement rules. We will make it clear that we want to work with companies that take net zero seriously. We have already added questions such as “Do you calculate your carbon footprint and what are you doing to reduce it?” in our invitation to quote and tender documents.

With regards to the emissions within our social housing, we have already estimated the emissions and are releasing the Social Housing Decarbonisation Strategy alongside this Net Zero Strategy. This sets out ambitious targets to reduce emissions in this sector.

**Other emissions that we will estimate and set ambitious targets for going forwards include: Emissions from decisions and projects (priority 4) procurement (priority 5) and social housing building and tenants (priority 6)**



### 3. ASSISTING THE REDUCTION OF THANET WIDE EMISSIONS, AIMING FOR NET ZERO BY 2050

Thanet wide GHG emissions come from the energy we use, emissions associated with land use and emissions from everything we buy/consume e.g. food, clothing, furniture.

#### Emissions from direct energy use

The government produces a breakdown of carbon dioxide (CO2) emissions by Local Authority area from their energy consumption.

The emissions from energy use are attributed to five sectors:<sup>7</sup>

- Industry (61100 tonnes)
- Commercial sector (110800 tonnes e.g. shops)
- Public sector (27800 tonnes e.g. buildings associated with services such as hospitals and libraries)
- Domestic (187,000 tonnes e.g. housing)
- Transport (128,100 tonnes)

The largest percentage of emissions in Thanet is due to heating and powering houses (residential) and from the transport sector. The total emissions is approximately 515000 tonnes (515k tonnes).

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<sup>7</sup> <https://www.gov.uk/government/publications/regional-energy-data-guidance-note>

This is more than 100 times the emissions of the TDC core carbon footprint (4054 tonnes). It is therefore very important that we support KCC and other stakeholders to reduce these district wide emissions by 2050.

#### Emissions from land

The land can also absorb or release emissions. The land of Thanet actually releases a small volume of emissions (400 tonnes) each year rather than absorbs them.<sup>8</sup>

Thanet's tree cover absorbs approximately 300 tonnes, the grassland absorbs 4600 tonnes, the cropland emits 1900 tonnes and the emissions released due to change in land use from settlements is 3400 tonnes of CO2e.

It is important to point out however that even if the land did absorb emissions, it would still only absorb an exceptionally small volume of what we produced as a District. Therefore, **although it is important to improve the land so it absorbs more emissions and biodiversity is improved, it is more important to reduce emissions.** For example, the emissions absorbed by the trees and grassland is only 1% of the emissions released due to the energy use of Thanet. This imbalance is reflective of the whole world issue and shows that emissions should be reduced first and foremost.

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<sup>8</sup> From the UK Local authority and regional carbon dioxide emissions national statistics for the land use, land use change and forestry (LULUCF).

## Reduction of emissions, not offsetting

It is important that we do not rely on offsetting. One hectare of woodland absorbs just 270 tonnes of carbon dioxide over 30 years of its life (not each year). This means that Thanet would need to plant 57 thousand hectares to offset the carbon footprint of energy emissions over 30 years.<sup>9</sup> Thanet is only 10 thousand hectares in size and therefore we would need nearly six Thanets to just offset emissions from our energy use.

### How much woodland is needed to offset an individual's carbon footprint?

When we look at an individual's carbon footprint, which is approximately 10 tonnes annually, over 30 years the emissions total 300 tonnes. This means that each person would need to plant a whole hectare of woodland now to offset their carbon footprint to 2050 (as a hectare offsets 270 tonnes).

As this is completely unrealistic, it is therefore important that each person works to reduce their carbon footprint, rather than simply hope to offset their emissions.

## Consumption data for Thanet

When we add on emissions from consumption, the carbon footprint for Thanet goes from 515000 tonnes (energy consumption) to an estimated 1,486,068 tonnes of CO<sub>2</sub>e for everything in our carbon footprint.

This includes the services used (e.g. education, NHS) and everything else that we buy e.g. household appliances, clothing and food. Approximately 971,068 tonnes of emissions are therefore produced from our consumption (DEFRA)<sup>10</sup> which is nearly double the emissions from the district's energy use. (Calculations shown in Appendix C). This is why it is important to address everything in our carbon footprint, not just the emissions from our direct energy consumption.

**The over consumption of things is not only causing excess greenhouse gas emissions, but is also destroying the natural world and causing biodiversity collapse.**

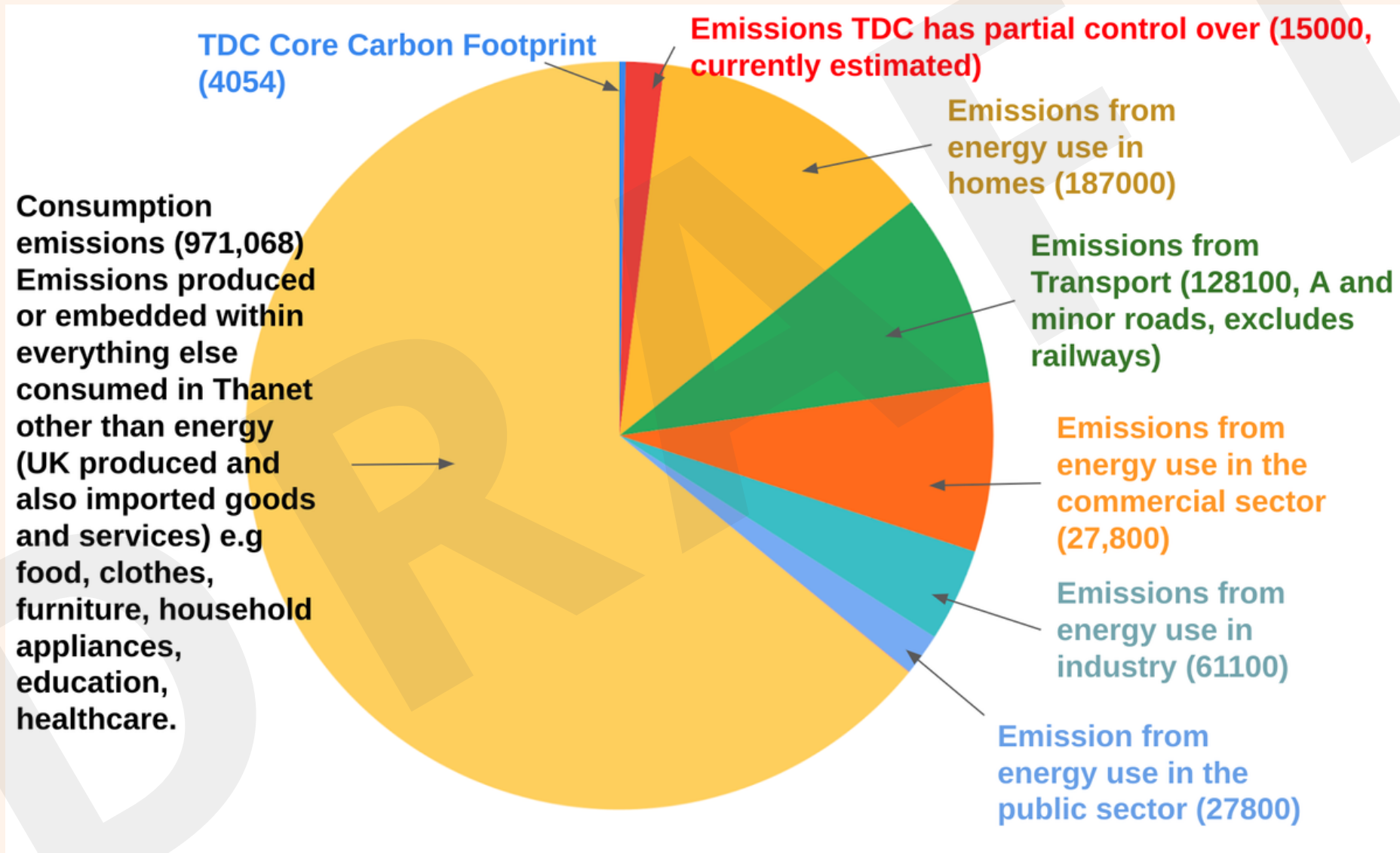


<sup>9</sup> (515500 x 30 years / 270 )

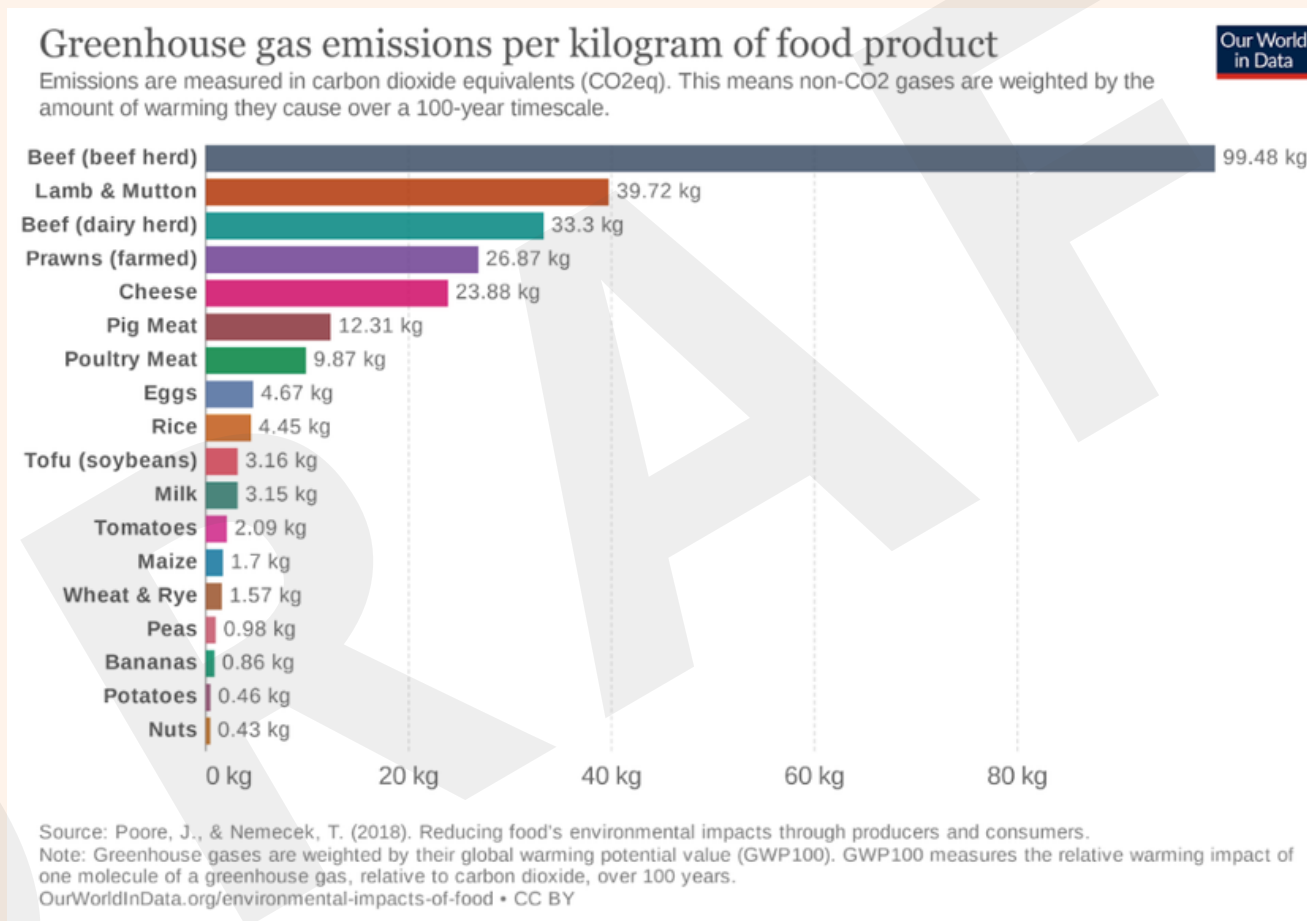
<sup>10</sup> [www.gov.uk/government/statistics/uks-carbon-footprint](http://www.gov.uk/government/statistics/uks-carbon-footprint) shows consumption data for the UK. It is then pro-rata'd using ONS local authority population estimates. 10.48 tonnes per person.



The following graph shows a pie chart for all the emissions for Thanet. The emissions taken up/ emitted by the land is so small that it cannot be seen on the graph.



What we eat contributes greatly to our carbon footprint, with beef and lamb contributing the most emissions per kg as shown in the next graph. This is because cows and sheep are ruminants and produce a very strong greenhouse gas called methane when they digest their food. The agricultural industry is also responsible for over 90% of worldwide deforestation, as forests are cleared for food (mainly meat) production.<sup>11</sup> The reduction of meat consumption is one of the quickest ways to reduce your carbon footprint and environmental impact.



The last 6 priorities of the strategy address the Thanet wide emissions in housing, transport, business and industry, new housing and development, absorbing emissions using the land and addressing the emissions from everything else - consumption.

<sup>11</sup> <https://www.fao.org/newsroom/detail/cop26-agricultural-expansion-drives-almost-90-percent-of-global-deforestation/en>

## TWELVE PRIORITIES

There are twelve priorities for this strategy. Three that address the 2030 aim for emissions within our control (core carbon footprint), three which address TDC emissions that we have partial control over and six which address district wide emissions. Each of these relate to the emission data set out above.

### TDC Net Zero Carbon Footprint

1. Addressing the emissions from TDC owned and managed offices and buildings plus leisure centres
2. Addressing the emissions from TDC fleet and equipment
3. Sequestering/offsetting left over emissions e.g. Woodland Creation

### Emissions TDC have partial control over

4. Addressing the emissions in decisions and projects
5. Addressing the emissions within TDC purchases (Procurement)
6. Addressing the emissions within our social housing and other buildings we own

### District Wide Emissions (those emissions we don't have direct control over)

7. Addressing emissions in the current housing stock: Thanet housing retrofit action
8. Addressing emissions in Thanet's transport
9. Addressing emissions produced by Thanet's businesses (commercial and industry)
10. Addressing emissions from new housing and development: Local planning
11. Stimulating renewable energy production and Thanetwide carbon sequestration
12. Addressing Thanet wide consumption emissions including emissions from food and purchases: Climate Change Education and Communication

**Apart from the TDC Local Plan, KCC is leading on addressing district wide emissions and this is laid out in the Low Carbon Energy and Emissions Strategy.<sup>12</sup>**

These 12 priorities are set out in detail below with actions that we will start immediately and aim to complete by March 2024.

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<sup>12</sup> [https://www.kent.gov.uk/data/assets/pdf\\_file/0009/112401/Kent-and-Medway-Energy-and-Low-Emissions-Strategy.pdf](https://www.kent.gov.uk/data/assets/pdf_file/0009/112401/Kent-and-Medway-Energy-and-Low-Emissions-Strategy.pdf)

# Addressing TDC Core Carbon Footprint

## 1. Addressing the emissions from TDC offices and buildings including leisure centres

Following best practice, an Estates Decarbonisation Plan will be created using the guidance from the government's Heat and Building Strategy<sup>13</sup> and the Net Zero Estate Playbook.<sup>14</sup>

This may need to take place in a number of phases for some buildings and include:

- 1.Reducing energy use through behaviour change
- 2.Decreasing electricity use by swapping to LED lighting
- 3.Reducing gas use by adding insulation
- 4.Decreasing gas use by reducing the flow of the hot water taps/shower heads
- 5.Swapping the gas boilers for low emissions alternatives.  
Currently the most efficient option is air or ground source heat pumps
- 6.Adding solar pv to reduce the cost of electricity use and produce our own renewable electricity.

Some of the actions e.g. behaviour change, LED lighting and insulation will likely save TDC money and will be considered as the first steps. The decarbonisation of the heating supply by the installation of heat pumps will be much more costly and

external funding will need to be sought. The Heat and Building Strategy states that for the UK to meet its 2050 net zero targets, heat in virtually all buildings must be decarbonised.

One of the first steps is to understand if there are offices that TDC does not need due to hybrid working. A clear Estates rationalisation plan will need to be drawn up alongside the estates decarbonisation plan.

The four main short term actions to March 2024 are:

- Create a governance structure, estates rationalisation and heat decarbonisation plan
- Create a business plan for the possible employment of a new Energy Efficiency and Heat Decarbonisation Officer
- Aim to reduce the emissions from the estates by 15% by January 2024.
- Understand if a solar farm can be added to TDC land.

<sup>13</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1036227/E02666137 CP 388 Heat and Buildings Elay.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1036227/E02666137_CP_388_Heat_and_Buildings_Elay.pdf)

<sup>14</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1035417/Net Zero Estate Playbook 1 .pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1035417/Net_Zero_Estate_Playbook_1_.pdf)

## 2. Addressing the emissions from TDC offices and buildings including leisure centres

This priority includes the aim to purchase electric cars and car derived vans (<3.5 tonnes) when the current diesel versions come to the end of their operational lives from now until 2030. An investigation into the full net cost of electric car derived vans will be the first step. Associated with this is the installation of EV charging points at appropriate TDC locations to enable this to happen.

The electrification of the large waste carrier vehicles is a complex project that will need to be planned soon if they are to be included in the 2030 net zero aim. It involves complex new electric charging infrastructure and possibly a new way of working for many staff using these vehicles. The current waste carrier vehicles have a lifespan to 2028 and electric vehicles will be considered. The cost of these however is currently more than double the diesel versions, and even when taking into account the savings on the cost of the electricity and also reduced cost of maintenance, the uplift in cost will be great.

A fully costed plan will need to be produced as soon as possible to understand these costs and savings. However, there will continue to be considerable uncertainty around both the costs and the operational efficiency of the use of these types of vehicles in the short term as this market develops and matures.

A plan to reduce emissions from TDC's business travel through encouraging the use of public transport or ultra low emission vehicles will also be created. These emissions have already started to reduce through the use of online rather than face to face meetings and flexible working.

A small volume of emissions is generated from the open spaces equipment and a plan will need to be created to purchase electric equipment instead of motorised. The team has trialled some electric equipment in the past few years however, they were not robust enough for the work that they do. New sturdier electric equipment will be trialled as it comes onto the market and will be considered as older equipment comes to the end of its life.



The main short term actions are to:

1. Investigate the uplift in cost of electric car derived vans compared to diesel versions, agree a policy on the purchase of electric car derived vehicles in the fleet replacement scheme, aiming for zero emissions by 2030.
2. Complete a full report of the costs and benefits of purchasing electric waste carrier vehicles (WCV) in 2028.
3. Create policies to reduce emissions from business travel.
4. Create a costed report on options to decarbonise the open spaces equipment, aiming to purchase electric versions as old equipment comes to the end of its life.

### 3. Sequestering/offsetting left over emissions e.g. Woodland Creation

Realistically, TDC will not be able to reduce all emissions from our estates by 2030. For example, the crematorium has a life span to 2036. We would not want to discard our current cremator and change it for a possible electric version until it came to near the end of its life. Also, some vehicles do not have electric versions currently.

The emissions that are left over in 2030 will need to be absorbed if we want to reach true net zero by that date. The carbon reduction plan calculates this to be approximately 1200 tonnes of CO<sub>2</sub>e, reducing to approximately 1000 tonnes of CO<sub>2</sub>e if the gas cremator is replaced for an electric version in 2036.

Although all trees absorb carbon dioxide, the planting of individual trees cannot be used to officially offset these left over emissions currently. The planting of individual trees in parks, such as the new large trees planted in Jackey Bakers by TDC cannot therefore be used to offset our carbon footprint.

The planting of individual trees will be addressed in the future Tree and Biodiversity Strategy and action plan, as it is important that trees are planted even if they cannot be used in offsetting. They are important to us for many other reasons such as biodiversity, air quality, addressing heat stress and water runoff, as well as being beautiful to look at and improving mental and physical health.

Only woodlands greater than 0.5 hectares can be used in the official offsetting scheme. TDC could either create its own woodland if there is appropriate land or pay into a gold standard scheme for carbon sequestration. This may be

through the new Wilder Carbon Scheme which is being created by Kent Wildlife Trust.<sup>15</sup>



122 hectares of woodland would need to be planted to offset average annual emissions of 1100 tonnes each year for 30 years.<sup>16</sup>

Given the fact that the Isle of Thanet is predominantly farmland, most of which is the best and most versatile agricultural land and not appropriate for woodland creation, it is very unlikely that this level of woodland creation could be achieved. Offsetting schemes will therefore need to be considered.

The main short term actions are to:

1. Investigate land owned by TDC, including TDC social housing sites for possible woodland creation. Decide whether any agricultural land should be used for woodland creation or if it should all be protected for food production.
2. If sites are identified, investigate funding to establish woodland to offset TDC's residual emissions
3. Investigate offsetting projects e.g. Wilder Kent and the cost of these.

<sup>15</sup> <https://www.kentwildlifetrust.org.uk/wilder-carbon>

<sup>16</sup> TDC would produce 1100 tonne each year for 30 years = 33,000 tonnes.  
33,000 / 270 = 122 hectares

## Addressing emissions TDC has partial control over

### 4. Addressing the emissions in decisions and projects

The aim of this strategy is to reduce all emissions produced by TDC, therefore the impact of all decisions and activities on TDC's carbon footprint will need to be considered. If the decision taken reduces emissions then it is in line with this strategy.

Decisions that reduce emissions compared to the current situation include installing insulation and LED lighting, creating renewable energy, purchasing electric vehicles and creating woodland.

Guidance will need to be produced to enable directors and officers to consider emissions within proposals and decisions. Every decision that increases emissions will be seen as a risk to the environment, to society and to the council. It is clear we need to aim to reduce emissions in this decade.

Any action that causes extra annual emissions will also need to be addressed in the future which could be costly.

We will consider a Net zero decision policy that ensures decisions have had due regard to reducing emissions in line with the net zero strategy and carbon reduction plan.

TDC will also devise a method to calculate the emissions within projects and set targets to reduce these emissions.

Actions to 2024 include:

1. Calculate the estimated emissions within the activities of the council for the baseline year 2019-2020 including projects
2. Investigate and agree a method to calculate the emissions within planned regeneration projects e.g. Levelling Up fund and planned estates projects up to 2024
3. Create a plan to reduce a) embodied emissions (through contract specifications) and b) functional emissions within TDC projects
4. Create advice to all directors and officers on how to consider greenhouse emissions in all decisions
5. Add climate change as consideration and sign off on all cabinet reports. All decisions will be asked to identify basic emissions sources within their decisions
6. Consider a Net zero decision policy that ensures decisions have had due regard to reducing emissions in line with the net zero strategy and carbon reduction plan.

## 5. Addressing the emissions within TDC purchases (Procurement)

The TDC procurement team has already added a 5% weighting for net zero targets within their grading matrix for quotes and tenders. This means we ask competing companies to explain if they have calculated their carbon footprint and what they are doing to reduce it and grade their answer out of 5. This grade is added to their total score out of 100.

Going forwards, we are considering asking larger companies to calculate the emissions within the contracts. This will be vital to calculate and monitor our emissions reductions.

Working with the KCC procurement subgroup, TDC wants to set targets within our procurement which encourages the move towards net zero emissions within all contracts.

Actions to 2024 include:

1. Calculate the estimated emissions of the top 15 TDC contracts in the baseline year 2019 - 2020
2. Continue to ask companies about their carbon footprint and reduction in the procurement process. Evaluate the answers and improve the questions where necessary.
3. Create advice to officers on how to evaluate the answers within the tender response documents
4. Agree a net zero market statement.
5. Consider asking larger companies for the calculated carbon emissions within their contracts.





## 6. Addressing the emissions within our social housing and other buildings we own

The housing team is creating ambitious targets to improve the insulation and energy efficiency within TDC's social housing and is due to publish a Social Housing Decarbonisation Strategy alongside this strategy.

We have calculated the estimated emissions from the energy use in our social housing. This totalled 9215 tonnes of CO<sub>2</sub>e and is 4.9% of the total housing emissions across Thanet.

One of the first aims of the housing department is to ensure that all properties are EPC C by 2035, aiming for 2030, using capital schemes and government funding. By 2028, we will have trialled some options for decarbonising housing using the principles of fabric (insulation) first, worst first (worst properties) and no regrets.

This will include an education plan for tenants to ensure they understand how to use the new heating systems e.g. if air source heat pumps are installed, they need to be on all the time compared to gas boilers which are turned on and off.

The team will also set targets to decarbonise the heating supply of a percentage of the current social housing by 2030.

Any new social housing built will have strict criteria. For example, we will set stringent targets around the u values and energy emission standards to net zero for all new social housing building.

We can also set design briefs which include low embodied emissions, using guidance from the Green Building Standard and the Net Zero Carbon Toolkit.<sup>17</sup>

<sup>17</sup> <https://www.westoxon.gov.uk/media/2ddb125k/net-zero-carbon-toolkit.pdf>

The government has banned the installation of gas boilers in new developments from 2025 and so we want to follow this ambitious target. We will not install gas boilers into new social housing as this will simply add to the fossil fuels being burned.

### Landlord responsibilities

TDC own and lease a number of other buildings in our estates. As a landlord we will aim to increase the energy efficiency of these buildings and follow the forthcoming government guidelines. e.g. For commercial let premises the Government is consulting on raising the standard to EPC B by April 2030 with limited exceptions.<sup>18</sup>



Actions to 2024 include:

1. Complete a plan that ensures all social housing stock are EPC C by 2035, aiming for 2030 using capital schemes and government funding.
2. Create a full plan to fully decarbonise the heating of a percentage of the social housing that TDC own and take the plan to cabinet to agree.
3. Create a plan to meet the government guidelines around energy efficiency of commercial let properties.

<sup>18</sup> Energy white paper (<https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>)

# Thanet Wide Emissions

Apart from the TDC Local Plan, KCC is leading on addressing emissions Thanet wide which is laid out in the Low Carbon Energy and Emissions Strategy. This strategy shows how we will support KCC, the Government, business, industry and the community to make Thanet as a whole net zero by 2050.

## 7. Addressing emissions in the current housing stock: District wide Thanet housing retrofit action

37% of Thanet's GHG emissions are from domestic housing (187700 tonnes of CO<sub>2</sub>e). The bulk of these emissions are from domestic heating and hot water. To decarbonise existing stock, a mixture of energy efficiency and low-carbon heating measures are required.

As it stands the UK's housing stock is amongst the most inefficient in Europe. Thanet Council's role is to facilitate the retrofitting of insulation, energy efficiency and low carbon measures into households of all tenures and income levels. This will be achieved by accessing national, regional and international funding for installing measures into low income homes, developing community energy initiatives and affordable and trustworthy solutions for all tenures and incomes. These actions will run alongside the Government's industry-led transformation of the heating appliance market towards low-carbon products.



The government also considers actions to improve home energy efficiency as the best long term method of tackling fuel poverty.<sup>19</sup>

There are a number of TDC actions within this priority:

1. Create a Domestic Retrofitting Action Plan Strategy for Thanet. Increasing energy efficiency and decreasing fuel poverty
2. Ensure installation of measures into homes by designing delivery routes for various funds through available funds (Green Homes Grants, Home Upgrade Grants, ECO4 etc.)
3. Continue to provide energy advice and referral service for residents of all tenures
4. Provide community advice including neighbourhood pop up advice events and door to door advice
5. Deliver training to partner organisations, the industry, landlords, letting/ estate agents
6. Develop the installer markets and associated skills. Including training in local colleges, working with local installers/surveyors.
7. Deliver a communication plan to assist all residents with reducing energy consumption and reduce energy bills, provide affordable warmth and reduce carbon emissions
8. Develop community energy decarbonisation initiatives.
9. Help address fuel poverty in the district by enabling households to access measures, funds, benefits and crisis support.

<sup>19</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1044598/6.7408 BEIS Clean Heat Heat Buildings Strategy Stage 2 v5 WEB.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1044598/6.7408_BEIS_Clean_Heat_Heat_Buildings_Strategy_Stage_2_v5_WEB.pdf)

## 8. Addressing emissions in Thanet's transport

25% of emissions (128100 tonnes of CO<sub>2</sub>e) in Thanet come from transport and this needs to be addressed in various ways including supporting the shift from car use to active travel or public transport and the electrification of transport. This aim is led by KCC in the KCC Energy and Low Emission Strategy but assisted by TDC.

TDC can work with KCC on projects to encourage more cycle paths and therefore support/ encourage those wanting to cycle to school and work. The Council will seek to develop a cycling network in the district, and new development should take into account the needs of cycling. The change of thinking that is needed to move from car travel to more active travel can be assisted by the communication team. The TDC air quality team will also work with KCC on projects around air pollution from vehicles.

TDC can assist sustainable transport by creating an EV charging station plan for the land we own and drawing down government funding as and when it is released. We already have two fast chargers for residents and taxi drivers in our car parks and would like to install more when funding is available. The lack of charging points throughout Thanet is a barrier to some purchasing electric vehicles.

Active transport is already incorporated in policies within the local plan, however this can be reviewed to ensure it is a priority in decision making.



Actions to 2024 include:

1. Create an EV charging point plan for TDC owned land
2. Complete the installation of the currently funded electric charging points across the district
3. Finalise, agree and consult on the taxi licensing policy which will promote a shift to low emission vehicles
4. Create an action plan to encourage tourists to use public transport, walk or cycle
5. Promote KCC campaigns and activities to encourage people to walk and cycle. Encourage the public to use sustainable transportation, including public transport, car sharing, cycling, and walking
6. Work with KCC to create digital resources for schools on air quality and encouraging walking and cycling.

## 9. Addressing emissions produced by Thanet's businesses (commercial and industry)

The emissions from industry within Thanet make up 11.9% of the District's carbon footprint whereas the emissions from the commercial sector makes up 21.5%. In total they contribute 171900 tonnes of CO<sub>2</sub>e.

TDC will promote KCC's actions e.g. LoCase project<sup>20</sup> which aims to facilitate local businesses in reducing their carbon footprint through grants and advice. We will provide new and updated information on our website and provide news flashes through our social media.

The teams that work with businesses at TDC can also advise them directly, such as the tourism team. They have already produced a Green Tourism Toolkit for businesses which gives guidance around setting net zero aims and reducing their environmental impact.

Actions to 2024 include:

1. Facilitate KCC to decrease emissions from tourism businesses e.g. through the green tourism toolkit.
2. Promote KCC courses e.g. STEM and funding streams e.g. LoCase through our networks e.g. tourism, members and residents newsletters.
3. Promote BEIS funding streams locally through our networks.



<sup>20</sup> <https://locase.co.uk/>

## 10. Addressing emissions from new housing and development: Local planning

TDC can directly influence the emissions of the district by the planning policies within the Local Plan. Currently, in TDC's Local Plan, housing must meet good energy efficiency standards. It is anticipated that the government will announce planning laws that stipulate zero carbon buildings in the future, however we are currently reviewing the local plan and will consider if it is viable to add any new policies to improve this even quicker. Currently, new houses are still using fossil fuels for their heat and power.

The government has announced that no new gas boilers will be installed from 2025 and we are waiting for the details of this in the government's final Future Homes Standard. It is important that these standards are added to building regulations, so that they will be stipulated automatically as a house is built. If the Government's Future Home Standard<sup>21</sup> is ambitious it will mean that new homes will create a very small volume of GHG emissions, most likely having air source heat pumps to provide heat (instead of gas boilers) and also possibly solar panels for electricity.

The current local plan also stipulates that 1 electric vehicle charging point must be added for every 10 units built and we will ensure that this policy is also robust in commercial areas.

The local plan can also be used to encourage active transport across the district and this will be reviewed as part of the Thanet Transport Strategy and Cycling and Walking Strategy review.

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<sup>21</sup> <https://www.gov.uk/government/consultations/the-future-homes-standard-changes-to-part-l-and-part-f-of-the-building-regulations-for-new-dwellings>

As water use also creates some greenhouse gas emissions, as well as putting demand on our drought prone area, we will also investigate if we can introduce a policy which stipulates 100L per person per day in all new builds.

There are numerous actions within this section:

1. Estimate the extra greenhouse gas emissions due to development and transport within the local plan to 2031, for data collection and decision making purposes
2. Investigate the viability of low carbon housing policies that could be added to the local plan
3. Investigate the viability of a policy whereby modifications to existing homes must also improve energy efficiency and reduce emissions
4. Investigate the viability of including a 100L of water per person per day policy
5. Review the Thanet Transport Strategy alongside the local plan.
6. Create a high level cycling and walking strategy alongside the local plan using the Sustrans audit report
7. Review the planning policies around EV charging points in commercial development
8. Work with KCC transport on embedding sustainable transport into new developments e.g. cycle paths, connectivity to train stations to ensure that new developments add as little transport emissions as possible
9. Investigate any resource gaps within TDC planning with regards to analysing environmental aspects of applications.

## 11. Stimulating renewable energy production and Thanetwide carbon sequestration

In order for the UK to reach net zero, vast amounts of renewable electricity will need to be produced e.g. for new electric heating in housing and for powering future electric transport. Land in Thanet will therefore need to be considered for the installation of renewable energy production where appropriate. The planning team can carry out a call for sites to ask landowners if they are intending to create renewable energy projects, such as solar farms. This will enable a map of future installations to be drawn up.



The land in Thanet may also assist with carbon sequestration through woodland creation, hedgerow planting and wetland restoration. Levels of woodland creation will be limited as it is often inappropriate to turn highly productive farmland into woodland. Improved farming practices that increase soil carbon management would be more appropriate such as no till and cover crops, although calculating the amount of carbon sequestered in these projects is difficult at present.

Many projects will be led by Natural England and charities such as Kent Wildlife Trust e.g. Wilder Carbon. The South East Nature Partnership project called Accelerating Climate Based Solutions will help accelerate the supply and demand of these

nature based solutions. Currently, this work is being trialled with Swale Borough Council.

Also, in conjunction with the Kent Nature Partnership, KCC are developing a Local Nature Recovery Strategy, which will support a portfolio of investment-ready projects for external funding in the future. The requirement to develop a Local Nature Recovery Strategy was confirmed in the Environment Act 2021<sup>22</sup> with the detail on how to prepare and what to include still awaited.

KCC has also released their draft Tree Establishment Strategy (2022 - 2032)<sup>23</sup> which aims to plant one tree for every resident (1.5 million in total).<sup>24</sup> By 2050, KCC also aim to achieve an average tree canopy cover of 19% in Kent, the target recommended by the Committee on Climate Change. TDC is currently writing a Tree and Biodiversity Strategy and Action plan which will lay out how it can assist KCC in its aims and objectives within its powers and resources.

Actions to 2024 include:

1. Carry out a call for sites for renewable energy production e.g. solar farms
2. Support KCC with the Local Nature Recovery Strategy and Kent Tree Strategy within our powers and resources
3. Finalise the TDC Tree and Biodiversity Strategy and Action Plan

<sup>22</sup> <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

<sup>23</sup> <https://letstalk.kent.gov.uk/plantree>

<sup>24</sup> <https://www.kent.gov.uk/environment-waste-and-planning/nature-and-biodiversity/trees/tree-planting-statement>

## 12. Addressing Thanet-wide consumption emissions including food and purchases: Climate Change Education and Communication

This section has the largest volume of emissions. As explained in the data section, approximately 971,068 tonnes of emissions are produced from our consumption, (DEFRA)<sup>25</sup> which is nearly double the emissions from the district's energy use. This includes the services used (e.g. education, NHS) and everything else that we buy e.g. household appliances, clothing and food.

KCC are currently leading on climate change communication Kent Wide through Kent Green Action,<sup>26</sup> but TDC produces a number of webpages on climate change<sup>27</sup> which will be updated regularly. We will inform the community what we are doing to tackle the emergency as well as give advice on how individuals can decrease their own carbon footprint.

We have split the carbon footprint into easy to understand sections: FOOD, HOUSE, TRAVEL, PURCHASES as well as a section on hobbies and how to inspire others. We are encouraging residents and staff to take a pledge to make a change in one or more of those sections and will create communication plans for each section.

We will also provide information on any government grants that may be available to assist people to reduce their carbon footprint. We currently run a sustainability forum that predominantly addresses litter and we hope that we can run

<sup>25</sup> [www.gov.uk/government/statistics/uks-carbon-footprint](https://www.gov.uk/government/statistics/uks-carbon-footprint) - shows consumption data for the UK. It is then pro-rata'd using ONS local authority population estimates. 10.48 tonnes per person.

<sup>26</sup> <https://www.kent.gov.uk/environment-waste-and-planning/kent-green-action>

<sup>27</sup> <https://www.thanet.gov.uk/services/energy-and-climate-change/> and <https://www.thanet.gov.uk/wp-content/uploads/2020/10/Carbon-Footprint-pledge.pdf> (Also see appendix B.)

further forums which specifically aim to reduce greenhouse gas emissions.

As the Climate Change Committee (2020) explains, combating climate change

“can only be achieved if Government, regional agencies and local authorities work seamlessly together. More than half of the emissions cuts needed rely on people and businesses taking up low-carbon solutions – decisions that are made at a local and individual level. Many of these decisions depend on having supporting infrastructure and systems in place. Top-down policies go some way to delivering change, but can achieve a far greater impact if they are focused through local knowledge and networks.”

The Climate Change Officer will also give talks to Town and Parish Councils. These organisations are so important as they are the first tier of local government and are closest to Thanet residents. She will also give talks to community groups who would like to understand more about climate change and how to reduce their carbon footprint.

Actions to 2024 include:

1. Start a net zero community group forum by next summer. This will be in addition to the sustainability forum group which focuses on plastic and biodiversity.
2. Present climate change talks to Town and Parish Council and at community events.
3. Create an overarching Net Zero Communication Plan which aims to reduce emissions within the full carbon footprint including food consumption and purchases

## CHALLENGES AND FUNDING

The Climate Change Committee (2019)<sup>28</sup> points out:

Local authorities have a range of existing levers that can be used to deliver local action that reduces emissions and prepares local areas to a changing climate. However, these levers alone are unlikely to be sufficient to deliver local authorities' Net Zero ambitions, due to gaps in powers, policy and funding barriers, and a lack of capacity and skills at a local level. Additionally, without some level of coordination from Government, the UK risks pursuing a fragmented strategy towards Net Zero.

At TDC we have called on the government for more joined up working and resources so that we can achieve our aims.

We are aware of the many barriers facing us on the road to net zero. Simply achieving net zero in the TDC offices, the fleet of vans and waste carrier vehicles is complex and costly, and involves not just changes in the way vehicles are powered, but could also affect the way people have worked for years. This challenge is not just about energy, but is about change and managing the losses and stress that is associated with new ways of working.

We also have a number of gaps in our powers which many residents are not aware of. TDC does not control roads, schools or healthcare and other aspects of the district and so the

<sup>28</sup> <https://www.theccc.org.uk/publication/local-authorities-and-the-sixth-carbon-budget/>

decarbonisation of these areas will need to be led by KCC through the Kent and Medway Energy and Low Emission Strategy.<sup>29</sup>

Furthermore, and most importantly, TDC is a small council, having limited staff members who can work on the net zero plan. It is important that all staff members are motivated to achieve this goal, and that we can work with all groups in the community who are also willing to make the changes needed to decarbonise the Isle of Thanet.

One of the main challenges in reaching net zero by 2030 is the costs involved. For example, the cost of changing to a 16 vehicle electric fleet will be approximately £4 million Every 7 years, as well as the initial cost of upgrading the depot for charging which has not been calculated yet. The budgets at TDC are already stretched and therefore the majority of funding for climate change will need to be sourced externally, mainly through government funding. Currently, there is no funding for electric waste carrier vehicles however.

Cabinet has agreed to consider using the risk management reserve, if external funding from government cannot be applied for, or match funding is required. The use of the risk management reserve will also be considered to employ staff during essential projects (e.g. project managers), if the external funding does not cover this and these positions are necessary for the successful completion of an essential carbon reducing project.

Any proposed use of the risk management reserve for these purposes would be subject to the usual budget approval process.

<sup>29</sup> [https://www.kent.gov.uk/about-the-council/strategies-and-policies/environment-waste-and-planning-policies/environmental-policies/kent-and-medway-energy-and-low-emissions-strategy\\_](https://www.kent.gov.uk/about-the-council/strategies-and-policies/environment-waste-and-planning-policies/environmental-policies/kent-and-medway-energy-and-low-emissions-strategy_)



## HOW THIS STRATEGY WILL WORK AND PROGRESS BE MEASURED

A full action plan has been created to enact this strategy. It records the responsible service area's directors for each action within each priority. The action plan also shows if there is a gap in resources and funding and this information can be used in forward planning. A summary of these actions has been described throughout this strategy.

Monitoring and reporting are essential to ensure that actions taken are effective and enable informed decisions to be made. The Cabinet Member for Environmental Services and Special Projects, Director of Finance and the Climate Change Officer will review the action plan each month.

Each service area will be responsible for monitoring the success and impacts of their actions and the main responsible directors and officers will form part of the updated Net Zero Officer group which will meet every two months.

Members of the Net Zero Officer Group will provide updated information relevant to the Climate Change Cabinet Advisory Group which meets every two months, who will also monitor progress.. full report will also go to cabinet every summer, before decisions on the budget for the year are made. This way, any actions that are not proceeding as they should can be taken into consideration within the budget if necessary. An external auditor will also monitor the progress on the action plan and the carbon reduction plan and report to the Overview and Scrutiny Committee annually. The full carbon footprint of TDC will also be published each year to show progress made. The actions against the Thanet wide emissions will be reported through the KCC Kent Climate Change Network and will feed into the Kent and Medway

Energy and Low Strategy. As the role of TDC in Thanet wide emissions becomes clearer then more detailed reporting will be considered.

The full carbon footprint of TDC will also be published each year to show progress made. The actions against the Thanet wide emissions will be reported through the KCC Kent Climate Change Network and will feed into the Kent and Medway Energy and Low Strategy. As the role of TDC in Thanet wide emissions becomes clearer then more detailed reporting will be considered.



# APPENDICES

## Appendix A: Eco Anxiety

You might like to watch this Youtube video:  
<https://www.youtube.com/watch?v=f52LJJFBCLc>

Ecologi recommends: The Climate Psychology Alliance holds regular online 'Climate Cafes' which you can attend to discuss fears & uncertainties about our climate & ecological crisis, all while in a safe and empathetic space with others who feel the same. See more here: <https://ecologi.com/articles/in-depth/whats-in-the-new-ipcc-report-and-what-does-it-mean>

## Appendix B: Updated pledge

### The pledge was updated at the climate change cabinet advisory group July 4th 2022.

Thanet District Council (TDC) called a Climate Emergency on 11 July 2019. As part of this declaration, the Council resolved to:

- Pledge to do what is within our powers and resources to make Thanet District Council carbon neutral by 2030, taking into account both production and consumption emissions;
- Call on Westminster to provide the powers and resources to make the 2030 target possible;
- Continue to work with partners across the County and region to deliver this new goal through all relevant strategies;
- Investigate all possible sources of external funding and match funding to support this commitment;

In December 2021, TDC added the following:

- We pledge to do what is within our powers and resources to support KCC, the Government, business, industry and the community to make Thanet as a whole net zero by 2050.

As the meaning behind the specific terms in this pledge became more explicit, it has become necessary to upgrade the wording of the pledge made on the 11 July.

### The updates

The word carbon neutral was changed for Net Zero as it is a stronger commitment.

Net zero is a more robust term than carbon neutral. Carbon neutral means that you can offset emissions by supporting projects such as solar farms. However, these projects do not directly remove/absorb emissions from the atmosphere.

Net zero means that any leftover (residual) emissions must be absorbed by carbon sequestration projects and directly removed from the atmosphere e.g. woodland creation projects. This is why Net zero is a more robust term.

The word consumption was removed from the pledge as these emissions are not directly within our control. Most companies in the UK have not set 2030 targets and therefore reaching net zero by 2030 within our purchases is out of our control and unachievable.

Many companies have however set 2050 targets.

We will instead work with companies to encourage them to reduce their emissions as quickly as possible and only buy things from companies that are serious about reducing their emissions in the future. We will aim to reduce emissions from procurement as quickly as possible, however it is simply not possible to reach net zero by 2030 for consumption as it is not within our control.

The updated pledge includes the words net zero to make it a stronger pledge and clarifies that our 2030 pledge is for emissions we have direct control over. It also adds a new sentence which addresses emissions that we have only partial control over.<sup>30</sup> Emissions from everything that we have partial control over has been included here so we do not miss anything e.g. projects, procurement and social housing.

### **Appendix C: Calculation of Thanet's full carbon footprint including consumption emissions**

UK emits 703,131 ktonnes = 703,131000 of CO<sub>2</sub>e due to its overall consumption including imports. ONS data: Population of UK: 67.1 million. ONS data: Population of Thanet: 141,819

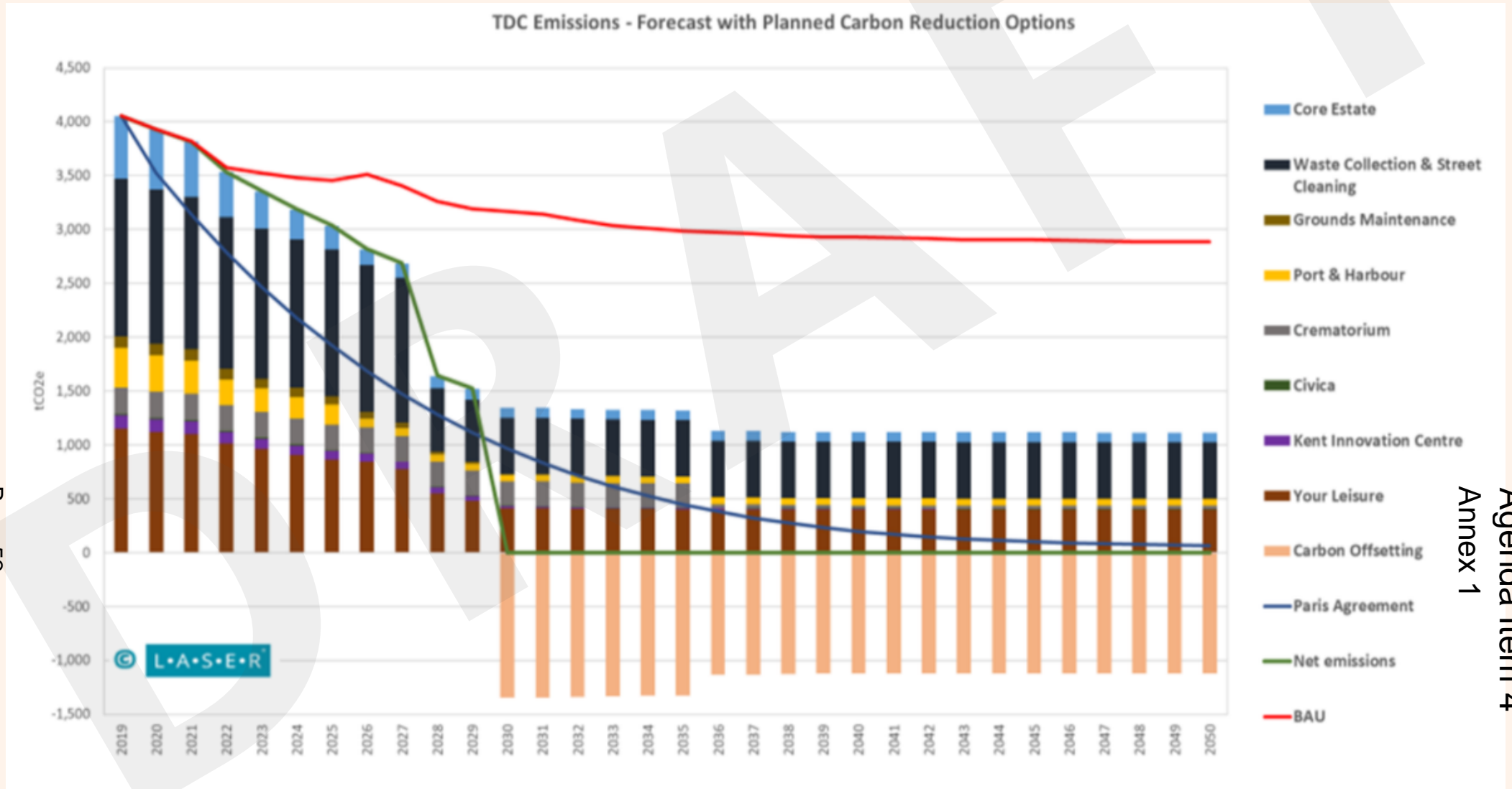
$703,131000 / 67100000 = 10.48$  tonnes per person x 141,819 people in Thanet = 1,486,068 tonnes of CO<sub>2</sub>e

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<sup>30</sup> We have also included the leisure centres which we do not actually have direct control over, but it was agreed that they should be included because if Your Leisure did not lease the buildings TDC would likely take them back in house.

## Appendix D: Emissions reductions model

The current emissions reduction pathway is shown below. Emissions left over at 2030 include those from the crematorium (grey bar) which will come to the end of its life in 2036. It is hoped that TDC can purchase an electric cremator in this year. Other left over emissions include the fuel use from trucks which do not currently have electric versions. It is hoped that electric versions will come on the market and can be included in the emission reduction model, rather than having to offset the emissions.





E

# Carbon Reduction Plan

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## Thanet District Council

14 July 2022

# Carbon Reduction Plan

Author: Helen Cartledge, Zero Carbon Consultant

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## Executive Summary

### Introduction

This document summarises the activity and findings of the Zero Carbon Roadmap exercise carried out by LASER for Thanet District Council (TDC), with the key elements, findings and next steps summarised in the Executive Summary.

Following the initial project initiation meeting, LASER progressed through a number of steps in conjunction with TDC to quantify the Council's carbon footprint. This was to help TDC understand what measures could be taken to diminish these emissions, with the ultimate aim of achieving net zero by 2030. This report mirrors these steps and goes on to give additional explanation around areas, such as zero carbon electricity supply options and offsetting - which are extremely important considerations in this context. Finally, the report goes on to draw the findings together and identifies the most efficacious actions that the Council could take.

### Process & Key Points

The following stages were carried out for the project:

- Scoping
- Data collection
- Footprints & Business as Usual forecast
- Options appraisal workshop
- Carbon reduction modelling

Each stage is summarised below with key points and further details can be found in the main body of this report.

1. A scope was defined in order to frame the target. This was based on the operational control consolidation approach and the premise of including



outsourced contracts which would likely be provided by TDC if they had not been contracted out, for example the two leisure centres. Therefore, the following areas were included:

- Core Estate
  - Waste collection and street cleaning
  - Grounds maintenance
  - Crematorium
  - Ports and harbours
  - Your Leisure (Ramsgate and Hartsdown Leisure Centres)
  - Civica
  - Kent Innovation Centre
2. For areas identified within the project scope data was collected, where available, for the below emission sources:
- Gas
  - Fuel for stationary combustion
  - Fuel for owned vehicles
  - Fugitive emissions (F-Gas that has escaped to the atmosphere from air conditioning, refrigeration and other heat transfer systems)
  - Electricity
  - Grey fleet (employees using their own vehicles for business travel)
  - Water
  - Waste

This data was quality assessed by LASER and where necessary, recommendations provided for actions to remedy any issues or concerns.

3. TDC's carbon footprint was calculated based on FY 2019/20 data and was 4,054 tCO<sub>2</sub>e. It was shown to be dominated by the fuel use for TDC's owned vehicles, in particular the waste carriers and gas for the estates and two leisure centres.
4. Business As Usual forecast shows that emissions will continue to drop without further activity by TDC, mainly because of reducing electricity grid emissions, however this will plateau at around 71% of current emissions by 2050.
5. An option appraisal workshop was carried out with TDC Directors and Senior Officers from multiple departments. This was to help LASER understand which issues, subjects and concerns were of importance to the Council, and to help LASER align carbon reduction modelling with TDC's net zero journey.
6. A carbon reduction model was generated for TDC, assessing carbon emissions and high-level financial implications for chosen Carbon Reduction Options and assumptions.

To be net zero by 2030 the Council will need to invest £9.640m and there will be savings of £4.070m resulting in a net position of -£5.570m. By 2050, investment will increase to £29.109m with savings of £20.811m and a net position of -£8.298m. (These figures are cumulative).

The two areas with the largest investment costs were the introduction of electric vehicles into TDC's fleet (mainly the waste carrier vehicles) and the heat pumps. By 2030, the investment cost for EV replacements and heat pumps will be around 20% and 63% of the overall investment cost respectively. By 2050, the investment cost for EVs increases to 75% of the overall investment required.

In 2030, there will be 1,347 tCO<sub>2</sub>e remaining from the carbon footprint of 4,054 tCO<sub>2</sub>e after the assumed Carbon Reduction Options have taken place. Carbon emissions will drop to 1,117 tCO<sub>2</sub>e by 2050, mainly due to the assumption that the crematorium would be electrified by 2036. According to the government's central forecast, the cost to offset the remaining tCO<sub>2</sub>e by 2030 is £0.109m and £3.978m

by 2050. Forecast costs to offset are variable, with the government providing a low and a high forecast – the below table shows the associated costs:

	2030 £m (Cumulative)	2050 £m (Cumulative)
Low Forecast	-0.054	-1.899
High Forecast	-0.163	-5.696

Table 1. Offsetting costs for 2030 and 2050 for low and high forecast

7. In order to align with science-based targets and contribute their fair share of emissions reductions determined under the Paris Agreement, a rapid reduction in TDC's emissions would be required, a cut of 46% by 2025. At current emission levels, TDC would use their entire carbon budget to 2100 by 2026.

## Key Findings

- Substantial early action is needed to align with Paris Agreement pathway.
- In order to reach net zero as many vehicles as possible within the TDC fleet should be electrified.
- Firming up a strategy around estate rationalisation is vital to help TDC understand the extent of how this can contribute to meeting their net zero target, the associated financial benefits, and with planning of Carbon Reduction Options, such as LED and heat pump installation.
- Determining actions in retained buildings within an estate decarbonisation plan will be key for TDC in understanding how their net zero target can be reached, with steps taken to understand the feasibility of installing heat pumps in areas with a large gas consumption.

- Less significant emission sources should be addressed such as water and equipment.
- For electricity, a procurement strategy for green energy can help abate associated emissions.
- The carbon reduction model generated relied on some carbon offsetting to achieve net zero by 2030. There are inherent risks with this as the offsetting market is an evolving market and difficult to predict and it is important to highlight that there would be no financial returns or saving from offsetting.

## Next Steps

Following the work carried out by LASER, the below next steps are recommended for consideration by TDC with further details provided on pages 50-51.

- 1. Carry out electrification feasibility studies for car derived vans and waste carrier vehicles.**
- 2. Determine estate future.**
- 3. Complete a full estate decarbonisation plan for retained buildings and investigate the feasibility of heat pumps.**
- 4. Address less significant emissions sources, for example from water and equipment.**
- 5. Procure green energy for estate.**
- 6. Investigate offsetting options.**
- 7. Update carbon footprint.**

LASER would be happy to assist in either more detailed action planning or modelling of particular options and helping deliver activities via our public sector frameworks.

**Important points to note on interpreting this document**

- Analysis of financial impacts is based on energy costs only. For example, the savings stated from reducing the size of the estate only account for reductions in energy costs and does not take into account revenue from selling or leasing properties.
- Many of these actions are financially prohibited and TDC, where available, will need to source funding and assistance.
- This is an evolving strategy that can be refined, but allows TDC to understand their current position, the challenge and options to meet the challenge.
- There are not defined regulations or conventions at this time around reporting emissions from green energy, so decisions will need to be made based on the Council's preference or an interpretation of what it is felt would be favoured by the public.

## Background

In 2015, the EU and 196 nations signed on to the first truly global commitment to address climate change, namely the Paris Agreement. The aim of this was to limit global warming well below 2°C and in pursuit of 1.5°C compared to pre-industrial levels. On the 3rd of December 2020, the UK government unveiled its target to reduce emissions by 68% by 2030, compared to 1990 levels, and net zero by 2050. It released its Net Zero Strategy in October 2021.

At the time of this report around 80% of councils across the UK have declared a climate emergency\*, with the majority of these setting target dates to be carbon neutral either for their own operations or across their area as a whole. Numerous other public bodies have also made declarations or are putting plans in place to begin this transition. The ambition of declarations varies significantly and also vary in scope, as public bodies begin to define exactly what they are committing to include, in terms of operations and emissions sources. Of those councils who have declared a climate emergency, approximately three quarters have stated a target, with dates ranging between 2025 and 2050, but the majority are 2030 in line with Thanet District Council.

The progress with planning and implementation is mixed. Some organisations are clearly taking large scale action towards developing new renewables, others have committed significant resource to planning yet many others have a clear target but little detail at this stage on how it will be achieved.

Regardless of current progress, these bodies have a mandate to take positive action to address the issue of climate change and will need to formulate detailed plans and take steps towards meeting these targets imminently. If action isn't taken now, the bodies could face substantial political pressure in the short term, and face not meeting their self-imposed targets in the longer term. In 2019, the environmental law firm ClientEarth threatened 100 councils with legal action if they did not provide adequate evidence of planning to meet for their carbon reduction targets.† At the beginning of

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\* [Find a council – Climate Action Plan Explorer \(climateemergency.uk\)](https://climateemergency.uk/)

† <https://www.energylivenews.com/2019/09/03/environmental-lawyers-threaten-councils-with-legal-action-over-climate-inaction/>

2022, action was also taken against the government by both ClientEarth and Friends of the Earth, with lawyers stating that their net zero climate strategy failed to include required policies to meet the emission reductions stated.‡ Although COP26, was seen to mark an important step in global efforts to address climate change, with key focus areas in the UK being that of strengthening NDCs and phasing out fossil fuel subsidiaries, it is apparent that action in every area and at every level is needed.

TDC’s climate emergency declaration made on 11th July 2019 sets out a commitment for the Council’s operations and services to be carbon neutral by 2030. LASER’s expertise and frameworks means that we are well equipped to assist TDC on their journey to net zero. LASER can not only assist in the carbon footprint and planning stages but are also able to offer compliant procurement routes to support TDC through the implementation of emissions reduction projects and initiatives.

## Scoping

The first step towards measuring emissions and creating the carbon footprint for TDC was to carry out the scoping exercise. There are two stages to this process – the first is to review the organisational boundaries and the second is to review the operational boundaries. The below table provides details on why and how each stage is carried out.

	Why the stage was carried out	How the stage was carried out
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‡ [UK government sued over ‘pie-in-the-sky’ net-zero climate strategy | Climate crisis | The Guardian](#)

<p><b>Stage 1</b> <b>Organisational Boundary Setting</b></p>	<p>To determine which organisations, entities and assets would be included in the scope</p> <p>To determine boundaries between TDC’s own operations, and third party / outsourced operations</p> <p>To help classify emission sources into scopes 1,2,3 or scope 3</p>	<p>Determine what organisation, entities and assets TDC influence or have control over</p> <p>Application of an appropriate consolidation approach for less clear areas</p>
<p><b>Stage 2</b> <b>Operational Boundary Setting</b></p>	<p>To determine which emission sources would be included and excluded in TDC’s scope</p>	<p>Emission sources and data availability reviewed</p> <p>Recommended that all scope 1 &amp; 2 emissions were included for own operations, with scope 3 emissions for own operations as optional, and if data was available</p>

Table 3. The stages of scoping

**Stage 1: Organisational Boundary Setting**

**Consolidation Approaches**

The GHG Protocol Guidance provides three different consolidation approaches which are detailed below, to help determine what is influenced by an organisation. As highlighted in the above table, this also helps to determine which emissions sources are classified as the Council’s scope 1, 2 & 3 emissions, and which emission sources are classified as scope 3 only. Further details of scopes 1, 2 and 3 are provided on page 11.



- **Operational Control**

- The organisation has the full authority to introduce and implement its operating policies at the organisation, entity or asset.

- **Financial Control**

- The organisation has the ability to direct the financial and operating policies of the organisation, entity or asset with a view to gaining economic benefits from its activities.

- **Equity Share**

- The organisation accounts for GHG emissions from the entity according to your share of equity in the organisation, entity or asset.

It was decided by the Council that the operational control consolidation approach would be adopted, as it was felt to best tie in with the Council's setup, operations and objectives. Organisations, entities and assets that were included within the scope for TDC were also based on the premise that if the organisation was not outsourced to a third party, it would be an inhouse service provided by TDC. Based on this methodology the following areas and associated emissions were classified as scope 1, 2 and 3:

- Core estate (council offices, PCs, public areas, carparks, streetlighting, grey fleet – employees using own vehicles for company business)
- Waste collection and street cleaning
- Grounds maintenance
- Crematorium
- Ports & harbours

As the below areas fell outside of TDC's chosen consolidation approach, i.e., the buildings are owned by TDC but not operated by them, the associated emissions from these areas were classified as scope 3 only:

- Your Leisure (Ramsgate and Hartsdown leisure centres)

- Civica
- Kent Innovation Centre (TDC own and manage but the majority of offices are leased out).

TDC also have space utilised by EKS for server use, which was also recognised whilst carrying out the organisational boundary setting. However, due to complications with splitting out energy use, it was included under TDCs core estate.

### **Stage Two: Operational Boundary Setting**

This stage involves determining which emission sources would be included for each area, and how they would be classified in relation to scopes 1, 2 and 3 as detailed in the GHG Protocol Guidance. Below, is a definition for each scope:

- Scope 1 – Direct GHG (Greenhouse Gas) Emissions, where the emission occurs directly from sources controlled or operated by the Council, for example the gases emitted from a boiler flue as a result of burning natural gas for heating, or emissions from diesel engines in vehicles.
- Scope 2 – Indirect GHG Emissions, where the consumption of a utility on site has a direct bearing on the emissions offsite. This predominantly relates to electrical consumption but can also include district heating and cooling.
- Scope 3 – Other indirect GHG Emissions, where emissions are a consequence of the activities of the Council such and emissions which also occur from sources not owned or controlled by them,

Scope 3 is a very wide category, as it includes all emissions sources which do not fall under scope 1 and 2, as well as all emissions associated with organisations, entities or assets that fall outside of the chosen consolidation approach.

For areas falling under TDC's chosen consolidation approach, it was determined that, the following emission sources would be included:

- Gas
- Fuel for owned vehicles
- Fuel for stationary combustion (such as standby generators)
- Fugitive
- Electricity
- Grey fleet (employees using their own vehicles for business travel)
- Water
- Waste

For areas which fell outside of the consolidation approach, a similar approach was taken, however it was understood that some of this data may not be as readily available for some of the areas and emission sources.

The scoping diagram is depicted in appendix 1, with appendixes 2 & 3 providing further details about scoping decisions.

### **Upstream emissions**

A further category of two scope 3 emissions were included within the operational scope:

- Transmission and distribution losses: the energy losses that occur from supplying electricity from the power plant to TDCs areas, organisations and leased assets.
- Well-to-tank: emissions that occur from fuel extraction, refining and transportation prior to combustion by TDC or leased assets – this includes:
  - Gas
  - Fuels for stationary combustion

- Fuel used in both owned vehicles and grey fleet.

### **Base Year**

TDC chose FY 2019-2020 as the base year which would be used for the Council's carbon footprint, as this represented a consistent period of time, with no major anomalies or variations from normal operations.

### **Social Housing Emissions**

It was determined by the Council that emissions associated with social housing would be reported separately by TDC. These included emissions from electricity and gas use for both tenants and the landlords supply (stair wells, outside lighting), and emissions from the housing repair contract (Mears). These emissions were quantified by LASER and provided to TDC.

### **Emissions evaluated outside of the project scope**

The below emissions were evaluated by LASER but not included within the project scope. It is prudent to note that even though a specific organisation, entity or area may be excluded from TDC's project scope, the Council can still act and look to reduce associated carbon emissions if wished.

- Purchased goods & services – this has been carried out as a separate study and reviews procurement spend to help understand associated carbon emissions in the supply chain. At time of report this has not yet been carried out due to data availability.
- Employee commuting – at time of report, due to data availability this has not been evaluated.

## Data Collection and Footprint

### Data Collection

LASER worked with TDC to collect available data for the areas and emission sources detailed in the previous section. Data not readily available was:

- Fugitive emissions for all areas, operations and assets
- Waste data – some data was received for Cecil Street offices, crematorium, and waste collection and street cleaning.

LASER worked closely with TDC to try and split out the server usage for EKS, however it was not possible to do so and therefore the total server usage for EKS is included within TDC's core estate area.

Recharges for Ramsgate Marina and the Newport area were also addressed based on recharging invoices and information received from the finance department at TDC.

Appendix 4 contains the carbon footprint data table.

### Data Quality

Consumption data was assessed by reviewing the quality of the data received, and its overall significance on the carbon footprint. This allowed LASER to identify any areas of risk and take the appropriate action to address. Data quality was assessed on a sliding scale, with 1 being the best quality (actuals from billings or reports), and 5 being the lowest quality (approximates and estimates). Table 2 demonstrates how data is scored, and table 3 advises of the priority impact and what actions should then be taken.

Quality of Data	Significance				
	<1% 1	1-5% 2	6-10% 3	10-20% 4	>20% 5
1 (best quality)	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5 (lowest quality)	5	10	15	20	25

Table 4 – scoring of data

Priority	Overall Score & Description
1	1 to 5 - no action required
2	6 to 16 - to be reviewed next year
3	17 to 25 - immediate action required

Table 5 – Priority and actions to take

The majority of the data received by LASER fell under impact 1, and there was no data with an impact of 3.

### Data Quality Advisories

- KIC electricity consumption - priority 2: data was based on an average estimate from previous years consumption. The provision of actual data for the desired period will ensure a true reflection for this site.
- Although both the below sources fell within priority 1, as they did not contribute significantly to the overall footprint, reviewing and implementing sourcing and reporting methods will improve accuracy for these emissions sources:

- TDC own operations waste – data based on bin quantity and litre size and volumes of waste were unknown. Therefore, an assumption was made that bins were between 85% to 100% full at time of collection.
- Grounds maintenance fuel use for equipment – this was a yearly estimate.
- Newport: proportioning consumption data from the main utilities data received from TDC was quite complex due to the nature of the area. All efforts have been made to ensure that a reasonable approximation has been used for Newport, including adjustments for recharges which have been taken from invoices. It is recommended that, if possible, a specific breakdown is understood for future consumption data – this will enable identification of building and areas which are operated by TDC and which are leased to external organisations.
- EKS: As consumption for this area could not be split and has therefore been included under TDC's Core Estate, it is recommended, if possible, that sub-metering is installed to identify a true reflection of usage associated with EKS.

Full details of the data quality assessment can be found in appendix 5.

### Emissions Factors

Once the data gathering had been completed, LASER utilised emissions factors gathered from various government sources and calculated factors where specific government factors were not available.

LASER have put significant time and resource into the compilation and generation of these figures, for both the footprint and the forecast, to ensure that as accurate a calculation of emissions as possible has been made for TDC.

## Carbon Footprint

### Total tCO<sub>2</sub>e: 4,054

The Council's carbon footprint was calculated and broken down in a variety of ways which allows for insight into the emissions and the significance of the different emissions sources. Chart 1 shows emissions represented as the three scopes detailed in the GHG Protocol Guidance. Scope 3 emissions make up approximately 43% of the carbon footprint, followed by scope 1 emissions at 40% and scope 2 emissions at 17%. It can be seen in Chart 2 that emissions associated with third party contractors and TDC's own transport make up the largest proportions of the carbon footprint, accounting mainly for the large scope 2 and 3 proportions seen in Chart 1.

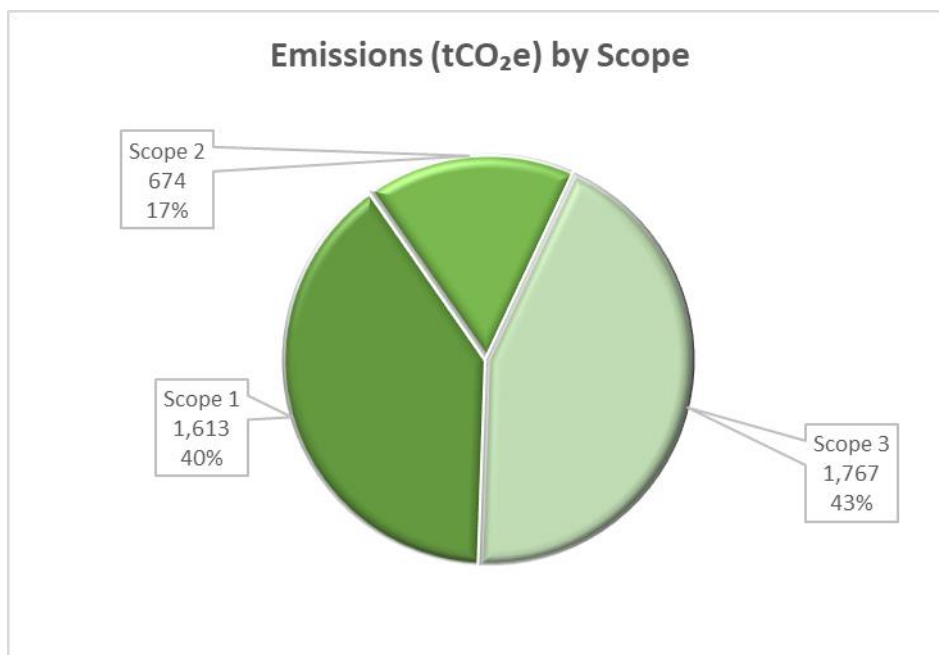


Chart 1 – TDC emissions by scope



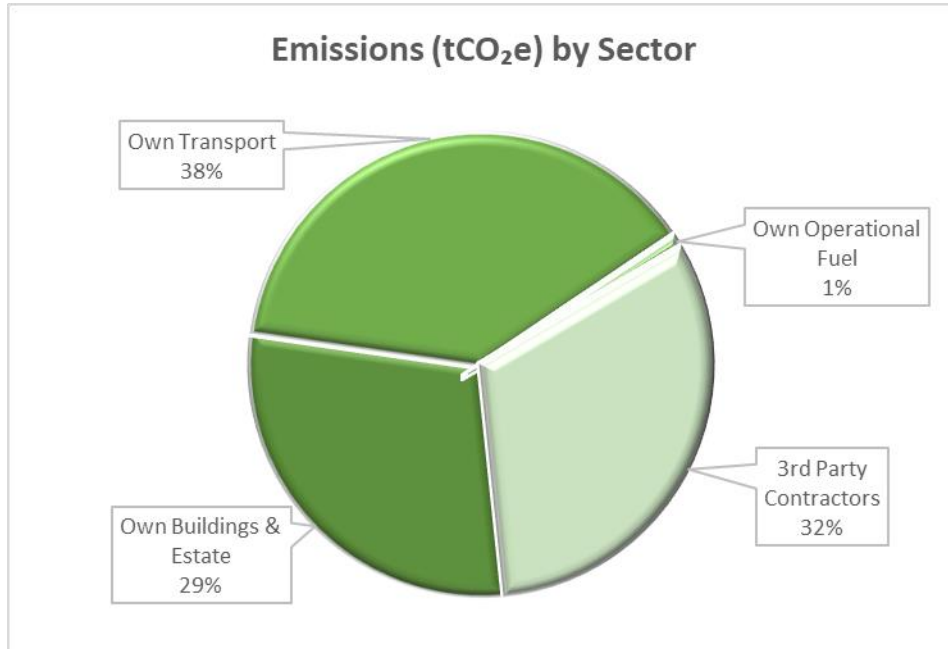
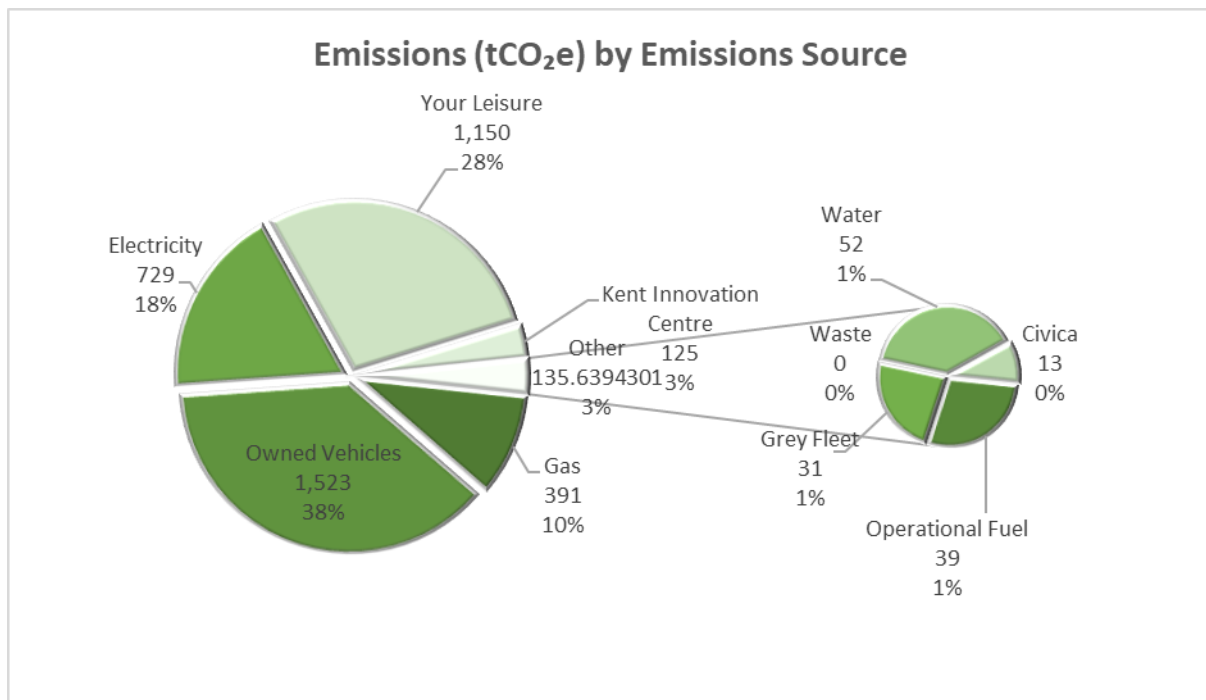


Chart 2 – TDC emissions by sector

The below chart further demonstrates the contribution of emissions from TDC’s owned vehicles and the outsourced leisure contract and breaks down the footprint further.



Charts 3 – TDC emissions by source

In Chart 4, a breakdown of the different areas within the Council is shown and it is recognised that emissions for waste collection and street cleaning account for just over nearly a third of all emissions within the carbon footprint. A further breakdown of this specific area is shown in Chart 5, where it can be seen that 94% of these emissions are attributable to fuel use for owned vehicles.

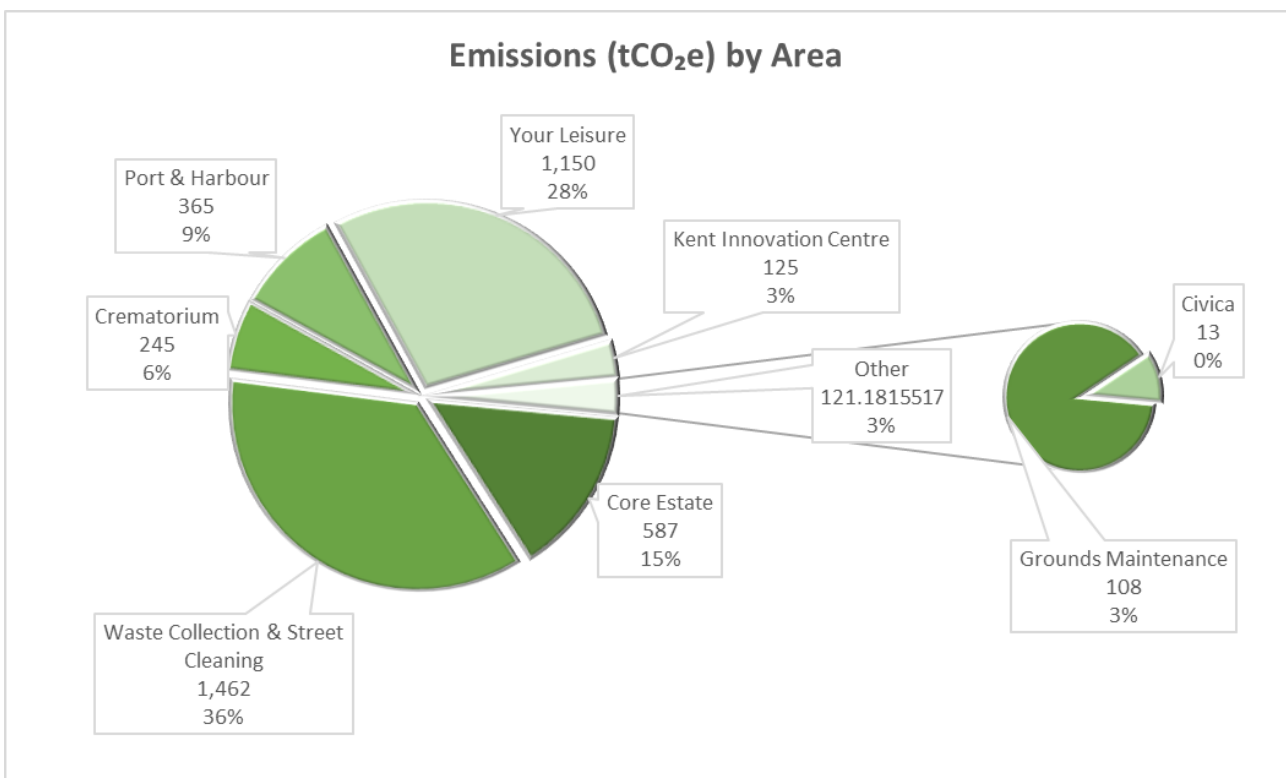


Chart 4 – TDC emissions by area

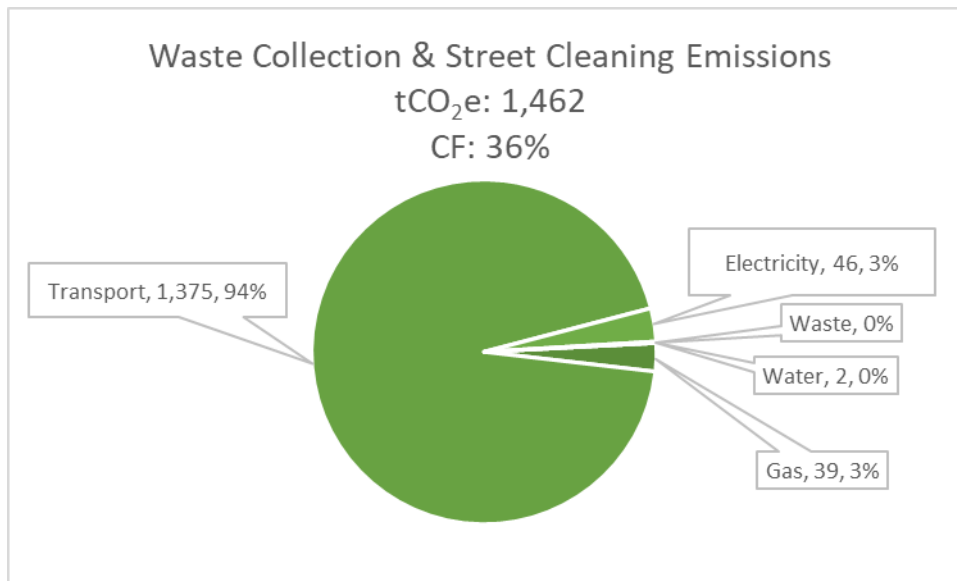


Chart 5 – TDC emissions: Waste Collection & Street Cleaning

In Appendix 6, emission breakdown charts can be found for the other areas within TDC, as well as the two leisure centres operated by Your Leisure.

### Own Vehicle Fuel Data

Extensive work was carried out by LASER to quantify emissions associated with fuel use for TDC's owned vehicles. This work was used to help understand the following:

- Carbon emissions for each area (e.g., Core Estate, Waste & Street Cleaning)
- Vehicle category and tonnage
- Electricity required for EVs
- Approximate uplift costs for EVs (if available)

The below chart demonstrates that nearly half of the carbon emissions, approximately 750 tCO<sub>2</sub>e, are associated with fuel use for the waste carriers.

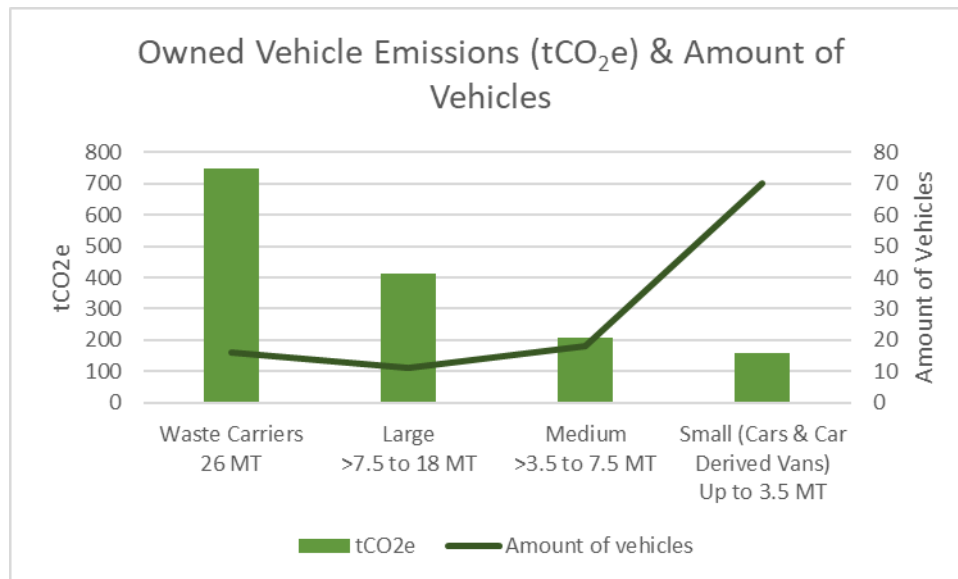


Chart 6 - TDC own vehicles

## Key Findings

- The majority of emissions are scope 1 and 3, making up 83% of the total carbon footprint.
- Of the scope 3 emissions, the chief contributor is Your Leisure, specifically emissions associated with gas consumption.
- The vast majority of transport emissions shown are associated with TDC's owned vehicles, mainly from waste collection and street cleaning vehicles
- Emissions from waste collection and street cleaning and the leisure centres make up just over two thirds of total emissions.
- Other emissions from TDC owned and operated areas (crematorium, port and harbour, core estate and grounds maintenance) contribute to 33% of footprint, with Civica and the Kent Innovation making up the final 3%.

## Business As Usual Forecast

LASER used the carbon footprint data and the emissions factors touched on above, to generate a forecast of TDC’s emissions to 2050. This is designed to act as a representation of emissions levels if TDC took no action to reduce them.

The chart below shows that total emissions at the baseline equate to 4,054 tCO<sub>2</sub>e. The foremost emission sources below are gas (blue), electricity (light green), and fuel use for owned vehicles (dark green). Each source includes emissions from all of TDC areas, as well as outsourced contracts and leased assets. Further detail and breakdown of the forecast data can be seen in Appendix 7.

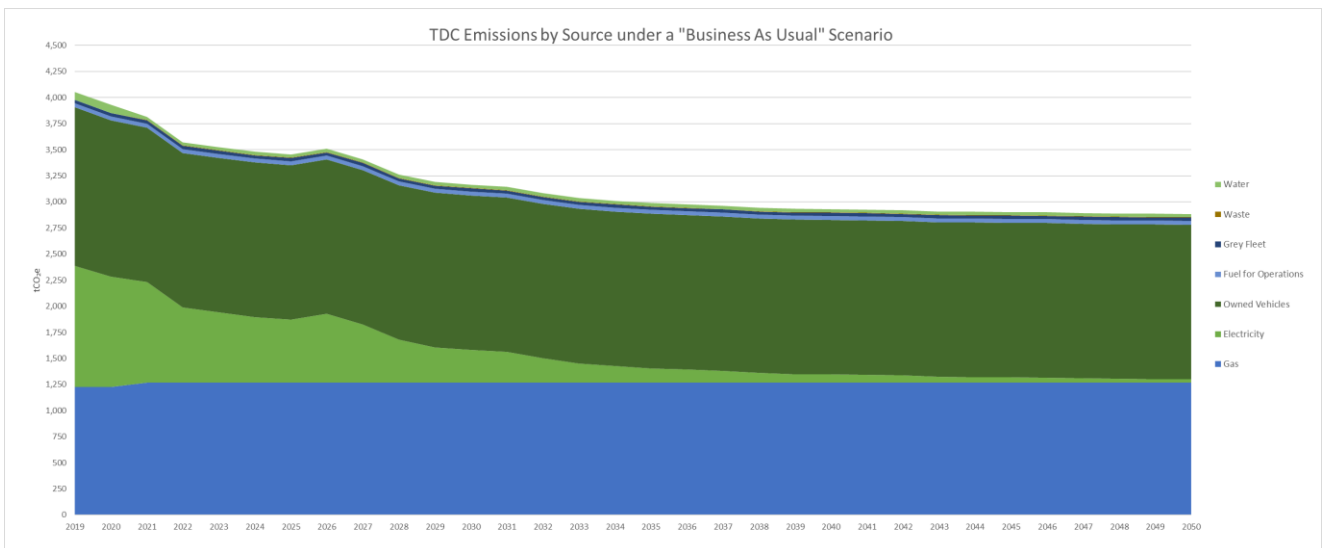


Chart 7 – TDC emissions to 2050 under a “BAU” Scenario

It can be seen that emissions reduce at a noticeable rate during the initial few years of the forecast. This is primarily due to a reduction in emissions associated with electricity consumption, as renewable generation is forecast to make up a larger proportion of the grid supply. As biofuel content continues to increase in the short term, the forecast also shows a slight reduction in emissions associated with fuel consumption. It can be

seen that emissions associated with gas remain largely static throughout and make up an increasing proportion of the total.

In the medium and longer term, emissions associated with this level of use would reduce to:

- 3,164 tCO<sub>2</sub>e in 2030
- 2,884 tCO<sub>2</sub>e in 2050

These figures are based on government forecasts so, while they are long term forecasts and liable to change, they are as realistic estimates as possible at this point in time.

## Carbon Budget & Pathway

As part of an ongoing project for TDC, LASER were commissioned to provide a science-based carbon budget in line with the Paris Agreement. Aligning efforts with international agreements and recognised scientific research will give TDC's planning and actions more credibility both socially and politically.

The report was produced separately at the end of 2021, however since this time amendments have been made to the original baseline used to generate the budgets and pathway. These amendments are in relation to electricity recharges associated with the Marina Harbour and Newport area and exclusion of the landlord's electricity supply for social housing.

To allow TDC to understand how their net zero pathway is aligning with the Paris Agreement, this pathway has been included within the carbon reduction modelling and has been revised accordingly to take into account the above mentioned adjustments. Further analysis will be provided under the section 'Zero Carbon Modelling, Outputs & Strategy'.

## Options Appraisal

Having established the Council's current position and quantified the scale of the task and reductions required, the next step was to devise a strategy which supported TDC's journey to net zero. In order to update and gain input from TDC Directors and Senior Officers, an options appraisal workshop was run. The aim of this was to ensure that LASER had a good understanding of which issues, subjects and concerns were of importance to the Council, and which were of less importance.

Particular areas of focus were electrification of TDC's owned vehicles, including the possible charging infrastructure required at Manston Road, and heat decarbonisation for TDC's own estate as well as the leisure centres operated by Your Leisure.

## Zero Carbon Electricity Supply Options

There are various zero or low carbon green electricity products available and emerging onto the market. Selecting the products and a procurement strategy which provides the best fit for the Council's situation and objectives is an important challenge. LASER offer three different products; Green Tariff, Green Basket and Public Energy Power Purchase Agreement (PEPPPA). Each product varies with the key features, considerations and advantages offered.

More details can be found in Appendix 8.

## Zero Carbon Modelling, Outputs & Strategy

Following on from the creation of the business as usual emissions forecast, taking into account the feedback from the options appraisal workshop and from the strategy already formulated by TDC, LASER worked with TDC to identify a number of Carbon

Reduction Options and assumptions that the Council would like to assess in order to produce a carbon reduction model.

The Carbon Reduction Options were based around:

- Increasing energy and water use efficiency in estates
- Decarbonising the KIC and one of the two leisure centres
- Electrification of the car derived vehicles and the waste carrier vehicles
- Electrification of equipment
- Reduction in business travel mileage
- 100% green electricity

In order to understand the impact of the Carbon Reduction Options and associated assumptions, the BAU forecast has been used as a baseline, and the impact of each assumption for various Carbon Reduction Options have been built in to assess the net impact on emissions within the scenario.

Due to the emissions associated with TDC's owned vehicles and outsourced contracts having such a large impact on the Council's footprint, the Carbon Reduction Options and assumptions have been split into three tables:

- Table 8. Carbon Reduction Options for TDC owned vehicles (including grey fleet)
- Table 9. Carbon Reduction Options for outsourced contracts and leased buildings (Your Leisure & KIC)
- Table 10. Carbon Reduction Options for TDC estates (offices, depots, crematorium, port and harbour) and core activities (excluding transport)

#### **Table 8. Carbon Reduction Options: TDC Owned Vehicles (including grey fleet)**

The below table includes emissions from TDC fleet and emissions from staff using their own vehicles for business travel. It assumes that:

- By 2030 all cars and car derived vans will have shifted to an electric alternative.



- By 2028 TDC will have purchased electric waste carrier vehicles. It is understood that this is a very complex action and will require external funding and redesign of the Manston Road depot.
- Those who travel for business will reduce their mileage by 25% by 2025, and that 5% of those who do use their personal vehicle will switch to electric vehicles by 2030. This could be underestimated.

Further details can be found in the Owned Vehicles section on page 43.

	Core Estate	Waste & Street Cleaning	Grounds Maintenance	Crematorium	Port & Harbour
EV Shift Owned Vehicles	<p><b>100%</b></p> <p>Small &amp; car derived vans</p> <p>By 2030</p>	<p><b>100%</b></p> <p>Small &amp; car derived vans</p> <p>By 2030</p> <p><b>100%</b></p> <p>26 T Waste Carrier</p> <p>2028 - 2028</p>	<p><b>100%</b></p> <p>Small &amp; car derived vans</p> <p>By 2030</p>	<p><b>100%</b></p> <p>Small &amp; car derived vans</p> <p>By 2030</p>	<p><b>100%</b></p> <p>Small &amp; car derived vans</p> <p>2023 - 2030</p>
Mileage Reduction Grey Fleet	<p><b>25%</b></p> <p>By 2025</p>	-	-	-	-
EV Shift Grey Fleet	<p><b>5%</b></p> <p>By 2030</p>	-	-	-	-

**Table 9. Carbon Reduction Options: TDC Outsourced Contracts & Leased Buildings**

Table 9 describes the assumptions within the Kent Innovation Centre and in the two leisure centres that are run by Your Leisure. It assumes that:

- the KIC will have full LED lighting by 2024 and heat pumps by 2030.
- energy efficiency (electricity and gas) will improve by 5% and water efficiency will improve by 10% by 2025.
- the leisure centres will have 100% LED lighting by 2030 and that one of the two will have its heating supply decarbonised by the installation of heat pumps.
- energy efficiency (electric and gas) and water use efficiency will increase by 25% by 2025 in both of the leisure centres.

	Kent Innovation Centre	Leisure Centres
Estate Rationalisation	-	-
LED Installation	100% 2022 - 2024	100% 2022-2030
Heat Pump Installation	100% 2023 - 2030	50% 2023 -2030
Energy Efficiencies (electricity and gas) (kWh reduction)	5% By 2025	25% By 2025
Water Efficiencies (cbm reduction)	10% 2023 – 2025	25% 2022 – 2025
Green Energy Buildings (B)	B By 2030	B By 2030

**Table 10. Carbon Reduction Options: TDC own estate and operations (non-transport)**

The below table includes the following assumptions:

- Estates rationalisation: less office space will be needed going forward, therefore from 2023 it is projected that the consumption associated with Cecil Street Office will reduce by 50%.
- There will be 100% LED lighting across the offices, depots, crematorium and port and harbour by 2030.
- Equipment in the Open Spaces team will be electric by 2030.
- Energy efficiency (electricity and gas) will mean a reduction of 25% in the offices and 10% in depots, crematorium and port and harbour by 2025 by behaviour change, with installation of motion sensors for lighting.
- Water use efficiency will increase by 10% in the offices and 20% in depots, crematorium and port and harbour by 2025.
- Electricity will be sourced from renewable sources by 2030 e.g., PEPPPA

Based on information provided by TDC, it is assumed that in 2036 gas usage for the crematorium will be replaced with electricity. At present, as the consumption of an electric crematorium is unknown, the electricity required for operation has been based on the gas usage.

The modelling includes a solar pv array of 25kWp (not included within the assumption tables).

High-level details were provided to TDC in relation to a potential solar park, however, this has not been included within the Carbon reduction model seen below as it has not yet been determined if this option would be viable.

	Core Estate	Waste & Street Cleaning	Grounds Maintenance	Crematorium	Port & Harbour
<b>Estate Rationalisation</b>	<b>Office Space to be reduced by 50%</b> 2023 - 2025	-	-	-	-
<b>LED Installation</b>	<b>100%</b> 2022 - 2030	<b>100%</b> 2022 - 2030	<b>100%</b> 2022 - 2030	<b>100%</b> 2022-2030	<b>100%</b> 2022-2030
<b>Heat Pump Installation</b>	-	-	-	-	-
<b>Equipment Switch</b>	-	-	<b>100%</b> 2025 - 2030	<b>100%</b> 2036	-
<b>Energy Efficiencies (electricity and gas) kWh reduction</b>	<b>25%</b> 2023 - 2025	<b>10%</b> 2023 - 2025	<b>10%</b> 2023 - 2025	<b>10%</b> 2023 - 2025	<b>10%</b> 2023 - 2025
<b>Water Efficiencies (cbm reduction)</b>	<b>10%</b> 2023 - 2025	<b>20%</b> 2023 - 2025	<b>20%</b> 2023 - 2025	<b>20%</b> 2023 - 2025	<b>20%</b> 2023 - 2025
<b>Green Energy Buildings (B) Vehicles (V)</b>	<b>B &amp; V</b> By 2030	<b>B &amp; V</b> By 2030	<b>B &amp; V</b> By 2030	<b>B &amp; V</b> By 2030	<b>B &amp; V</b> By 2030

## Carbon Reduction Model

The carbon reduction model generated for TDC includes four charts. The first chart details how carbon emissions will reduce with the application of TDC's chosen Carbon Reduction Options and assumptions, whilst the other three charts review the associated costs.

The below unit costs have been used in the model for the financial profile:

- Electricity for buildings and EVs: 20p/kWh
- Gas: 7p/kWh
- Diesel: £1.80/litre
- Water supply: £1.00/cbm / Water treatment - £1.10 cbm

Chart 8 below shows the total carbon emissions from 2019 to 2050 for each area as stacked columns made up from data in chart 4, page 22. Each part of the stacked column is made up of the emissions associated within that specific area.

Starting from the top of the bar and working down, the core estates bar is light blue and includes emissions from the offices. The waste collection and street cleansing bar (dark blue) is the largest bar because it includes the emissions from most of the fleet including the waste carrier vehicles.

The ground maintenance bar is small (dark brown), and the port and harbours bar (yellow) is larger as there are high levels of electricity used here. The crematorium emissions are shown as the grey bar (slightly smaller than port and harbour), and the emissions from the KIC are shown in the small purple bar. The second largest bar at the bottom shows emissions from both leisure centres (Hartsdown and Ramsgate).

The pink columns below the x-axis show the amount of carbon offsetting required by the Council.

The business as usual line in red demonstrates how TDC's emissions would look if no actions were taken by the Council and if consumption was to remain the same. The net emission line in green shows the impact of the Carbon Reduction Options that were

detailed in tables 8, 9 and 10. Based on TDC's carbon footprint for 2019, the blue line demonstrates the Paris Agreement pathway.

In order to meet the Paris Agreement, the Council will need to address the following:

- Emissions from the waste carrier vehicles are address
- Decarbonisation of the estates.

(It is likely that the Council will need to source external funding for these large projects).

In order to reduce emissions fully, it is recommended that heat pumps be installed at the Hartsdown Leisure Centre. However, it understood by LASER that there is a question of longevity of the current building, and a percentage of the building may not be suitable for heat pumps. Based on this, the installation of heat pumps at Hartsdown has therefore has not been included within the modelling.

If a future study shows that Hartsdown leisure centre is suitable for heat pumps, it will reduce the carbon footprint by approximately 387 tCO<sub>2</sub>e and the installation of heat pumps would be estimated at a cost of £1.2m (based on previous TDC project).

It can be seen that carbon offsetting reduces in 2036 and this is in relation to the electrification of the crematorium.

The model does not address the emissions from the medium and large vehicles as currently there are no electric alternatives available on the market, so these emissions will need to be offset at 2030 to reach net zero.

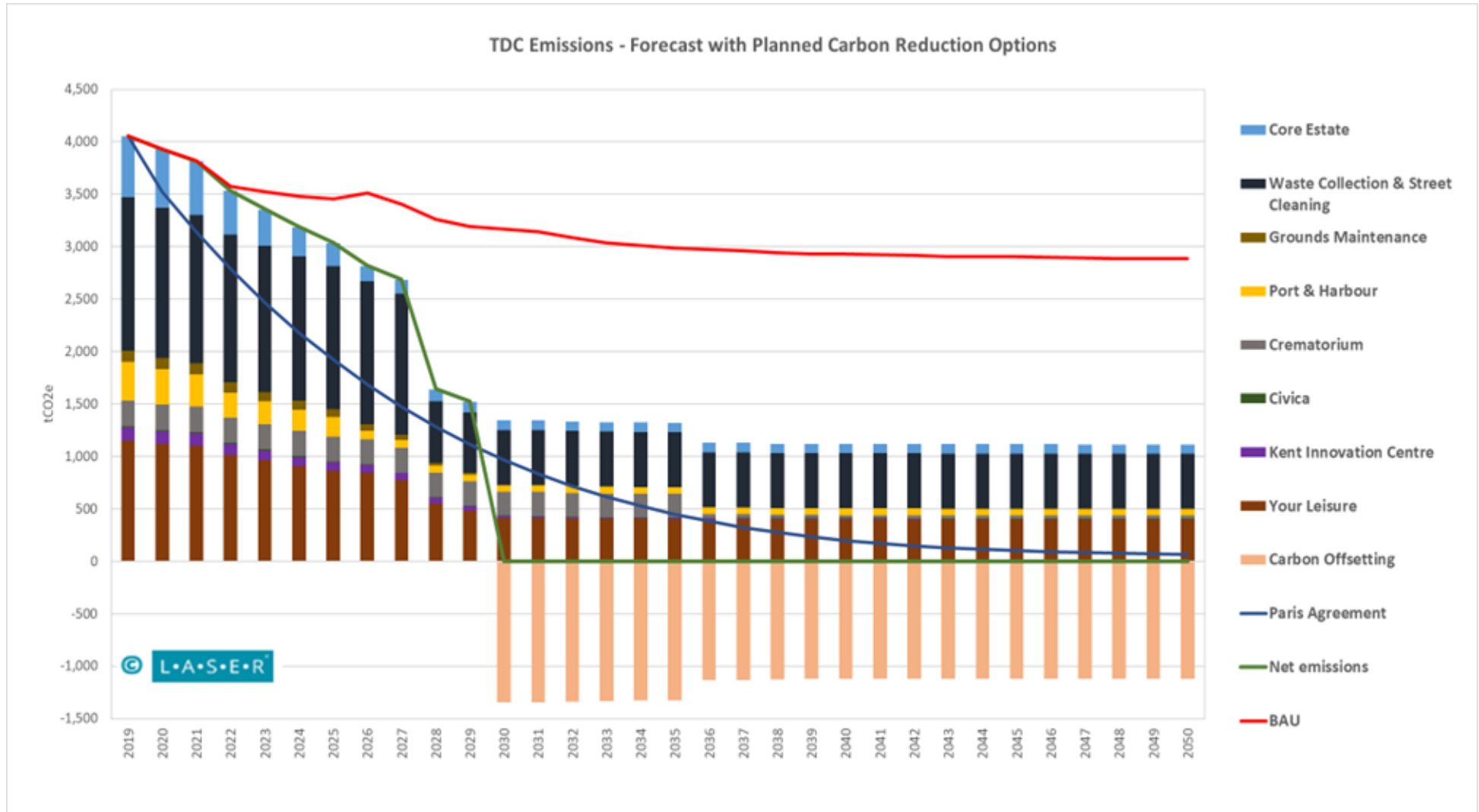


Chart 8 - TDC emissions forecast with carbon reduction options

The financial chart overleaf takes into consideration the overall cashflow position for both the capital investment and annual costs and savings. Carbon Reduction Options generating a savings are shown above the x-axis and those generating an additional cost are shown below the x-axis, with the net position represented by the dark green line.

Key Points	2030	2050
Cumulative Investment (£m)	-9.640	-29.109
Cumulative Net Financial Benefit (£m)	4.070	20.811
Net Position (£m)	-5.570	-8.298



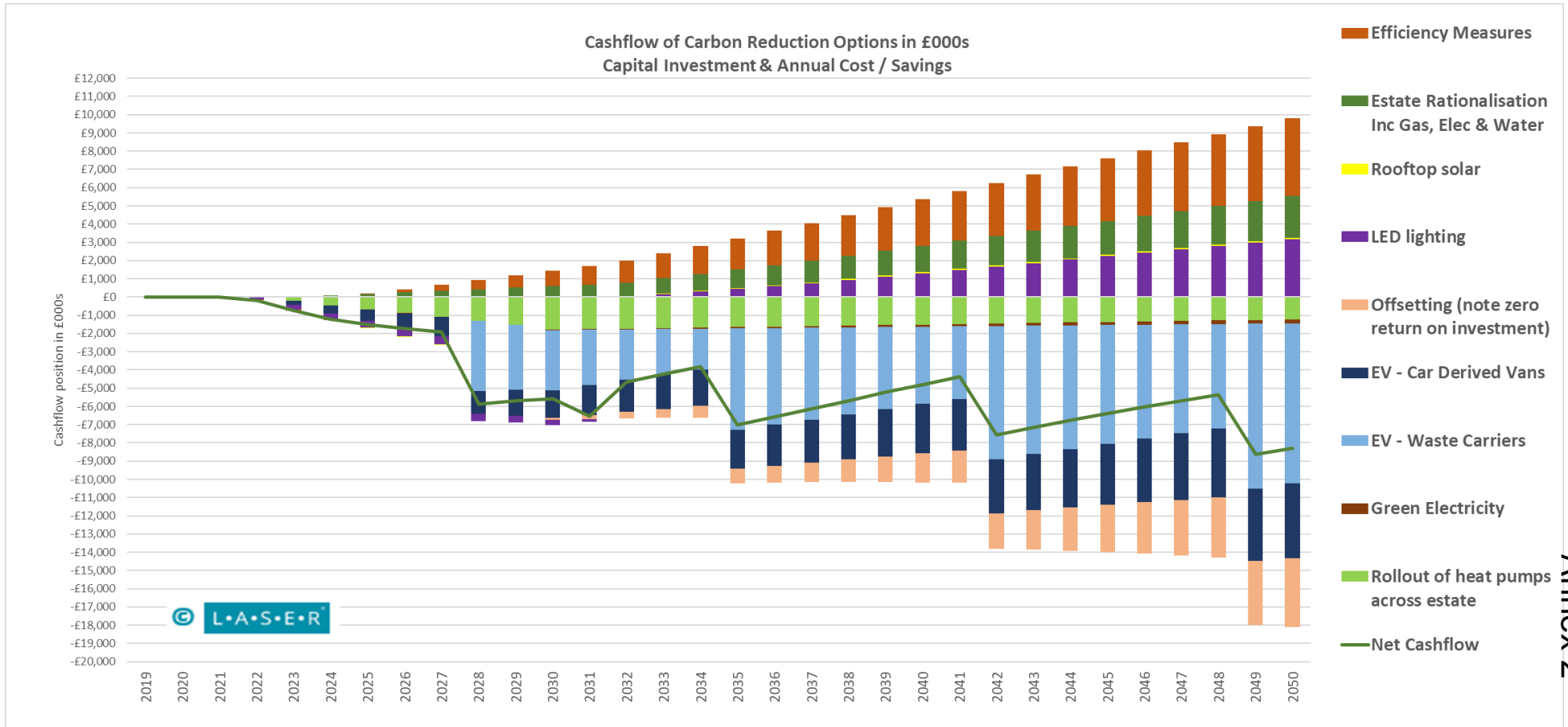


Chart 9 - TDC cashflow for capital investment and annual costs / savings

As shown in the key points table above, in order to reach net zero by 2030 the cumulative cost to the Council is £9.640m. By 2050 cumulative costs, including offsetting costs, will have risen to £29.109m. The increase in cost is mainly due to the purchase of new electric waste carrier vehicles every 7 years.

Investment is required for:

- Solar PV
- LED
- Heat pump installation EV waste carrier vehicle
- Car derived vehicles
- Cost of offsetting

Savings are associated with:

- Energy efficiency measures
- Estate rationalisation
- Roof top solar (export of energy to the grid)
- LED installation

Therefore, the net position by 2030 is -£5.570m and -£8.298m by 2050.

Chart 10 demonstrates the cumulative capital investment required only. It should be noted that the chart does not include investment for electrification of the crematorium.

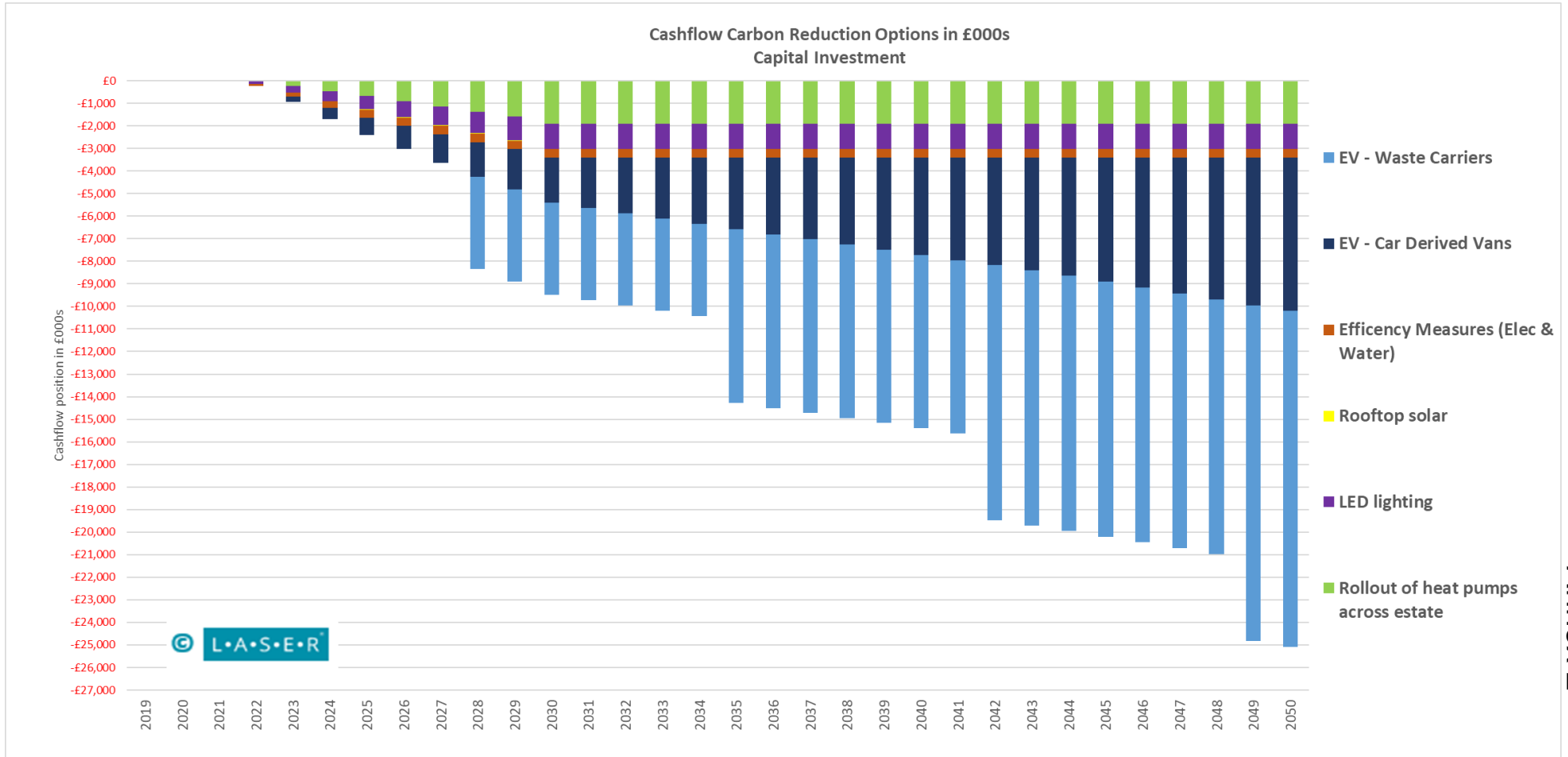


Chart 10 – TDC capital investment

Capital investment needed as per the bullet points above.

Below are approximate capital costs received from TDC for the full decarbonisation of

- Kent Innovation Centre: £1.35m (heat pump installation cost approximately 700k, including new radiators)
- Ramsgate Leisure Centre: £1.2m (based on the Stour Leisure Centre project, with heat pump installation costs of approximately this value)

Chart 11 demonstrates the cumulative annual costs and savings associated with each Carbon Reduction Option but does not include capital investment. The green line shows the overall net position for all Carbon Reduction Options for each year.

Overall savings are recognised by the Council for:

- EV shift for both the car and car derived vans and the waste carriers - the cost to run these EVs is less than a diesel vehicle.
- Heat pumps – the cost to operate with electricity is less than a conventional gas boiler.

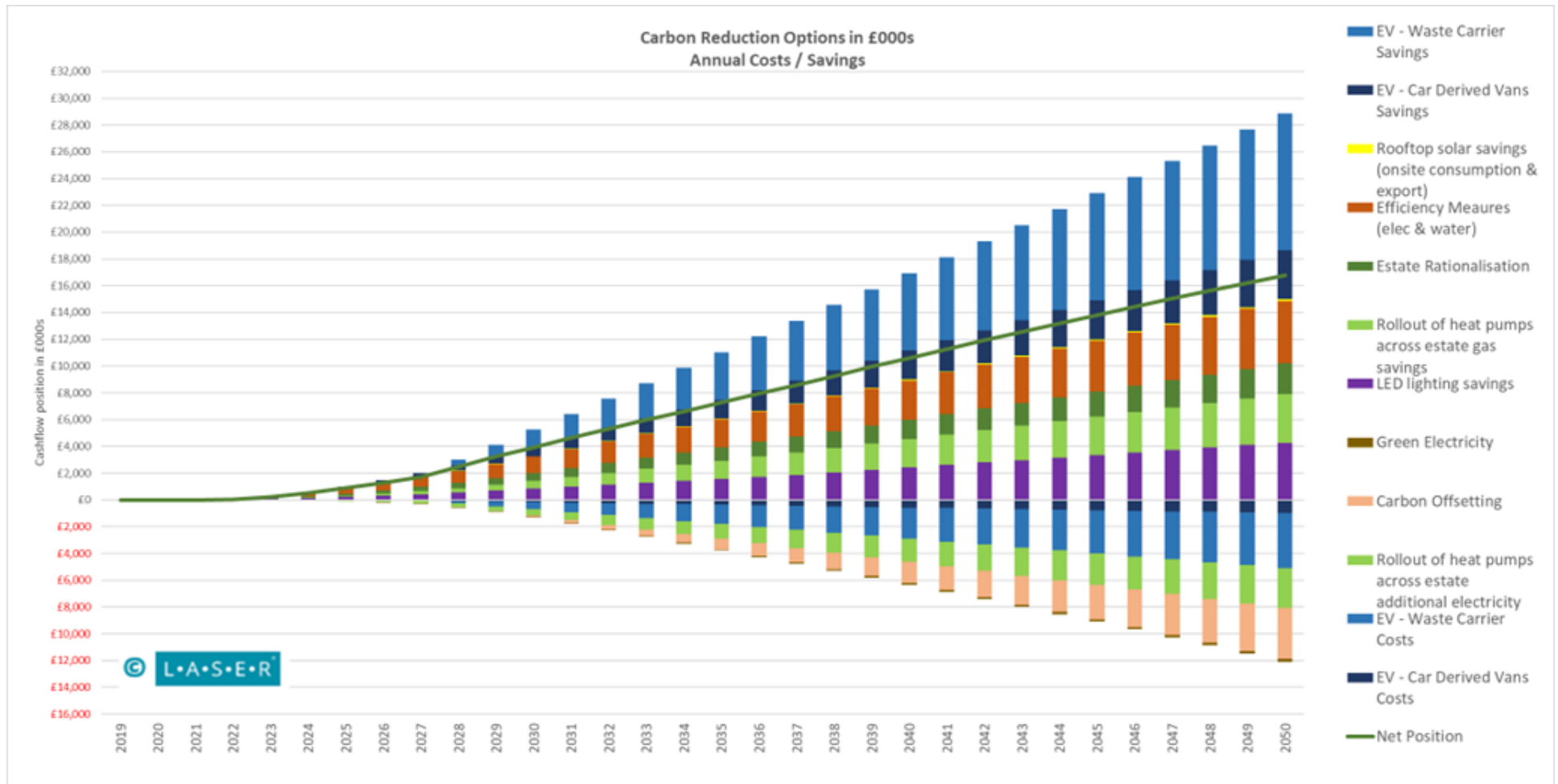


Chart 11 - TDC annual costs and savings

Table 10 provides a breakdown of the cumulative capital investment and cumulative annual costs / savings associated with each Carbon Reduction Option. It details these figures for two specific milestone years - 2030 and 2050. The net position figure at the bottom of the table takes into account both the capital investment and annual savings / costs, and corresponds with the green net position line shown in Chart 9 for these specific years.

There is scope to recognise greater savings for all the Carbon Reduction Options (except carbon offsetting and green energy), if implementation is carried out before the start dates detailed in tables 7, 8 and 9.

	2030		2050	
	Capital Investment £m	Annual Costs / Savings £m	Capital Investment £m	Annual Costs / Savings £m
	(Cumulative)	(Cumulative)	(Cumulative)	(Cumulative)
Efficiency Measures (Elec & Water)	-0.370	1.225	-0.370	4.650
Solar PV	-0.023	0.032	-0.023	0.122
Estate Rationalisation	-	0.593	-	2.286
EV – Cars & Car Derived Vans	-2.002	0.486	-6.797	2.708
EV – Waste Carriers	-4.090	0.796	-14.893	6.099
Heat Pumps	-1.9	0.108	-1.9	0.670
LED	-1.117	0.830	-1.117	4.275
Carbon Offsetting	-	-0.109	-	-3.798
Green Electricity		-0.029	-	-0.211
<b>Total</b>	<b>-9.501</b>	<b>3.932</b>	<b>-25.100</b>	<b>16.802</b>
<b>Net Position</b>	<b>-5.570</b>		<b>-8.298</b>	

Table 10 – Costs for 2030 and 2050

## Owned Vehicles

Due to the nature of the vehicle types found within the medium and large categories, these vehicles have not been included at present within the EV shift. The Mercedes hooklift which falls under the small category classification has also been excluded.

The table below shows the amount of vehicles owned and the uplift cost for the different types of vehicles. The financial uplift for cars and car derived vans has been based on an average cost which takes into consideration small, medium and large electric vans (up to 3.5t) currently available on the UK market. TDC also own four 4x4 trucks and this uplift is a substantial increase. Based on information and an Energy Saving Trust Fleet Review report (carried for Manchester City Council) provided by TDC, an uplift cost of £225,000 has been used for the 26t waste carriers.

	Tonnage	Amount of Vehicles	EV Uplift £
Cars & Car Derived Vans (Small)	Up to 3.5	65	£22,177
Cars & Car Derived Vans - 4x4s (Small)	Up to 3.5	4	£52,658
Mercedes Hook lift (Small)	Up to 3.5	1	EV not available
Medium	>3.5 up to 7.5	18	EVs not available
Large	>7.5 up to 18	10	EVs not available
Waste Carriers	26	16	£225,000

Table 11 – Owned vehicles and uplift costs

## Cars and Car Derived Vans

The total additional cost of changing the 69 cars and car derived vans to electric alternatives over the next 7 years is estimated to be £0.536m.

It takes into consideration the capital investment, as well as the cost of infrastructure which has been estimated at approximately 6% of the total EV cost (as per details

received from TDC finance department). Loan interest is 2.5% (also received from TDC finance department).

A full annual usage of 204,322 kWh as from 2029 has been used, as this reflects a 100% fleet shift to EVs. (This kWh annual usage is based on the diesel consumption, and an average kWh/mile, which takes into consideration battery size and mile range for small, medium and large vans currently available on the market).

EV maintenance and repair costs are based on details from Link Group and a previous case study held by LASER. The EV maintenance and repair costs are on average 43% of diesel vehicles maintenance and repair costs.

	Cost Type	Diesel	Electric	Additional Costs / Savings
<b>Vehicle (£m)</b>	Capital	-1.481	-3.051	-1.570
<b>Infrastructure (6% of vehicle cost)</b>	Capital	0	-0.183	-0.183
<b>Loan Interest (2.5%)</b>	Capital	-0.033	-0.073	-0.039
<b>Vehicle Exercise Duty (VED) £m</b>	Operational	-0.145	0	0.145
<b>Fuel / Energy £m</b>	Operational	-0.972	-0.357	0.615
<b>Maintenance &amp; Repairs £m</b>	Operational	-0.869	-0.374	0.496
<b>Total over 7 years £m</b>	Capital & Operational	<b>-3.500</b>	<b>-4.038</b>	<b>-0.538</b>

Table 12 – Cost breakdown for car derived vans over a 7 year period

It can be seen that EVs allow savings in three areas: VED, fuel, and maintenance and repairs. The fuel / energy cost comparison recognises the largest savings, equating to £0.615m over the 7 year period. The additional cost each year of switching to EVs is £0.076m, meaning that in this case, the Council does not see a break even position.



## Waste Carrier Vehicles

Based on 16 vehicles, the below table shows costs over 7 years and assumes all vehicles are replaced in the first year when the contract is up for renewal in 2028.

The following assumptions have been based on the Energy Saving Trust 'Fleet Review' report carried out for Manchester City Council:

- Annual electricity usage for fleet: 895,226 kWh
- AdBlue: £0.36 per litre
- Maintenance and repair costs: 34% compared to ICEs

For each waste carrier, the end-of-life electric battery resale has been assumed to be £5,000 and is based on a figure obtained from a report by Eunomia<sup>§</sup>. The Energy Saving Trust 'Fleet Review' report carried out for Manchester City Council detailed a figure of £36,000 for each battery, however it was determined that the lower value would be used for TDC's modelling.

There have been no savings included for the resale of diesel waste carriers as it was advised that this was minimal, and in some instances could actually be an oncost to TDC.

	Cost Type	Diesel	Electric	Additional Costs / Savings
Vehicle (£m)	Capital	-2.440	-6.04	-3.600
Infrastructure ( approx. 6% of vehicle cost)	Capital	0	-0.400	-0.400
Loan Interest (2.5%)	Capital	-0.054	-0.144	-0.090
Electric Battery Resale	Capital	0	0.080	0.080
Vehicle Exercise Duty (VED) £m	Operational	-0.034	0	0.034
Road User Levy (RUL) £m	Operational	-0.035	0	0.035

§ [Ditching Diesel - A Cost-Benefit Analysis of Electric RCVs \(eunomia.co.uk\)](https://www.eunomia.co.uk)

Fuel / Energy £m	Operational	-2.93	-1.253	1.677
Ad Blue (5l for every 100l)	Operational	-0.029	0	0.029
Maintenance & Repairs £m	Operational	-0.735	-0.560	0.175
<b>Total over 7 years £m</b>	Capital & Operational	<b>-6.257</b>	<b>-8.317</b>	<b>-2.06</b>

Table 13 – Cost breakdown for vehicles over 7 years for 2030 and 2050

There are six areas where savings are made when replacing with EV waste carriers. The most significant savings are seen in the fuel / energy comparison, where the financial benefit is £1.677m over the 7 year period. However, due to the large investment required for the vehicles themselves, approximately £3.6m, there is still an additional oncost of £2.22m to the Council overall.

**NB: The replacement of infrastructure for both cars and car derived vans and waste carriers has assumed to be every 21 years based on a report from Eunomia.**

### Medium and Large Vehicles (and x1 Hooklift)

These have not been addressed in the carbon reduction model as electric alternatives are not currently available. An interim option could be to use biodiesel instead of conventional diesel until the market offers electric options for these types of vehicles. At time of report, biodiesel is approximately 15% more expensive than conventional diesel. Although there are specific bodies and schemes (such as the ISCC) which ensure production is sustainable, there are concerns by some around the sustainability of this option, and that it may put pressure on land which could be used for food.

The below table indicates a yearly additional cost, and cumulative costs by 2030 and 2050 if moving these vehicles to HVO by 2023.

Additional Yearly Cost	Cumulative Cost 2030	Cumulative Cost 2050
£m	£m	£m
-0.043	-0.354	-1.204

Table 14 – Additional costs for HVO

In the longer-term future, another area of exploration that could be considered by TDC is hydrogen.

## Carbon Offsetting

The carbon offsetting costs (£/tCO<sub>2</sub>e) used in this analysis are based on government forecast figures from their central forecast and by 2030 are £0.109m and £3.978m by 2050.

There is a reliance on carbon offsetting to achieve TDC’s net zero target in the carbon reduction model presented. This is a drawback from an environmental perspective as conventionally only emissions that can’t be abated by other means should be offset. The Council have begun to explore the possibility of using owned land for sequestration, which could help to reduce the reliance of purchasing carbon offsets from the market in the longer-term future. This would also reduce the amount of risk the Council is exposed to from the market. Carbon offsetting can also be seen by some as ‘greenwashing’, so needs careful management to ensure emissions saving are real.

Although these are the best possible representation at this time, carbon offsetting is an evolving market and as such, more difficult to predict. Therefore, there is a risk that the cost of carbon offsetting could be substantially higher by 2030, especially as demand is likely to drastically increase at that point and over the intervening period.

The below two charts demonstrate the yearly and cumulative offsetting costs up to 2050 for the three offsetting forecasts available from the government: low, central and

high.

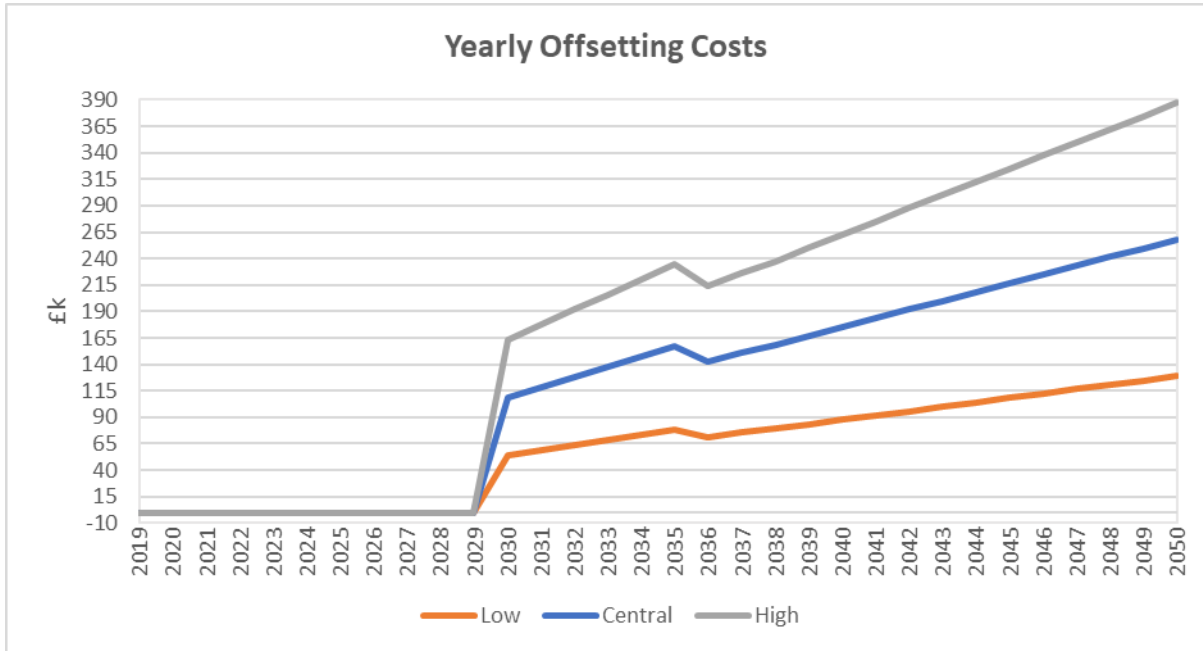


Chart 12 - Yearly offsetting costs

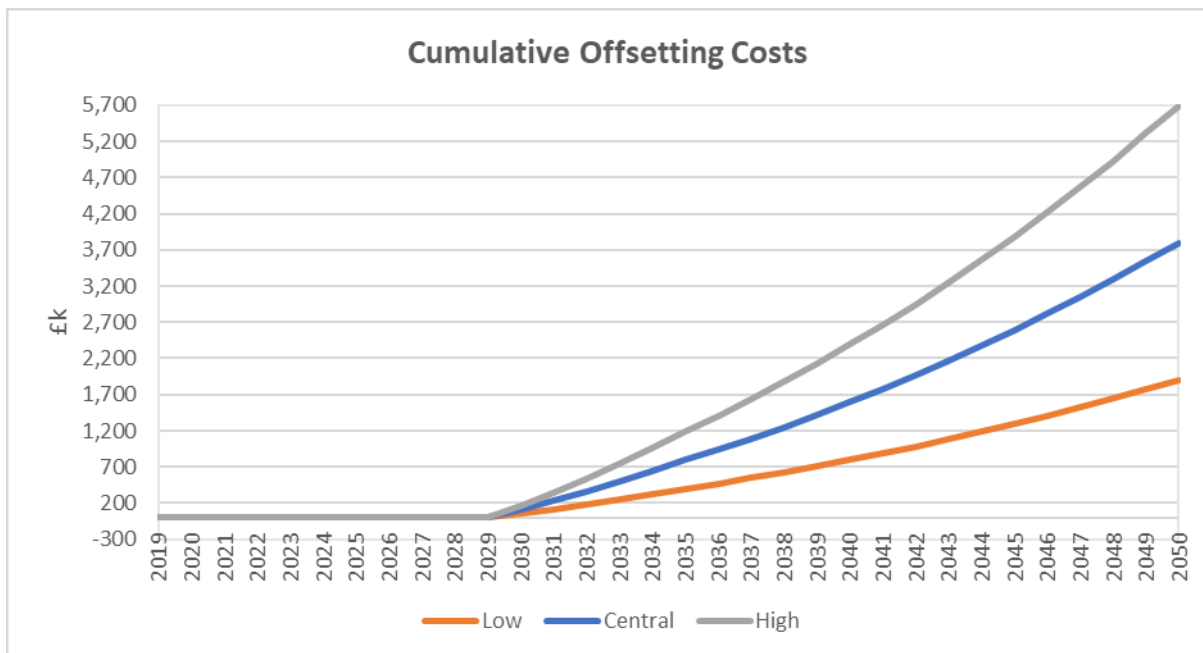


Chart 13 - Cumulative offsetting costs

## Conclusion

In order to align with the Paris Agreement pathway, it is evident that substantial early action will need to be taken to reduce emissions.

With a significant proportion of TDC's emissions associated with fuel use for owned vehicles and gas consumption for heating, in particular the leisure centres, these are two major areas of focus, which have been recognised by TDC - and as such require substantial action by TDC in order to reach their net zero target. Currently, the market does not offer alternative EVs for all of TDC's owned vehicles so an alternative strategy for the short to medium term future will be required to abate these emissions.

The assumptions included for estate rationalisation have a significant impact on the reduction of carbon emissions. Further understanding and confirmation of the direction TDC wish to take with their own estate will help to firm up these assumptions and allow the Council to fully understand what Carbon Reduction Options can be implemented to mitigate any emissions that reside. It will also provide certainty around the development of a green energy purchasing strategy.

Many of these actions are financially prohibited and TDC will need to look to source funding and assistance.

### **Evolution of Strategy and Model**

At this stage the modelling gives a view of potential possibilities and can be a useful tool in monitoring progress as well as for planning and decision making.

It is likely that opportunities for further emissions reductions will come to light in the medium term that are not included in the model. This may be through new technologies, reductions in costs of current technologies or government policies.

## Key Points

- TDC can achieve net zero carbon by their target date however, some carbon offsetting will be required, as well as substantial external funding.
- Substantial early action is needed to align with Paris Agreement pathway.
- The majority of TDC's carbon footprint is attributable to fuel use for owned vehicles, mainly the waste carrier vehicles and the outsourced contract associated with the leisure centres.
- Clear long-term policy on estate will help with planning of energy efficiency measures and procurement of green electricity.
- Reliance on carbon offsetting to achieve targets comes with significant risks and importantly no financial returns on any investment.
- The offsetting market is expected to change and develop hugely over the next decade.
- Modelling is designed to help inform decision making and is based on current factors and state of the market technologies. Technologies and economics may change significantly over time and government funding and policy will also influence these issues. Regular review of the model as the technology landscape changes, particularly in relation to transport, will place TDC in the best position to meet their net zero targets.

## Next Steps

### 1. Electrification of Owned Vehicles

As mentioned, alternative EVs are not currently available for all of TDCs owned vehicles. It is recommended that where alternatives are available feasibility studies are undertaken to review all aspects associated with the introduction of EVs.

## **2. Determine estate future**

Establishing a firm and clear direction for the estate is vital and will help TDC with plans to reduce emissions.

## **3. Estate Decarbonisation Plan**

Heat pumps should be explored as a viable alternative to conventional gas heating for estates that are to be kept, as well as other Carbon Reduction Options such as LED and energy efficiencies.

## **4. Address less significant emissions sources**

The Council can pursue established initiatives in other areas such as reducing water use and switching equipment to electric alternatives.

## **5. Procure green energy for estate**

Although influenced by steps 1, 2 & 3, TDC can establish a proposed procurement strategy for electricity and implement this once a clear direction is obtained.

## **6. Investigate Offsetting Options**

For remaining emissions, it is recommended that options for offsetting are explored by the Council.

## **7. Update carbon footprint**

Data for 2020-21 can be built into the model to demonstrate the changes to the carbon footprint to date and pertinently, the impact of COVID-19 on the Council's emissions.

## LASER Background

LASER Energy Buying Group was formed in 1989 by Kent County Council (KCC) with the aim of assisting Local Authorities and other public bodies to benefit from lower energy prices through deregulated gas and electricity markets and to offer management services that focus on reducing energy spend, saving time and hassle for our customers.

LASER has grown to become one of the leading energy procurement and energy management service providers in the UK. Today our mission is to deliver unique end-to-end solutions to our customers helping reduce energy costs, manage market risk and provide compliance in an increasingly volatile market.

LASER's success and reputation has helped it to grow organically to its current position serving 200 public sector customers and buying in excess of £500m of energy per annum. We work with a large number of public sector bodies including NHS Trusts, Universities & colleges, Local Authorities and Housing Associations.

## Key People

Name	Description
<p><b>Steve Marks</b> <b>Head of Carbon Advisory</b></p>	<p>Steve has a strong background in energy and carbon management having worked in the industry for over a decade after graduating from Loughborough University with a degree in Business, Economics &amp; Finance. He has worked as an Energy Engineer for Schneider Electric and as a Carbon &amp; Compliance Manager for ENGIE. Throughout this time Steve conducted energy surveys across a wide range of sectors and has also dealt with numerous environmental schemes including CCAs, EUETS, GQCHP, CDP, CRC and ESOS. Steve is a CIBSE Low Carbon Consultant and remains an accredited DEC Assessor and ESOS Lead Assessor.</p> <p>Steve managed LASER's team of Energy Surveyors and has led LASER's response to assist the public sector in addressing the climate emergency declarations and carbon net zero targets enacted by many authorities.</p>



<p><b>Helen Cartledge</b> <b>Zero Carbon Consultant</b></p>	<p>Helen has over 10 years of experience within the energy industry, having worked in the marine, timber, gas and electricity sectors. Helen procured fuel for the fleet at P&amp;O Ferries and researched alternative fuel types and technologies to help reduce carbon emissions.</p> <p>Helen has also worked for a national timber company and in energy procurement and undertaken a carbon reduction project for a local charity, identifying financially advantageous sustainable power alternatives.</p>
<p><b>Kane Stockwell</b> <b>Net Zero Energy Supply Lead</b></p>	<p>Kane has been with LASER since 2009 and sits within the Procurement team. He specialises in energy trading, contract structures and public sector procurement compliance, and played a key role in putting in place numerous compliant routes-to-market including LASER's £250 million per annum energy supply frameworks.</p> <p>More recently Kane has led LASER's creation of contractual structures for the procurement of green electricity. With regards to Power Purchase Agreements, he has put in place LASER's PPA Dynamic Purchasing System, has played a key role in investment decisions for building renewable assets, has structured the ability to sleeve and sell electricity from renewable assets, as well as becoming an expert in handling the ongoing management of PPAs.</p>
<p><b>Andy Morgan</b> <b>Assistant Director Carbon &amp; Energy Management</b></p>	<p>Andy has over 25 years' experience in energy efficiency and procurement since graduating as an Energy Engineer. He has previously worked for Matthew Hall, procuring energy and operating EPCs for large clients, and the City of London Corporation, taking responsibility for saving and procuring energy for the city portfolio. Now Andy manages LASER's Bureau Services, LED Lighting Services and other energy management and water services.</p> <p>As a CMVP, Andy is expert in handling and analysing data and also specialises in energy efficiency, renewable energy, energy supply markets, energy industry infrastructure and Government energy policy and schemes.</p>

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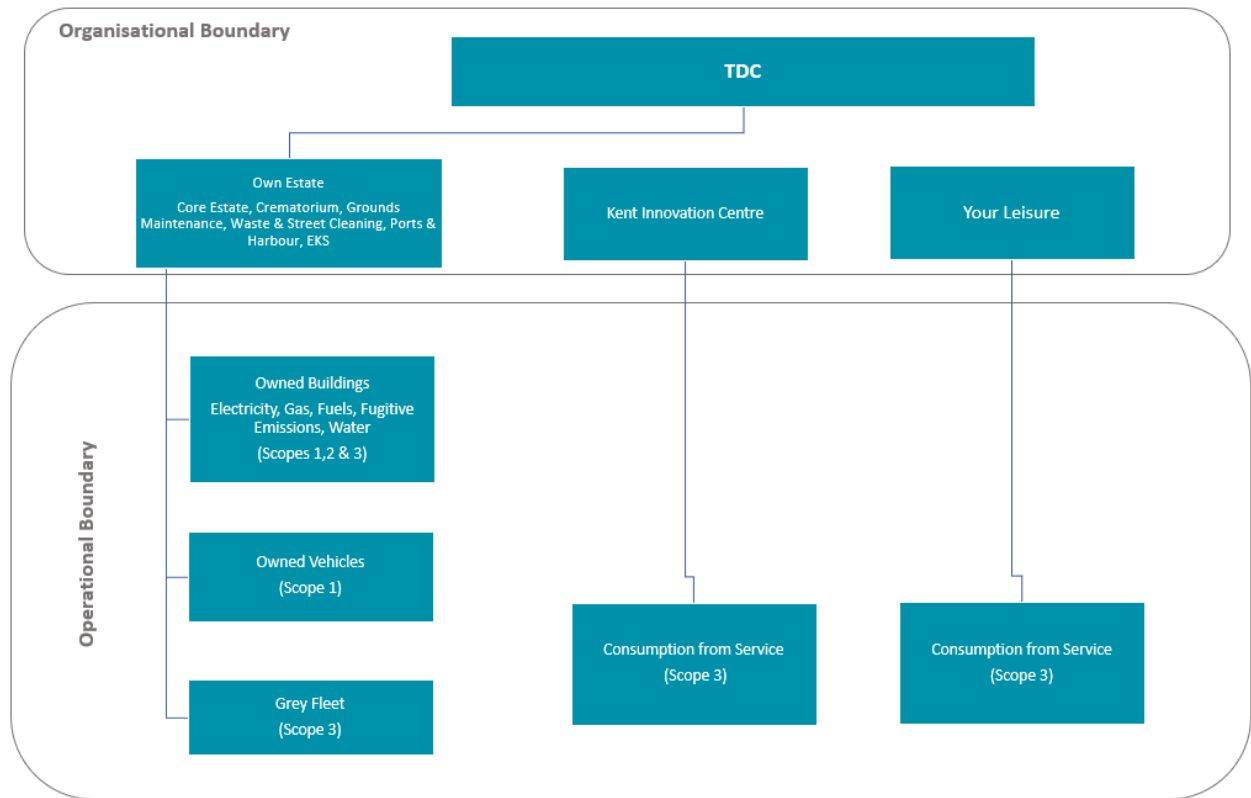
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# Appendix 1 – Scoping Chart



## Appendix 2 – Scoping Table

Scope	In scope (practical for immediate inclusion)	Evaluate	Consider longer term / Outside of scope
Carbon Negative	Gas		
	Oil		
	Other Fuels		
	Fugitive Emissions (if data available)		
	Owned Vehicles		
	Electricity		
	Grey Fleet		
	Water	Homeworking (if data available)	
	Waste (if data available)	Social Housing - Tenants Energy Use	Employee Commuting
Contracted Services	Purchased Goods & Services (Additional Study)	Employee Business Travel (air, rail, taxi etc)	
Carbon Positive	Renewable Generation		
	Additional Tree Planting		

## Appendix 3 – Scope Details

Area / Organisation	Details	Inc in Scope
<b>Core Estate</b>	<p>Made up of council offices, PCs, public areas, carpark, streetlighting.</p> <p>TDC to provide consumption data for electricity, gas, water, waste, owned vehicles, stationary combustion, fugitive emissions</p>	Y
<b>Grounds Maintenance</b>	<p>Inhouse.</p> <p>TDC to provide consumption data for electricity, gas, water, waste, owned vehicles, stationary combustion, fugitive emissions</p>	Y
<b>Waste Collection &amp; Street Cleaning</b>	<p>Inhouse.</p> <p>TDC to provide consumption data for electricity, gas, water, waste, owned vehicles, stationary combustion, fugitive emissions</p>	Y
<b>Crematorium</b>	<p>Inhouse.</p> <p>TDC to provide consumption data for electricity, gas, water, waste, owned vehicles, stationary combustion, fugitive emissions</p>	Y
<b>Port &amp; Harbour</b>	<p>TDC pay invoices for one of the buildings and recharges to the tenants (Newport)</p> <p>TDC to provide data and additional information so that the associated recharges can be accounted for appropriately.</p>	Y

	TDC to provide consumption data for electricity, gas, water, waste, owned vehicles, stationary combustion, fugitive emissions	
<b>TDC Business Travel</b>	<p>Covers the use of public transport for employee business travel, as well as grey fleet (employees utilising own vehicles for business travel), in relation to TDC's own estate, (grounds maintenance, waste collection and street cleaning, crematorium, port and harbour).</p> <p>TDC to provide expenses data for TDC's grey fleet. (breakdown of fuel type, vehicle type, engine size if available).</p> <p>If TDC wish to include emissions associated with public transport, LASER would require this data in passenger/km format.</p>	Y
<b>Leisure Centres</b>	<p>Centres are TDC assets and leased to Your Leisure who operate and pay invoices associated with operations.</p> <p>Your Leisure to provide consumption data for electricity, gas, water, waste, stationary combustion, fugitive emissions</p>	Y
<b>Social Housing / EKH Communal &amp; Landlord Supply</b>	<p>Housing stock is owned by TDC who are responsible for paying communal / landlord supply and improving building fabric and heating systems. Tenants pay their own energy bills - please see further details and proposed handling for tenants under 'Social Housing - Tenants'.</p> <p>Day to day running was brought back inhouse in October 2020.</p> <p>TDC to provide consumption data for electricity, gas</p>	Y

<p><b>Mears</b> <b>Housing Repairs</b></p>	<p>Outsourced contract (could potentially come back inhouse).</p> <p>Confirmation required if TDC own any buildings used to serve this contract, or if Mears utilise their own sites specifically to serve this contract.</p> <p>Excluded from scope as contract is associated with Social Housing maintenance.</p>	<p>N</p>
<p><b>Civica</b> <b>Revenue &amp; Benefits Service</b></p>	<p>Strategic partnership with Civica, shared with Canterbury and Dover. Civica utilise space at Thanet council offices as well as at other authorities.</p> <p>It is understood that each authority accounts for energy use within their own estate and LASER propose the same handling of Civica for TDC.</p>	<p>Y</p>
<p><b>EKS</b></p>	<p>Shared service. HR coming back inhouse as of Sept 21. IT under review &amp; Payroll to be left with EKS. Service uses separate building at Canterbury for IT which includes servers. Dover house some servers (c20%) / TDC house servers (c80%).</p> <p>LASER propose to include energy use associated with Thanet buildings and address the server imbalance between TDC and DDC. Please can TDC confirm they are happy with this approach. Alternatively, TDC could include all energy used on site, although this would be an over estimation.</p> <p>LASER would require further information / sub meter data for Thanet Servers if wishing to address the imbalance.</p>	<p>Y</p>

Area	Details & Data Required	Inc in Scope
<b>Homeworking</b>	Energy use associated with homeworking. TDC to provide data	N
<b>Social Housing - Tenants</b>	Energy use for gas and electricity. The preference would be for this data to be in kWh. TDC to provide data	N
<b>Goods and Services</b>	LASER will carry out an assessment of emissions associated with procurement spend with top 15 suppliers without additional charge. This will enable TDC to assess significance of emissions and analyse emission intensity. TDC to provide spend details of top 15 suppliers for FY 19-20.	N



## Appendix 4 – Carbon Footprint Data

Operation	Sector	Scope	Emissions Category	Individual Emissions Source	Fuel Type & Units	Units	2019-2020	2019	2,019
								Emissions Factor	tCO <sub>2</sub> e
Core Estate	Buildings & Estate	Scope 1	Gas	Gas	Natural Gas/kWh	kWh	531,602.00	0.184	97.74
Core Estate	Buildings & Estate	Scope 3	Gas	Gas WTT	Natural Gas/kWh	kWh	531,602.00	0.024	12.71
Core Estate	Transport	Scope 1	Owned Vehicles	Diesel - Small, Cars & Car Derived Vans	Diesel/Litres	litres	19,328.80	2.594	50.14
Core Estate	Transport	Scope 1	Owned Vehicles	Diesel - Medium	Diesel/Litres	litres	0.00	2.594	0.00
Core Estate	Transport	Scope 3	Owned Vehicles	Diesel - WTT	Diesel/Litres	litres	19,328.80	0.617	11.93
Core Estate	Buildings & Estate	Scope 2	Electricity	Electricity Building Use	Electricity/Generation/kWh	kWh	1,089,288.10	0.256	278.42
Core Estate	Buildings & Estate	Scope 2	Electricity	Electricity Street Lighting UMS	Electricity/Generation/kWh	kWh	125,460.00	0.256	32.07
Core Estate	Buildings & Estate	Scope 2	Electricity	Electricity UMS	Electricity/Generation/kWh	kWh	62,664.00	0.256	16.02
Core Estate	Buildings & Estate	Scope 3	Electricity	All Electricity T&D	Electricity T&D	kWh	1,277,412.10	0.022	27.72
Core Estate	Transport	Scope 3	Grey Fleet	Grey Fleet Passenger / Delivery Non EV Petrol	Diesel Small	miles	15,327.00	0.229	3.50
Core Estate	Transport	Scope 3	Grey Fleet	Grey Fleet Passenger / Delivery Non EV Petrol	Diesel Medium	miles	15,369.00	0.275	4.22
Core Estate	Transport	Scope 3	Grey Fleet	Grey Fleet Passenger / Delivery Non EV Petrol	Diesel Large	miles	5,797.00	0.337	1.95
Core Estate	Transport	Scope 3	Grey Fleet	Grey Fleet Passenger / Delivery Non EV Petrol	Petrol Small	miles	38,915.00	0.247	9.63
Core Estate	Transport	Scope 3	Grey Fleet	Grey Fleet Passenger / Delivery Non EV Petrol	Petrol Medium	miles	17,872.00	0.309	5.53
Core Estate	Transport	Scope 3	Grey Fleet	Grey Fleet Passenger / Delivery Non EV Petrol	Petrol Large	miles	72.00	0.455	0.03
Core Estate	Transport	Scope 3	Grey Fleet	Grey Fleet Passenger - WTT	Combined	tonnes	6,627,176.88	1.000	6.63
Core Estate	Buildings & Estate	Scope 3	Waste	Waste	Mixed waste	tCO <sub>2</sub> e	0.013899609	1.000	0.01
Core Estate	Buildings & Estate	Scope 3	Water	Water Supply	Water Supply/cbm	cbm	36,416.00	0.344	12.53
Core Estate	Buildings & Estate	Scope 3	Water	Water Sewerage	Water Treatment/cbm	cbm	22,617.96	0.708	16.01
Waste Collection & Street Cleaning	Buildings & Estate	Scope 1	Gas	Gas	Natural Gas/kWh	kWh	187316	0.184	34.44
Waste Collection & Street Cleaning	Buildings & Estate	Scope 3	Gas	Gas - WTT	Natural Gas/kWh	kWh	187316	0.024	4.48
Waste Collection & Street Cleaning	Transport	Scope 1	Owned Vehicles	Diesel - Small, Cars & Car Derived Vans	Diesel/Litres	litres	40,783.29	2.594	105.80
Waste Collection & Street Cleaning	Transport	Scope 1	Owned Vehicles	Diesel - Medium	Diesel/Litres	litres	65,266.60	2.594	169.31
Waste Collection & Street Cleaning	Transport	Scope 1	Owned Vehicles	Diesel - Large	Diesel/Litres	litres	89,775.80	2.594	232.89
Waste Collection & Street Cleaning	Transport	Scope 1	Owned Vehicles	Diesel - Waste Carriers	Diesel/Litres	litres	232,419.34	2.594	602.92
Waste Collection & Street Cleaning	Transport	Scope 3	Owned Vehicles	All Diesel - WTT	Diesel/Litres	litres	428245.03	0.617	264.27
Waste Collection & Street Cleaning	Buildings & Estate	Scope 2	Electricity	Electricity	Electricity/Generation/kWh	kWh	164,343.00	0.256	42.01
Waste Collection & Street Cleaning	Buildings & Estate	Scope 3	Electricity	Electricity T&D	Electricity/Generation/kWh	kWh	164,343.00	0.022	3.57
Waste Collection & Street Cleaning	Buildings & Estate	Scope 3	Waste	Waste	Mixed waste	tCO <sub>2</sub> e	0.00200	1.000	0.0019985
Waste Collection & Street Cleaning	Buildings & Estate	Scope 3	Water	Water Supply	Water Supply/cbm	cbm	1,921.00	0.344	0.66
Waste Collection & Street Cleaning	Buildings & Estate	Scope 3	Water	Water Sewerage	Water Treatment/cbm	cbm	1,824.95	0.708	1.29

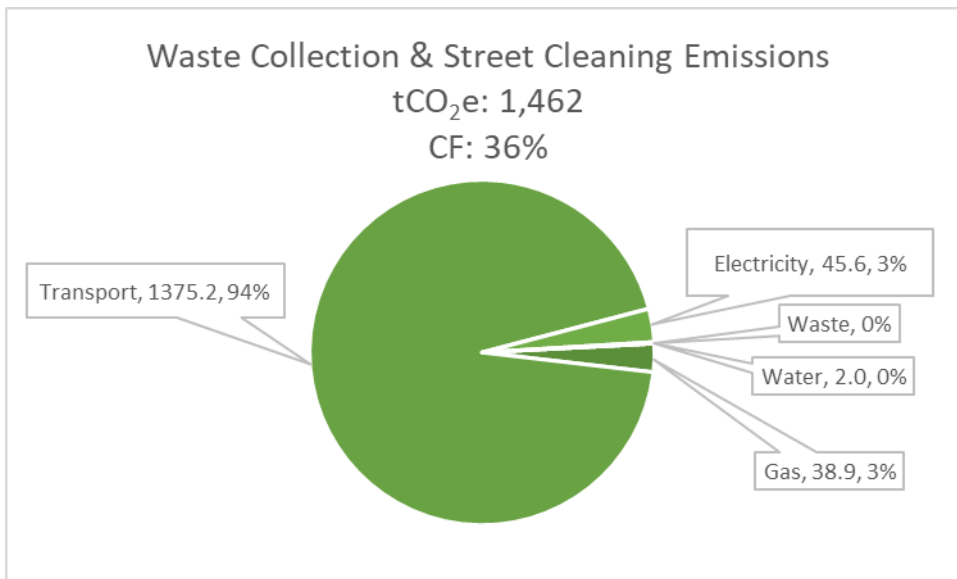
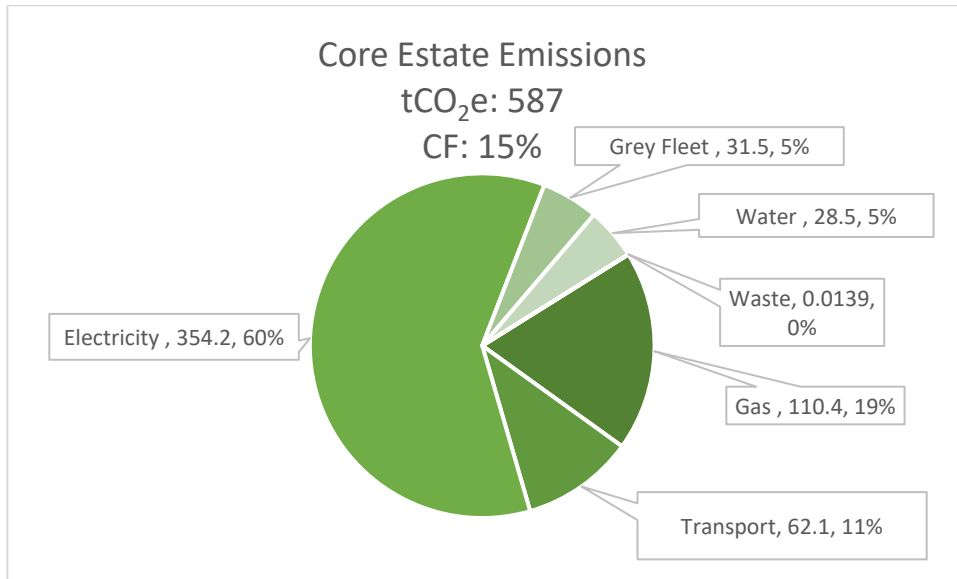
Operation	Sector	Scope	Emissions Category	Individual Emissions Source	Fuel Type & Units	Units	2019-2020	2019	2,019
								Emissions Factor	tCO <sub>2</sub> e
Grounds Maintenance	Operations	Scope 1	Fuel for Operations	Diesel	Diesel/Litres	litres	12,000.00	2.594	31.13
Grounds Maintenance	Operations	Scope 3	Fuel for Operations	Diesel - WTT	Diesel/Litres	litres	12,000.00	0.617	7.41
Grounds Maintenance	Transport	Scope 1	Owned Vehicles	Diesel - Small, Cars & Car Derived Vans	Diesel/Litres	litres	15,678.55	2.594	40.67
Grounds Maintenance	Transport	Scope 1	Owned Vehicles	Diesel - Medium	Diesel/Litres	litres	0.00	2.594	0.00
Grounds Maintenance	Transport	Scope 3	Owned Vehicles	All Diesel - WTT	Diesel/Litres	litres	15,678.55	0.617	9.68
Grounds Maintenance	Buildings & Estate	Scope 2	Electricity	Electricity	Electricity/Generation/kWh	kWh	65,786.00	0.256	16.81
Grounds Maintenance	Buildings & Estate	Scope 3	Electricity	Electricity - T&D	Electricity/Generation/kWh	kWh	65,786.00	0.022	1.43
Grounds Maintenance	Buildings & Estate	Scope 3	Waste	Waste	Mixed waste	tCO <sub>2</sub> e	0.00	1.000	0.00
Grounds Maintenance	Buildings & Estate	Scope 3	Water	Water Supply	Water Supply/cbm	cbm	1,366.00	0.344	0.47
Grounds Maintenance	Buildings & Estate	Scope 3	Water	Water Sewerage	Water Treatment/cbm	cbm	479.85	0.708	0.34
Crematorium	Buildings & Estate	Scope 1	Gas	Gas	Natural Gas/kWh	kWh	895480	0.184	164.63
Crematorium	Buildings & Estate	Scope 3	Gas	Gas - WTT	Natural Gas/kWh	kWh	895480	0.024	21.41
Crematorium	Transport	Scope 1	Owned Vehicles	Diesel - Small, Cars & Car Derived Vans	Diesel/Litres	litres	155.26	2.594	0.40
Crematorium	Transport	Scope 1	Owned Vehicles	Diesel - Medium	Diesel/Litres	litres	9540.43	2.594	24.75
Crematorium	Transport	Scope 1	Owned Vehicles	All Diesel - WTT	Diesel/Litres	litres	9695.69	0.617	5.98
Crematorium	Buildings & Estate	Scope 2	Electricity	Electricity	Electricity/Generation/kWh	kWh	94,593.00	0.256	24.18
Crematorium	Buildings & Estate	Scope 2	Electricity	Electricity T&D	Electricity/Generation/kWh	kWh	94,593.00	0.022	2.05
Crematorium	Buildings & Estate	Scope 3	Waste	Waste	Mixed waste	tCO <sub>2</sub> e	0.0125	1.000	0.01
Crematorium	Buildings & Estate	Scope 3	Water	Water Supply	Water Supply/cbm	cbm	1,349.00	0.344	0.46
Crematorium	Buildings & Estate	Scope 3	Water	Water Sewerage	Water Treatment/cbm	cbm	1,079.20	0.708	0.76
Civica	Buildings & Estate	Scope 3	Gas	Gas	Natural Gas/kWh	kWh	26,220.00	0.184	4.82
Civica	Buildings & Estate	Scope 3	Gas	Gas - WTT	Natural Gas/kWh	kWh	26,220.00	0.024	0.63
Civica	Buildings & Estate	Scope 3	Electricity	Electricity	Electricity/Generation/kWh	kWh	26,881.67	0.256	6.87
Civica	Buildings & Estate	Scope 3	Electricity	Electricity - T&D	Electricity/Generation/kWh	kWh	26,881.67	0.022	0.58
Civica	Buildings & Estate	Scope 3	Water	Water Supply	Water Supply/cbm	cbm	341.00	0.344	0.12
Civica	Buildings & Estate	Scope 3	Water	Water Sewerage	Water Treatment/cbm	cbm	323.50	0.708	0.23

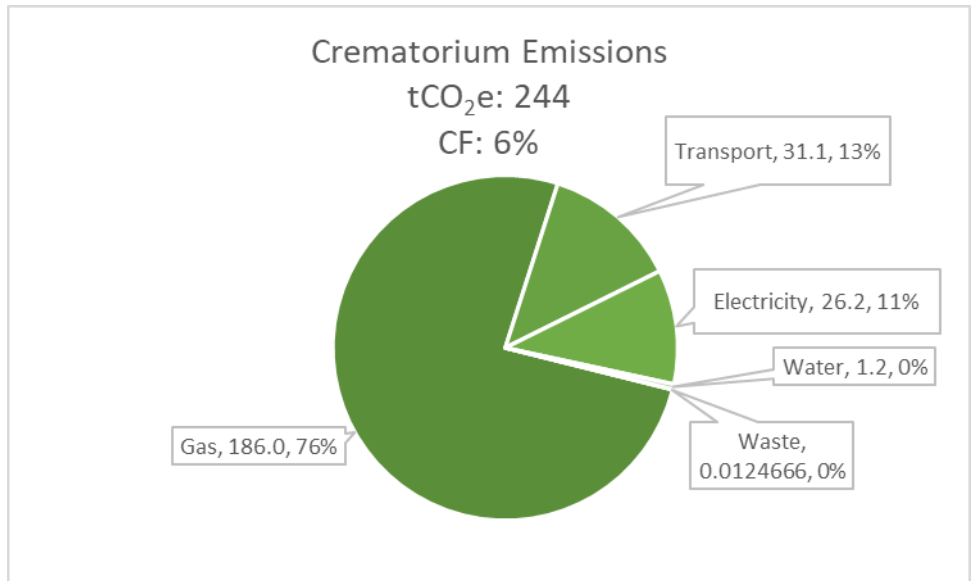
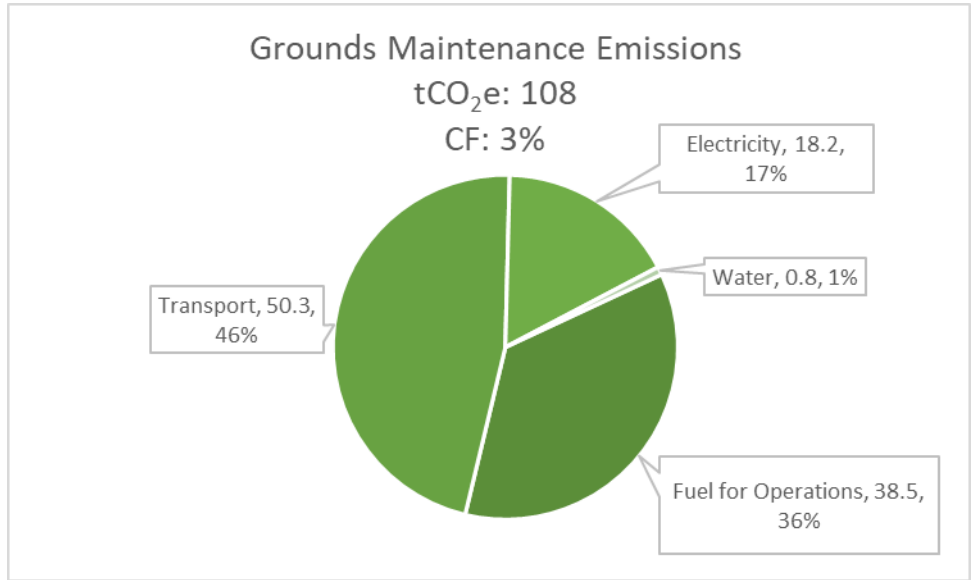
							2019	2,019	
Operation	Sector	Scope	Emissions Category	Individual Emissions Source	Fuel Type & Units	Units	2019-2020	Emissions Factor	tCO <sub>2</sub> e
Port & Harbour	Buildings & Estate	Scope 1	Gas	Gas	Natural Gas/kWh	kWh	269,585.00	0.184	49.56
Port & Harbour	Buildings & Estate	Scope 3	Gas	Gas	Natural Gas/kWh	kWh	269,585.00	0.024	6.45
Port & Harbour	Transport	Scope 1	Owned Vehicles	Diesel - Small, Cars & Car Derived Vans	Diesel/Litres	litres	1,185.40	2.594	3.08
Port & Harbour	Transport	Scope 1	Owned Vehicles	Diesel - Medium	Diesel/Litres	litres	0.00	2.594	0.00
Port & Harbour	Transport	Scope 3	Owned Vehicles	All Diesel - WTT	Diesel/Litres	litres	1,185.40	0.617	0.73
Port & Harbour	Buildings & Estate	Scope 2	Electricity	Electricity	Electricity/Generation/kWh	kWh	1,028,320.49	0.256	262.84
Port & Harbour	Buildings & Estate	Scope 3	Electricity	Electricity - T&D	Electricity/Generation/kWh	kWh	1,028,320.49	0.022	22.31
Port & Harbour	Buildings & Estate	Scope 3	Water	Water Supply	Water Supply/cbm	cbm	39,102.00	0.344	13.45
Port & Harbour	Buildings & Estate	Scope 3	Water	Water Sewerage	Water Treatment/cbm	cbm	8,969.27	0.708	6.35
Your Leisure	Buildings	Scope 3	Gas	Gas	Natural Gas/kWh	kWh	3612421	0.184	664.14
Your Leisure	Buildings	Scope 3	Gas	Gas - WTT	Natural Gas/kWh	kWh	3612421	0.024	86.37
Your Leisure	Buildings	Scope 3	Electricity	Electricity	Electricity/Generation/kWh	kWh	1359976	0.256	347.61
Your Leisure	Buildings	Scope 3	Electricity	Electricity - T&D	Electricity/Generation/kWh	kWh	1359976	0.022	29.51
Your Leisure	Buildings	Scope 3	Water	Water Supply	Water Supply/cbm	cbm	21163	0.344	7.28
Your Leisure	Buildings	Scope 3	Water	Water Sewerage	Water Treatment/cbm	cbm	20,104.85	0.708	14.23
Your Leisure	Buildings	Scope 3	Waste	All Waste		t	1.16	1.000	1.16
Mears	Transport	Scope 3	External Organisation Fuel	Diesel	Diesel/miles	miles	0.00	0.241	0.00
Mears	Transport	Scope 3	External Organisation Fuel	Diesel - WTT	Diesel/miles	miles	0.00	0.057	0.00
Mears	Buildings	Scope 3	Electricity	Electricity	Electricity/Generation/kWh	kWh	0	0.256	0.00
Mears	Buildings	Scope 3	Electricity	Electricity - T&D	Electricity/Generation/kWh	kWh	0	0.022	0.00
Mears	Buildings	Scope 3	Waste	Waste DMR		tCO <sub>2</sub> e	0	1.000	0.00
Kent Innovation Centre	Buildings	Scope 3	Gas	Gas	Natural Gas/kWh	kWh	381,524.00	0.184	70.14
Kent Innovation Centre	Buildings	Scope 3	Gas	Gas - WTT	Natural Gas/kWh	kWh	381,524.00	0.024	9.12
Kent Innovation Centre	Buildings	Scope 3	Electricity	Electricity	Electricity/Generation/kWh	kWh	160000	0.256	40.90
Kent Innovation Centre	Buildings	Scope 3	Electricity	Electricity - T&D	Electricity/Generation/kWh	kWh	160000	0.022	3.47
Kent Innovation Centre	Buildings	Scope 3	Water	Water Supply	Water Supply/cbm	cbm	1711.00	0.344	0.59
Kent Innovation Centre	Buildings	Scope 3	Water	Water Sewerage	Water Treatment/cbm	cbm	1625.45	0.708	1.15

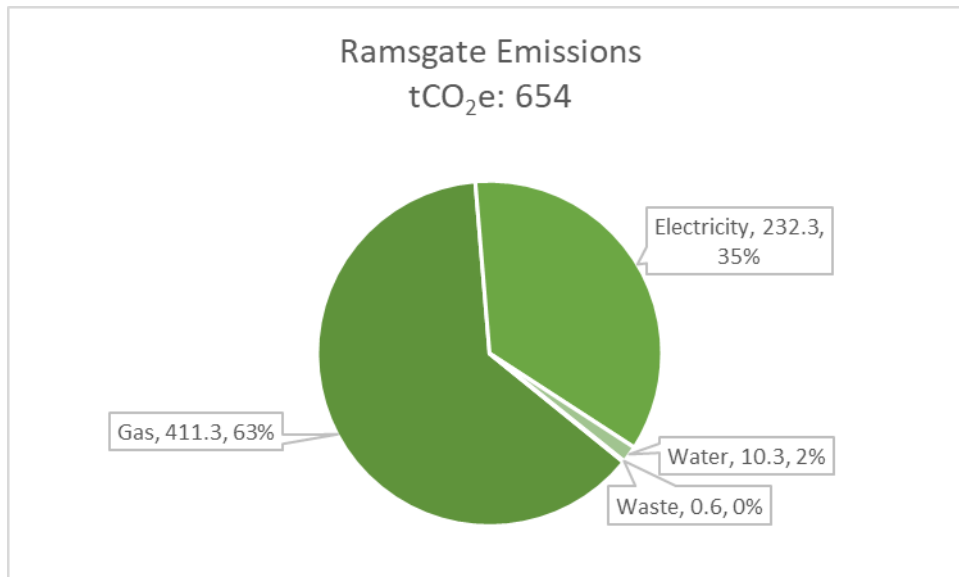
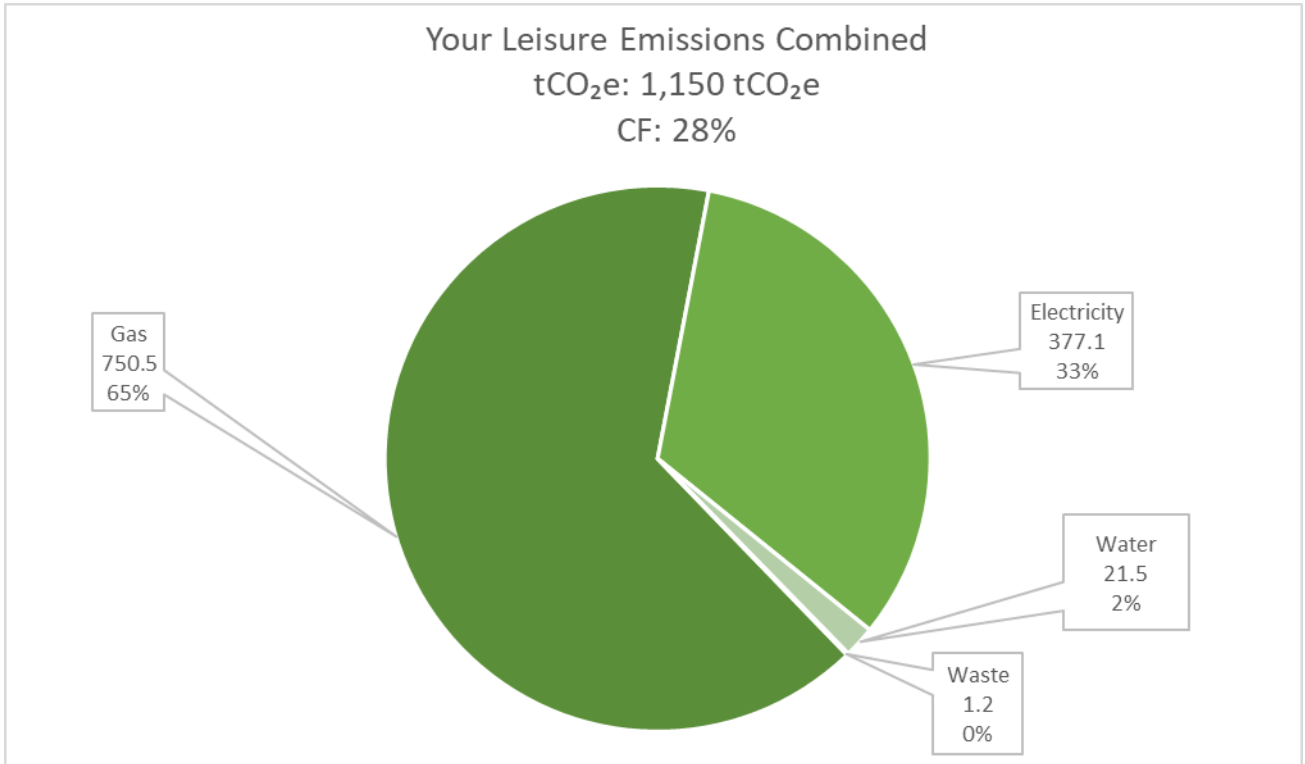
# Appendix 5 – Carbon Footprint Data QA

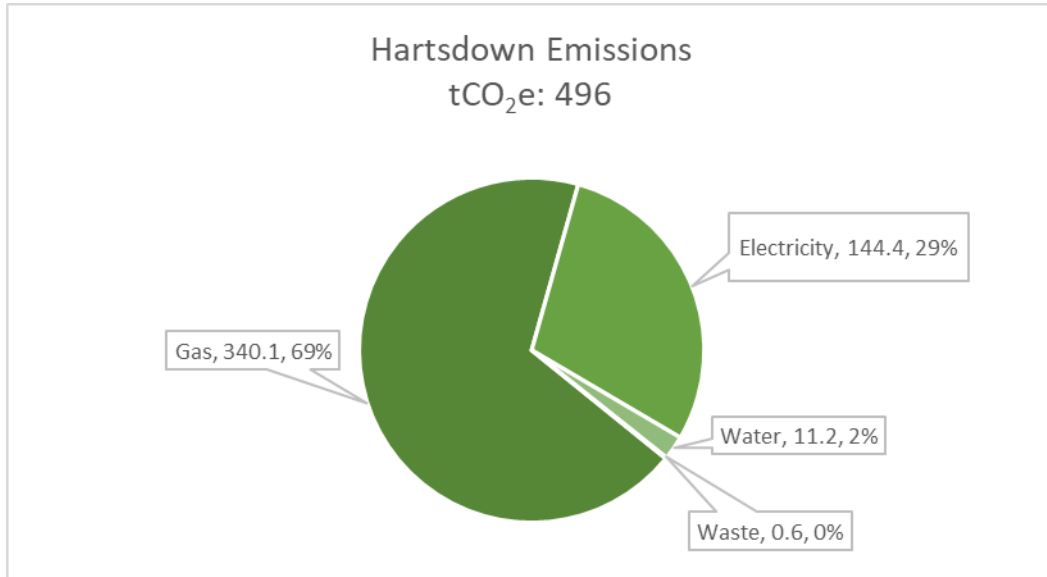
Name		Thanet District Council																						
Period Covered		FY 19-20																						
Organisational Boundary					Own Building and Estate							Leisure Centres						KIC						
Operational Boundary																								
Scope	Emissions Source	Source	Fuel Type	Additional Information	Units (kWh, L, etc.)	Emission Factor	Σ Units	tCO <sub>2</sub> e	%	Quality	Significance	Impact	Σ Units	tCO <sub>2</sub> e	%	Quality	Significance	Impact	Σ Units	tCO <sub>2</sub> e	%	Quality	Significance	Impact
1 Direct Emissions	Gas		Natural Gas	Own Buildings & Estate covers: core estate, grounds maintenance, waste collection, crematorium, port & harbours, Civica, EKS	kWh	0.20800	1910203	397.322	0.097994443	1	3	3	3612421	751.384	0.185319143	1	4	4	381524	79.357	0.019572387	1	2	2
	Other	Fuel for equipment	Diesel		litres	3.211	12000	38.532	0.0095	5	1	5												
	Owned Vehicles (non EV)			Own Buildings & Estate covers: core estate, grounds maintenance, waste collection, crematorium, port & harbour	litres	3.211	474123.54	1522.41	0.375483116	1	5	5												
2 Energy Indirect Emissions	Electricity	Electricity Building Use	Electricity	Own Buildings & Estate covers: core estate, grounds maintenance, waste collection, crematorium, port & harbours, Civica, EKS	kWh	0.277	2469212	683.972	0.168692874	1	4	4	1359976	376.713	0.092911528	1	3	3	160000	44.32	0.010930961	3	2	6
		Electricity UMS	Electricity		kWh	0.277	125460	34.7524	0.00857124	1	1	1												
		Electricity UMS	Electricity		kWh	0.277	62664	17.3579	0.004281111	1	1	1												
3 Other Indirect Emissions	Grey Fleet	Passenger /			tonnes	1	31.33	31.33	0.007272144	1	1	1												
	Own Waste	Waste	All waste		tCO <sub>2</sub> e	1	0.02836	2.8E-05	6.99463E-09	5	1	5	1.15567	1.15567	0.000285032	1	1	1						
	Water	Supply	Water Supply	Own Buildings & Estate covers: core estate, grounds maintenance, waste collection, crematorium, port & harbours, Civica, EKS	cbm	0.344	80495	27.6903	0.006829453	1	1	1	21163	7.28007	0.001795537	1	1	1	1711	0.58858	0.000145167	1	1	1
	Sewerage	Water Treatment		cbm	0.708	35294.73	24.9887	0.006163135	1	1	1	20104	14.2336	0.003510543	3	1	3	1625	1.1505	0.000283756	1	1	1	

## Appendix 6 – Footprints – Area Breakdown



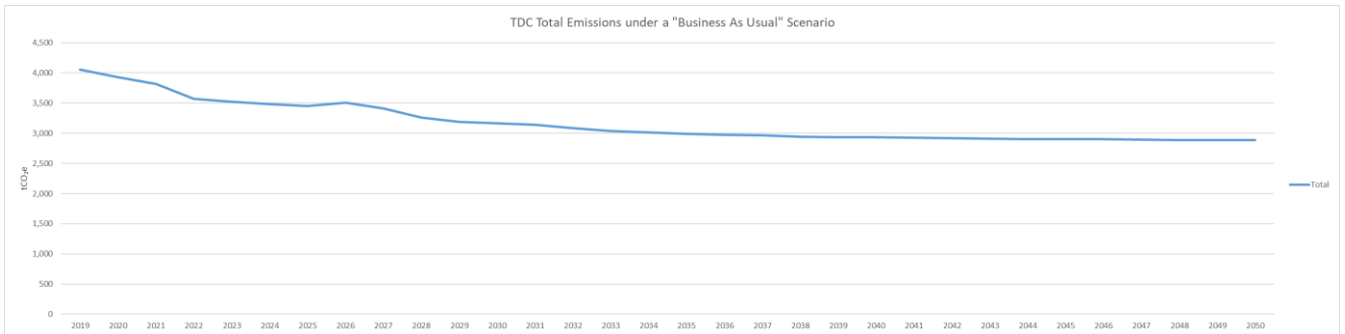
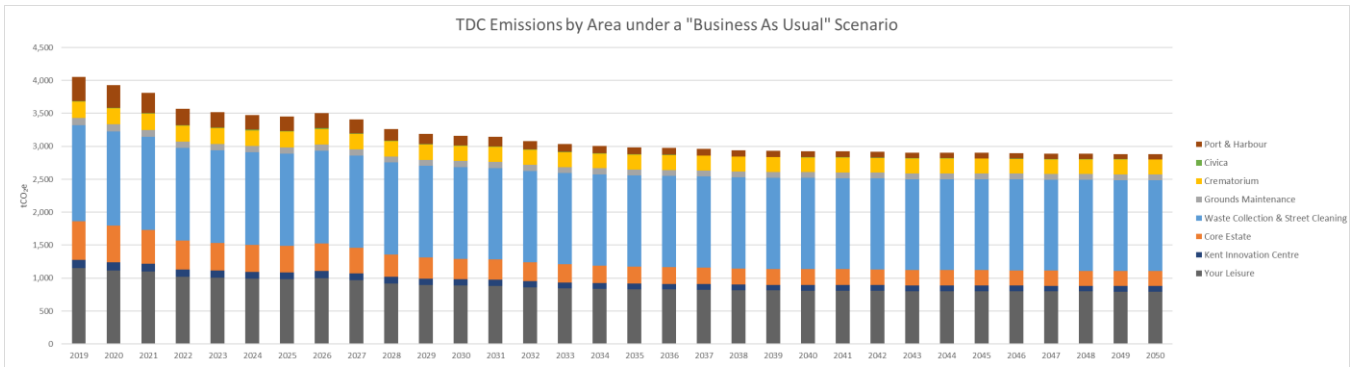











## Appendix 7 – BAU Forecasts



## Appendix 8 – Zero Carbon Green Electricity Supply Options

LASER’s support is not confined to these 3 options, and we are in a position to assist with investigating investment in renewable assets through other models, for example directly or through other PPA structures.

It is important to note that some certainty around long term energy requirements is vital when planning in this area.

Important factors to consider to your organisation			
	OPTION 1 Green Tariff	OPTION 2 Green Basket	OPTION 3 PEPPPA
Volume Commitment	Annual	2-4 years	10< years
REGOs	Yes	Yes	Yes
Direct Funding of Renewables	Minimal	Yes	Yes
Traceability	No	Yes	Yes
Additionality	No	Unlikely	Yes
Lead time to delivery	Within a year	Within a year	Up to 36 months
Ease of Procurement	Very High	Very High	High

### REGOs (Renewable Electricity Guarantee of Origin)

REGO certificates are the most widely recognised certification of environmental credentials for energy generation across Europe. They are well administered and the provision of a REGO with each MWh of electricity should guarantee that the energy was

generated from “renewable” sources. The largest problem with REGOs from a zero-carbon perspective is that their definition of “renewable” is not confined to zero carbon technologies but can also include technologies such as gas-fired CHP generation. There is also the possibility of ‘greenwashing’, as suppliers can buy REGO certificates on the open market without having purchased any power from renewable generators. In August 2021, there was a press release from the government to review electricity green tariffs to address concerns regarding this practice.\*\*

As a consumer, generation cannot necessarily be traced back to a specific asset so it can be unclear as to whether the electricity is zero carbon or not. REGO backed supply can be reported as zero emissions but the validity of this is open to debate.

Therefore, REGO backed supplies are definitely “greener” than grid average electricity supplies, but generation cannot be traced to a specific asset, and they are not categorically zero carbon

### **Traceability**

As touched on above, it is considered important in environmental fields to be able to trace generation to particular assets to provide assurance of renewable origin and add credibility.

### **Additionality**

Additionality is a term that has arisen in recent years and has come to define a very important factor when considering investment in renewable assets or supply contracts - namely that the investment has a genuine impact which would not have been realised otherwise. In this case, ‘additionality’ can be seen as the investment resulting in the construction of a new generation asset - such as a solar array or wind farm - rather than the consumer receiving energy from an existing renewable asset which would be generating regardless of the consumer’s investment.

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\*\* [Government to tighten rules to stop 'greenwashing' of electricity tariffs - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/government-to-tighten-rules-to-stop-greenwashing-of-electricity-tariffs)

**Power Purchase Agreements (PPAs)**

PPAs are essentially contractual agreements between off takers (consumers) and suppliers or generators, where an agreement is made to buy and sell an amount of energy generated from a renewable asset for a set term - usually between 10 and 20 years. These agreements allow generators to invest in assets with certainty and guarantees long term green energy supply to the consumer.

Due to the nature of PPAs they tend to be long-term, large volume contracts which can preclude some consumers from entering the market. In order to provide a solution, LASER has created a model where multiple public sector bodies are aggregated in order to increase buying power and are calling this the Public Energy Partnership Power Purchase Agreement (PEPPPA).

To find out more about **LASER's Zero Carbon Future** please contact us or visit [www.laserenergy.org.uk](http://www.laserenergy.org.uk)

0800 484 0840  
[zerocarbon@laserenergy.org.uk](mailto:zerocarbon@laserenergy.org.uk)

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Thanet District Council (TDC) Equality Impact Assessment a

Step one: test for relevance

### 1 Person responsible for this assessment

Name:	Dr Hannah Scott		
Job title:	Climate Change Officer		
Phone:	07411 815157		
Service area:	Operations	Date of assessment:	10/06/2022

### 2 Others involved in carrying out the analysis

Name:	Catherine Curtis (Information Governance and Equality Manager)
Name:	Carol Cook (Policy Officer)
Name:	

### 3. Description of strategy, policy, service, project, activity or decision

Title:	Net Zero Strategy and Action Plan
--------	-----------------------------------

Is it new?                      Yes                       No

A review of existing?      Yes                       No

3.1 Aims and objectives

**Consider:**    **what** you are doing?    **why** you are doing it?                      **who** will benefit?

What: Setting out a strategy and action plan to meet our pledge to reduce greenhouse gas emissions:  
 Why: We have pledged to do this as we are in a climate emergency. In 2019, the UK became the first major economy in the world to legislate a binding target to reach net zero emissions by 2050  
 Who will benefit? All residents

3.2 What outcomes are expected? Who is expected to benefit?

Outcomes:  
 To avoid the worst of climate change e.g. severe heatwaves which will be a risk to health and infrastructure  
 severe flash flooding

sea level rise

disrupted worldwide food systems causing a risk to food supply

Many actions towards this strategy will improve the economy, promoting jobs as well as decreasing emissions. For example, we aim to work with KCC to increase employment within the housing retrofit sector which will benefit the district both in job opportunities whilst also producing warmer, more energy efficient homes.

The low carbon economy will be part of our economic revival and leveling up in the district.

Net zero actions also reduce air pollution and encourage us to be healthier, by eating less meat, more fruit and vegetables and walking and cycling more.

## 4 Who is affected?

- 4.1 Which groups or individuals does the strategy, policy, service, project, activity or decision affect? For example, the Council, employees (including temporary workers), other public authorities, contractors, partner organisations, wider community, others.

Residents

- 4.2 Does the strategy, policy, service, project, activity or decision relate to a service area with known inequalities? (Give a brief description).

Climate change will disproportionately affect the poorest in society. These are over represented in certain protected characteristics e.g. young and old, female residents and the disabled.

Those more well off will be able to avoid some impacts of climate change whereas poorer members of the public will not have the financial resilience e.g. to move or to buy items to assist them during heat waves or floods.

The cost of living will increase due to climate change and so will cause further inequalities. Food prices will increase in an unstable world, as will general day to day products.

Health inequalities already exist in Thanet and this will be tested as climate change causes various public health crises in the future.

Affordability of new net zero technologies e.g. electric cars.

## 5 Equality Act 2010

How does the strategy, policy, service, project, activity or decision actively meet the public sector equality duties to:

**Eliminate unlawful discrimination** (including harassment, victimisation and other prohibited conduct)

The strategy and action plan do not negatively impact the groups identified in the Act.

As climate change affects resources, it is likely that people will compete for limited resources. This could increase discrimination between different groups in society. The strategy aims to avoid the worst impacts of climate change.

Likely increased migration to the UK and Thanet from countries with disrupted climates - impact on housing and resources. .



**Advance equality of opportunity** (between people who share a protected characteristic and people who do not share it)

The mitigation of climate change is essential for the advancement of equal opportunities. Climate change will disproportionately affect the poorest in society, as well as those with disabilities and current ill health.

**Foster good relations** (between people who share a protected characteristic and people who do not share it). Could it have an adverse impact on relations between different diverse groups?

A world that avoids the worst of climate change will reduce the chance of social unrest and resource wars, that would destabilise society and reduce current standard of living.

## 6 Priority

The following questions will help you to identify whether this 'service' is a high priority. Please answer all questions with particular reference to the protected characteristics; race, gender, gender reassignment, disability, religion or belief, sexual orientation, age, marriage and civil marriage/partnership and pregnancy and maternity.

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## Annex 3

**Please provide a comment for each answer, providing evidence for your answer, regardless whether you have answered yes or no.**

Questions	Yes	No
1. Are there any particular groups who may have trouble accessing the 'service'?	X	
<b>Comments:</b> Possibly those without internet access and low literacy skills.  Verbal presentations will be given.		
2. Does your information suggest that some groups of people are less satisfied than others with this 'service'?		
<b>Comments: NA</b>		
3. Will this service have a significant impact on any of our residents?	X	
<b>Comments:</b> It aims to offset the consequences of climate change.		
4. Do you have any evidence that discrimination, harassment and/or victimisation could occur as part of this service?		
<b>Comments:</b> <b>No current evidence</b>		
5. Do you think the service will hinder communication and negatively impact relations between the organisation and its employees, residents, contractors or anyone else?	X	
<b>Comments:</b> Climate change action can be controversial. Some people will want TDC to do more and some will want TDC to do less.		
6. Does this service need to improve the way in which it is communicated to people who have literacy, numeracy or any other access needs?		
<b>Comments:</b> NA Various means of communication will be considered.		
7. Does consultation need to be carried out?	X	
<b>Comments:</b> The strategy and action plan will go to public consultation, after going through the correct route with TDC including OSP.		

In order to assess the priority of your **'service'** please complete the table below by adding up how many questions you answered yes to and following the appropriate action.

Priority	Number of questions answered 'yes'	Rating	Action
High	3 or more		Continue to section 2
Medium	1 to 2		Please provide evidence to any questions you answered 'yes' to in section 1. Test for relevance complete (sometimes a full assessment may be required).
Low	0		Test for relevance complete.

**If, following the completion of the test for relevance, a full assessment is not required, go straight to the declaration. If a full assessment is required, go to Step two: full equality impact assessment.**

### Step two: full equality impact assessment

1 Could the strategy, policy, service, project, activity or decision have a **negative, positive or neutral** effect on groups or individuals?

**Consider:**

**What** you are doing?

**Why** you are doing it?

**How** you are doing it?

**Who** can access the service easily and who may not be able to access the service and **why**?

**The full analysis explores ways to reduce or eliminate barriers and/or negative impacts.**

Protected characteristics	N e g a t i v e	P o s i t i v e	N e u t r a l	<p align="center"><b>Evidence/Reasoning</b></p> <p align="center">(Consider any barriers which will have negative impact and/or good practices giving positive impact)</p>
<p><b>Age</b></p> <p><b>Consider:</b></p> <ul style="list-style-type: none"> <li>The way younger and older people access services may be different</li> <li>Use of technology</li> <li>Child care/care of other dependant</li> <li>Timings/flexibility, such as work patterns</li> <li>Transport arrangements</li> <li>Venue location</li> </ul>	x	x		<p><b>Recommendations:</b></p> <p>Negative: Affordability of new technologies</p> <p>Encouraging public transport over car potentially gives rise to personal safety concerns i.e. vulnerable to abuse/forced home. Those with memory problems feel particularly vulnerable. (although road safety stats show public transport is safer than cars ie fewer accidents)</p> <p>Positive: Positive impact on air quality. Especially on lung development on children.</p> <p>Medium – improvements to public transport and Date Document Updated 15/04/2021 This document is available in other formats. Please contact diversityinfo@Kent.gov.uk or telephone on 03000 415 762 7 walking/cycling infrastructure to provide improved access to active travel options for those who cannot afford their own transport.</p> <p>improving air quality and home energy efficiency will reduce risks of illness and/or early death particularly linked to conditions mainly affecting young children or older people or due to living in colder homes. (ie heart disease, stroke, COPD)</p> <p>the Strategy aims to target those off the gas network and hard to heat homes</p>
<p><b>Disability (Includes:</b> physical, learning, sensory (deaf/blind), mental health)</p> <p><b>Consider:</b></p> <ul style="list-style-type: none"> <li>Communication methods</li> </ul>	x	x		<p><b>Recommendations:</b></p> <p>Negative: The climate change emergency can affect residents' mental health due to eco anxiety.</p> <p>Physical ability to access suitable parking with electric vehicle charging points could inhibit take up by this group.</p>

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### Annex 3

<ul style="list-style-type: none"> <li>● Accessibility – venue, location, transport</li> <li>● Range of support needed to participate</li> <li>● Hearing Loops/Interpreters</li> <li>● Disability awareness training for employees</li> </ul>			<p>Avoid excluding from active travel opportunities as far as reasonably practicable, although disabled are less likely to walk or cycle compared to nondisabled.</p> <p><b>Mitigation:</b></p> <p>We will provide information on the website about eco anxiety and how to address it.</p> <p>We will consider disabled access when adding new charging points.</p> <p>Walking and cycling routes will need to consider disabled access.</p> <p><b>Positive:</b> Those with disabilities will be disproportionately affected by the impacts of climate change and so addressing it now will reduce heatwaves and flooding events.</p> <p>Assistance from the home energy officer e.g. insulation and energy efficiency will assist the cost of living crisis which will affect the disabled disproportionately e.g. medical equipment often uses more electricity than the average person.</p> <p>Improving air quality may reduce symptoms of some disabling health conditions</p>
<p><b>Race (Includes; gypsy, travelling, refugee and migrant communities)</b></p> <p><b>Consider:</b></p> <ul style="list-style-type: none"> <li>● The size of the BME communities that your service/project affects.</li> <li>● Language(s) spoken/understood.</li> <li>● Culture, such as hygiene, clothing, physical activities, mixed gender activities.</li> <li>● What access support can you offer?</li> </ul>	X	X	<p><b>Recommendations:</b></p> <p>Negative: As climate change affects resources, it is likely that people will compete for limited resources. This could increase discrimination between different groups in society.</p> <p>Possible increased migration could cause further tension e.g. competition for resources and housing.</p> <p>Using more reflective images of population in campaigns and promotions.</p> <p>Ensuring clear language is used and language barriers are reduced where possible in the promotion of schemes and projects under this strategy (inclusive promotions and schemes)</p>
<p><b>Religion, faith or belief</b></p> <p><b>Consider:</b></p> <ul style="list-style-type: none"> <li>● The diversity within the communities that your service/project affect</li> <li>● Prayer times, meal times, food (some religions do not eat meat), cultural habit or belief, religious holidays such as Ramadan</li> </ul>		X	<p><b>Recommendations:</b></p> <p>Ensure inclusive promotions</p>

<ul style="list-style-type: none"> <li>Awareness training for employees</li> </ul>			
<p><b>Pregnancy and maternity</b></p> <p><b>Consider:</b></p> <ul style="list-style-type: none"> <li>Flexible hours of the service/project</li> <li>Is there access to private area for breastfeeding mothers?</li> </ul>			<p><b>Recommendations:</b></p> <p>Consider double buggies when planning new active transport paths.</p> <p>Poor air quality impacts lung development of growing foetus and young children. Improving air quality benefits this group.</p>
<p><b>Gender</b></p> <p><b>Consider:</b></p> <ul style="list-style-type: none"> <li>The impact on men and women</li> <li>Child care/care of other dependant</li> <li>Mixed/single gender groups/activities</li> <li>Timing of services/projects</li> </ul>	X	X	<p><b>Recommendations:</b></p> <p>Perception of unsafe routes when walking or cycling, especially for females in the evenings.</p> <p>Females tend to be less well off and therefore the impact of climate change will affect them more.</p> <p>Improvement in walking and cycling routes will benefit parents taking children to school which is disproportionality female.</p>
<p><b>Sexual orientation (Includes: lesbian, gay, bisexual)</b></p> <p><b>Consider:</b></p> <ul style="list-style-type: none"> <li>LGB people should feel safe to disclose their sexual orientation without fear of prejudice</li> <li>Make it clear you recognised civil marriage and partnerships</li> <li>Awareness training for employees</li> </ul>			<p><b>Recommendations:</b></p> <p>Ensure inclusive promotions</p>
<p><b>Transgender</b></p> <p><b>Consider:</b></p> <ul style="list-style-type: none"> <li>Trans people should be able to disclose their gender identity without fear of prejudice</li> <li>Making it clear you have a Trans policy and process</li> <li>Awareness training for employees</li> </ul>			<p><b>Recommendations:</b></p> <p>Ensure inclusive promotions</p>
<p><b>Marriage and civil marriage/partnership</b></p> <p><b>Consider:</b></p> <ul style="list-style-type: none"> <li>All couples or partners, regardless of gender,</li> </ul>			<p><b>Recommendations:</b></p> <p>NA</p>

should be able to access services				
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<b>Outsourced services</b>	
If your policy/process is partly or wholly provided by external organisations/agencies (such as Civica or Capita), please list any arrangements you plan to ensure that they promote equality and diversity. Include this in your improvement plan	NA
<b>Relations between different equality groups</b>	
Does your assessment show that a strategy, policy or process may amount to potential adverse impact between different equality groups? If yes please explain how the improvement plan is going to tackle this issue	NA
<b>Consultation responses</b>	
Summary of replies from individuals and stakeholders consulted including any previous complaints on equality and diversity issues about the strategy, policy or process	Consultation will take place in late summer.

<b>Summary of recommendations</b>		
<b>Actions</b>	<b>By Who</b>	<b>By When</b>
Consider protected characteristics when creating the consultation package and methodology.	Director of communication	July 2022
Consider accessibility in any new active transport plans e.g. wheelchairs/double buggies.	Strategic Planning Manager and KCC.	As projects arise
Consider accessibility when adding EV charging points	Director of Communities	As projects arise

**Declaration**

I am satisfied that a Test for Relevance has been carried out on the matter named in this Analysis and conclude that a full Equality Impact Assessment **is not required**.

Yes  No

If you do not think that a full Equality Impact Assessment is required – please give your reasons:

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I confirm that a full Equality Impact Assessment has been completed.

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Yes  No

Recommendations agreed:

Yes  No

Signature of Service Director:

Date:

Recommendations agreed:

Yes  No

Signed:

EIA date: 10/06/2022