

CARBON NEUTRAL PLAN 2030

MONITORING REPORT
(2021-2022)

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The following provides our update to the 2030 Carbon Neutral Plan, which sets out our ambitions and action plan to be a carbon neutral council by 2030. Throughout this report, we make reference to our carbon footprint. In most cases this is accompanied by the unit of measure which is tonnes (t). We also refer to the carbon footprint as CO₂e. This is a metric measure that is used to compare emissions from various greenhouse gases on the basis of their Global Warming Potential by converting amounts of other gases to the equivalent amount of Carbon Dioxide (CO₂).

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Welcome to our 2022 update



In 2021, we approved the Charnwood Carbon Neutral Plan 2030, an ambitious plan to achieve carbon neutrality from the Council's operations by 2030. This monitoring report provides an update to the Carbon Neutral Plan and our target to be carbon neutral by 2030.

The target of reaching carbon neutrality by 2030 is challenging, but our legacy carbon reduction has helped in this quest.

Despite our achievements there is still much to do as we seek to decarbonise our activities.

Within this monitoring report we have also reflected how our efforts apply to the UN Sustainability Goals.



Our world is already changing around us, with increasing temperatures, changing weather patterns and risks to our Council and Borough. Climate change affects us all, but we also all have the power to do something about it. We are delighted that we have been able to keep on-track with our carbon reduction plans despite the COVID-19 Pandemic changing our working patterns and activities. Our Climate Change Board has started making inroads into our quest to decarbonise our activities and become carbon neutral by 2030.

About our Plan

The Carbon Neutral Plan is a subset of our Climate Change Strategy. As reported previously, the Carbon Neutral Plan was designed to be flexible and regularly reviewed. Now in 2022, we have 8 years left to achieve our aspirations of net zero after emerging from a world-wide COVID-19 Pandemic that has impacted our people and our activities.

To facilitate action, the Climate Action Board, meets bi-monthly to provide a conduit for ensuring that we monitor the actions that were agreed and to enhance or modify our efforts as appropriate. The Board will call on outside expertise that can't be sourced in the Council, as required and where appropriate.

Climate Action Board

The Climate Action Board was established to:

- Take forward the actions outlined and approved in the Council's Carbon Neutral Plan.
- Oversee and manage the Change Climate Strategy.
- Oversee and manage other Council actions that contribute positively to climate change (e.g. air quality).



Borough Wide

This Action Plan does not set out how the Borough as a whole will reach carbon neutrality. Although it does identify our impact on the Borough and ways that the Council can use its powers to support the transition to a low carbon future

such as through land use planning and the provision of infrastructure. However, we are continually working with communities, partners, residents and businesses to seek to decarbonise our Borough.

A summary of our journey to date



Carbon Management Plan

In 2015, we developed a Carbon Management Plan aiming to achieve a 15% reduction in carbon emissions by 2020 against a 2012-2013 baseline. Within a year from 2015-2016, as a result of energy savings across the Council operations, we had achieved a 21% decrease.

Our commitment to carbon neutrality was announced in June 2019. By the end of 2019, our emissions had fallen by 37%. In absolute terms, this was a reduction of 787 tonnes of carbon dioxide equivalent (tCO₂e). This assisted financial savings of over £280,000. To achieve these savings we switched to using renewable electricity, which means the electricity purchased didn't create carbon emissions, installed highly energy-efficient LED lighting and controls in offices, buildings, car parks including Beehive Lane car park and communal areas of sheltered housing, installed more energy-efficient heating in Charnwood Museum and swapped vehicles for electric and more fuel-efficient ones.





Charnwood Carbon Neutral Plan 2030

In 2021, we launched our Carbon Neutral Plan to present options for inspiring local and regional action whilst reducing our carbon footprint. We established this by consultation with all parts of Charnwood Borough Council.

We established a new 2018-2019 baseline of a carbon footprint of 1,130 tCO₂e which took into account our decision to procure renewable electricity.

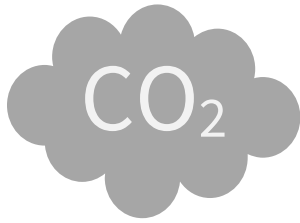
We calculated our 2019-2020 footprint which was 1,377tCO₂e. This demonstrated the positive impact our decision of procuring renewable electricity and had reduced carbon emissions from buildings by 70%, saving 737 tCO₂e. Emissions had increased slightly but that was largely because of the way in which Natural England guidance accounted for the amount of carbon removed from the atmosphere by trees and green space.

Our 2020-2021 footprint was calculated as 1092 tCO₂e, a decrease in our footprint from our baseline and previous years. Once again, the impact of the decarbonisation of the national grid for electricity and our decision to procure renewable energy had a positive impact. Building and transport emissions were also reduced by the COVID-19 Panademic Governmental travel/working restrictions.



Tiny Forest Project – Holt Drive, Loughborough

Our 2022 Carbon Footprint



Our 2022 Carbon Footprint has been calculated using the same principles as in 2020-2021, to ensure a true comparison. It is based upon emissions generated from 1st April 2021 through to 31st March 2022. We anticipate that at some point in the future, we may have to rebaseline, as we enhance our carbon reporting to take into account our indirect emissions and potential changes within our data sets.

Our methodology

1

Step 1 – Location based

Calculation of our emissions from buildings (gas & electricity), transport, waste and water.

2

Step 2 – Market based

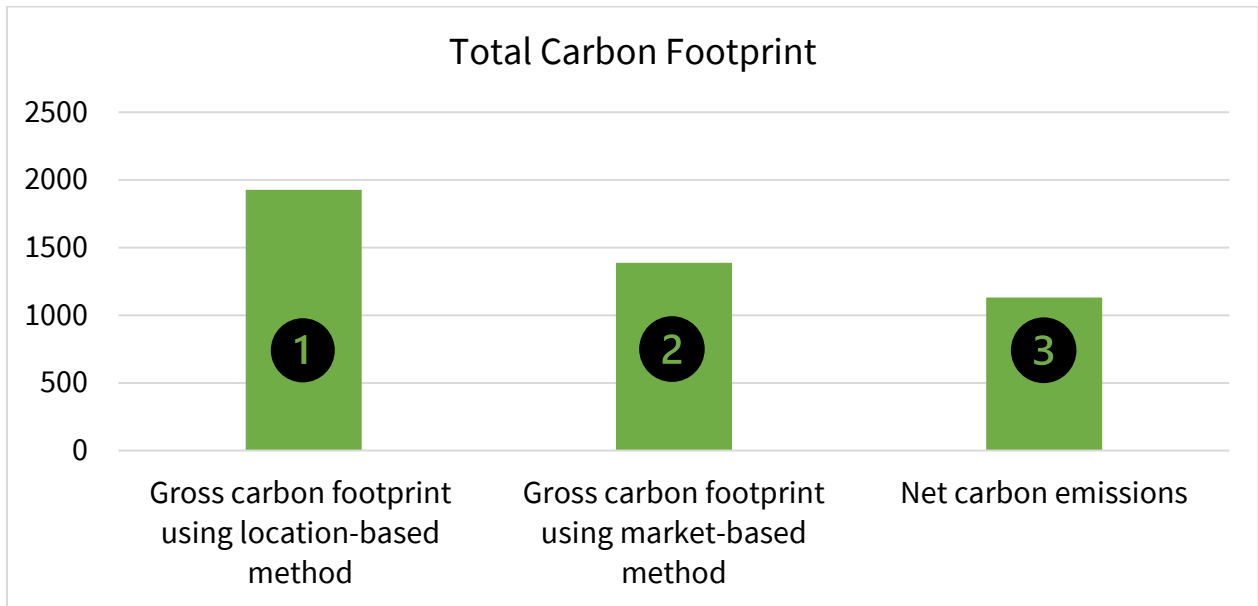
Accounting for our use of 100% renewable electricity at our council buildings creating zero emissions.

3

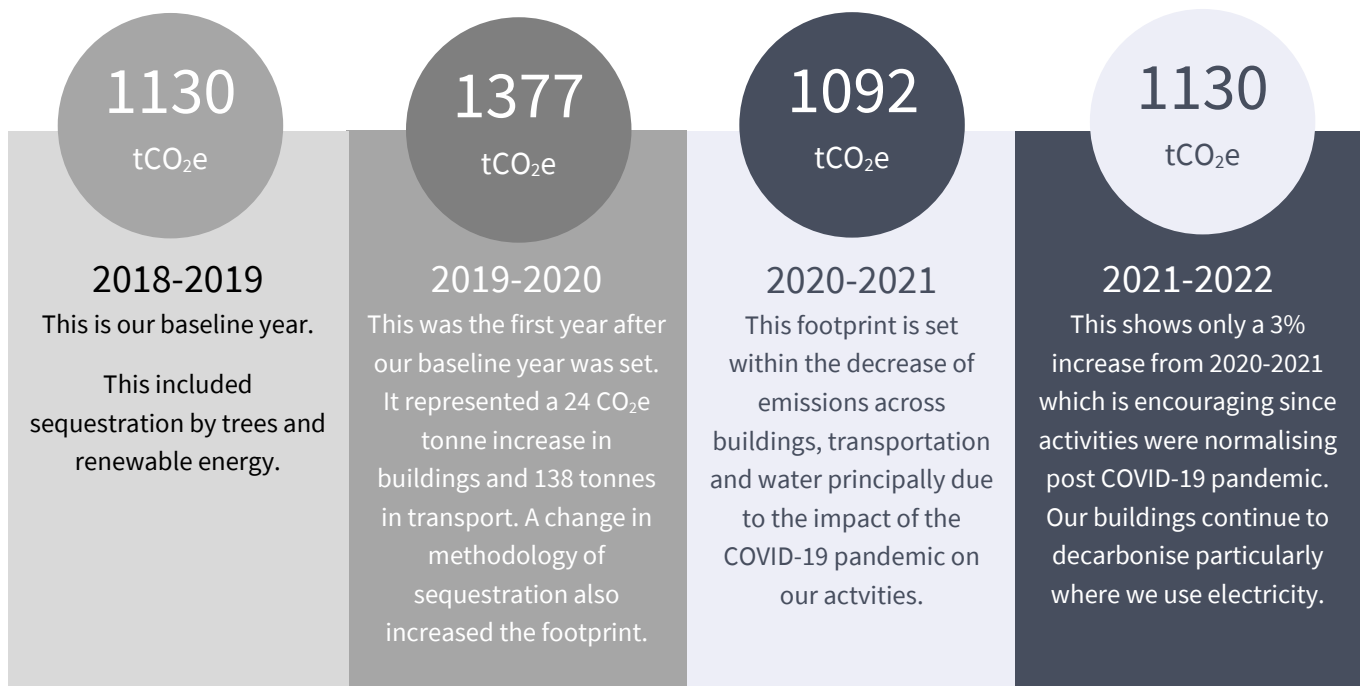
Step 3 – Calculation of net footprint

This is the emissions generated in step 1, minus the emissions “saved” in step 2, together with activities that take carbon dioxide directly from the atmosphere (sequestration).

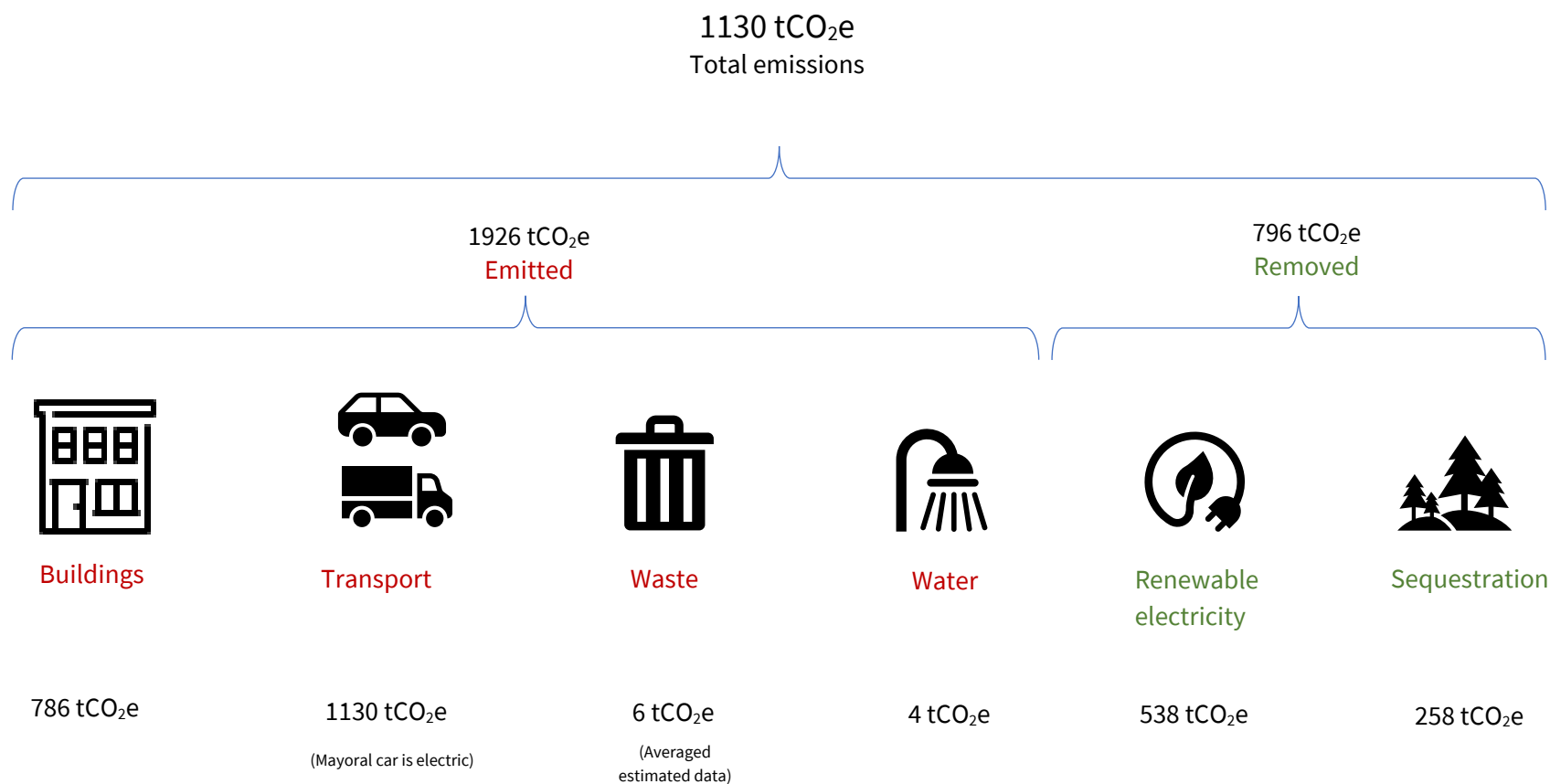
Total Carbon Emissions



Total Net Carbon Emissions



Emissions, renewable electricity and sequestration in 2021-2022



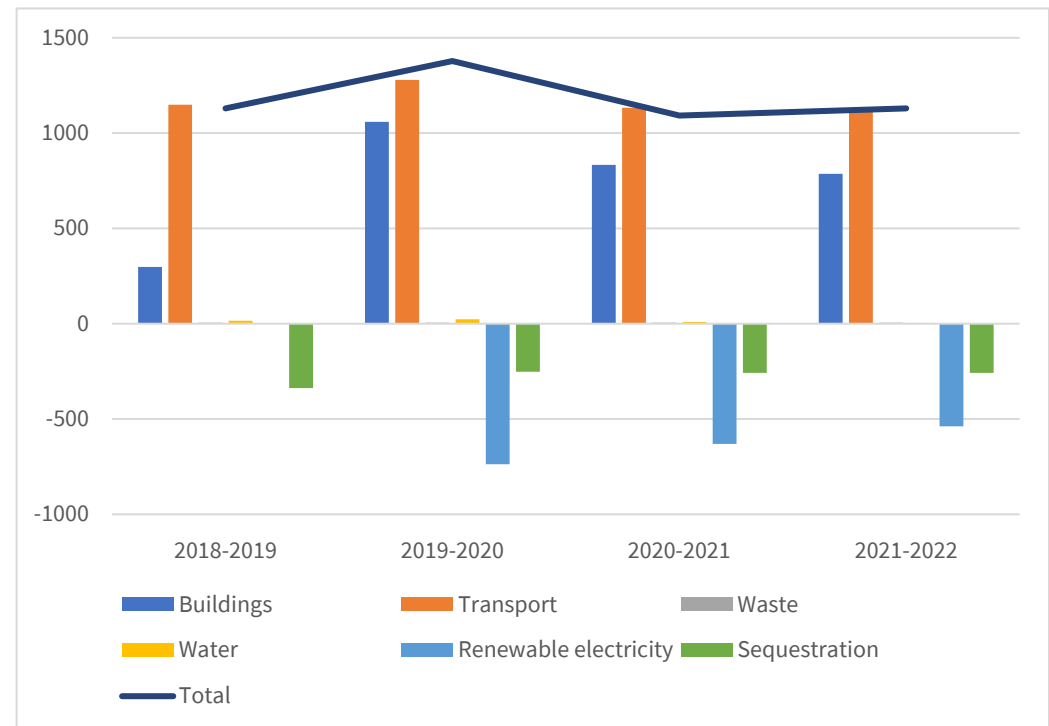
Carbon footprint comparison



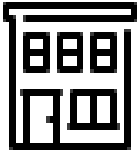
Yearly comparison of Net emissions in tCO₂e

After setting our baseline in 2018-2019 and our total carbon footprint rising the following year, we are pleased to see that following the COVID-19 pandemic we have managed to only increase our carbon footprint by 3% (on 2020-2021) despite our activities normalising. We continue to purchase electricity from certified renewable sources and our tree planting in 2022-2023 of some 14,000 trees will increase our sequestration overall.

Type	2018 -2019	2019 -2020	2020 -2021	2021 -2022
Buildings	298	1059	833	786
Transport	1149	1279	1133	1130
Waste	6	6	6	6
Water	16	23	9	4
Renewable electricity	0	-737	-631	-538
Sequestration	-338	-252	-258	-258
Total	1130	1377	1092	1130



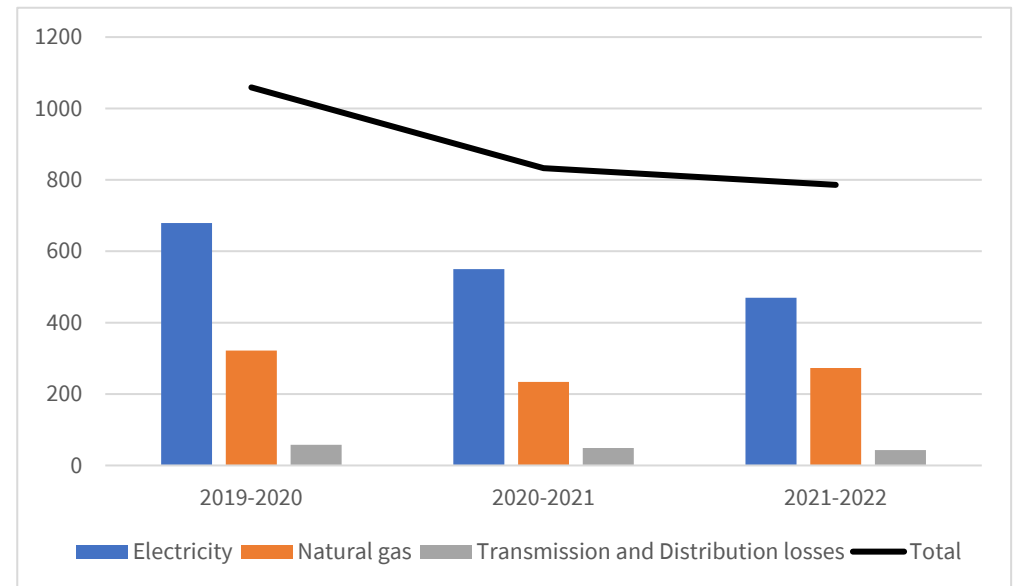
Three-year carbon footprint comparison



Yearly building emissions in tCO₂e

We are delighted that the trend related to our carbon footprint from buildings continues to fall. This is in part due to the decarbonisation of the national grid. However, our actions detailed below (items 3 to 9) have assisted us to have a potentially more holistic perspective of our buildings which should provide greater reductions.

Buildings	2019 -2020	2020 -2021	2021 -2022
Electricity	679	550	470
Natural gas	322	234	273
Transmission and Distribution losses	58	49	43
Total	1059	833	786



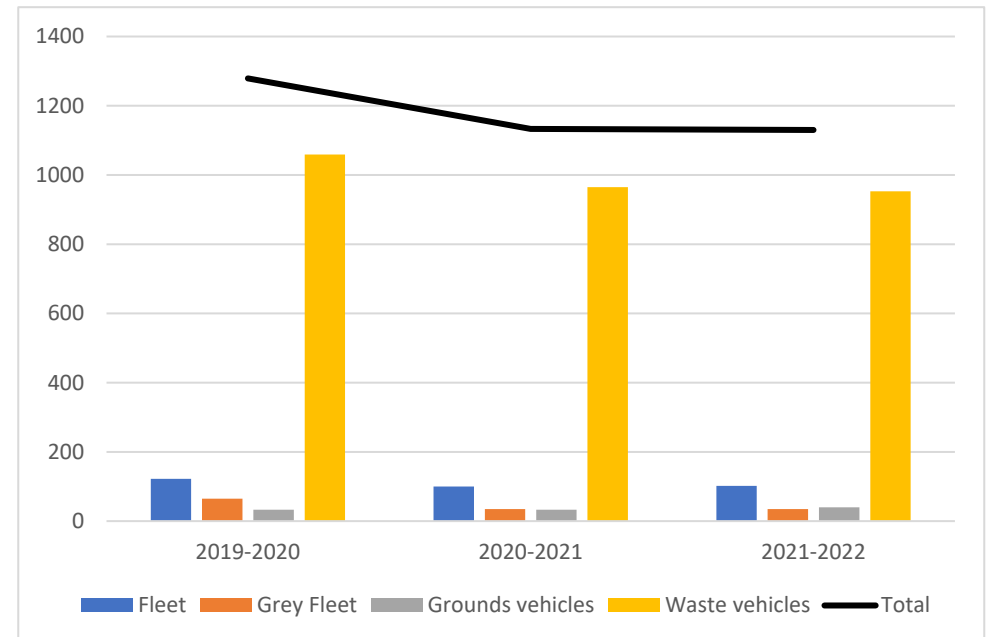
Three-year carbon footprint comparison



Yearly transport emissions in tCO₂e

Overall, the amount of tCO₂ related to transport, fell by over 11% between 2019-2020 and 2020-2021 and under 0.26%, between 2020-2021 and 2021-2022. It should be noted that there is a planned operational change in Borough-wide waste vehicle routing in 2022-2023 which may increase emissions.

Transport	2019-2020	2020-2021	2021-2022
Fleet	122	100	102
Grey Fleet	65	35	35
Grounds vehicles	33	33	40
Waste vehicles	1059	965	953
Total	1279	1133	1130



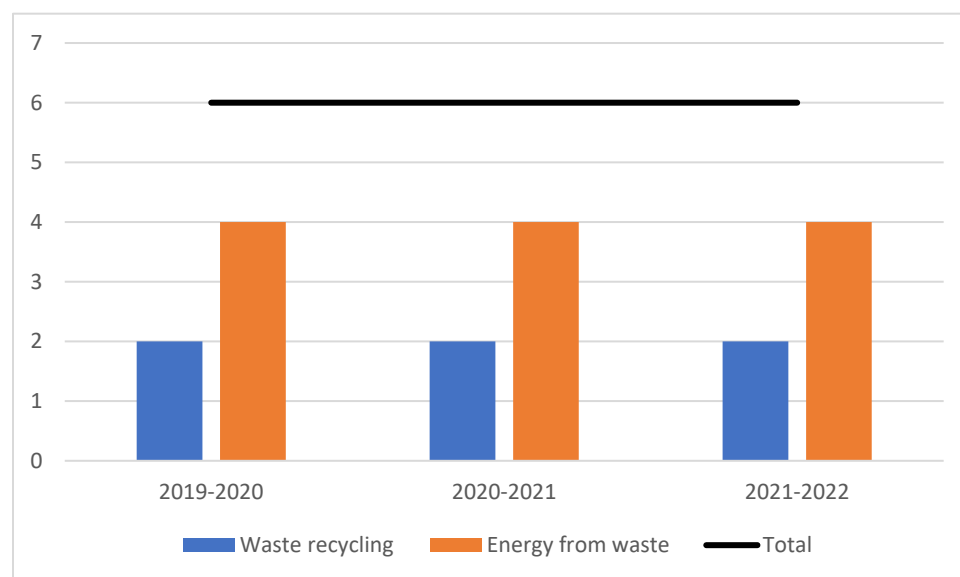
Three-year carbon footprint comparison



Yearly water emissions in tCO₂e

Waste from our activities has remained constant. In 2021-2022 we have estimated our waste based upon an average of previous years. This is because we switched the company that we transfer our waste to.

Waste	2019-2020	2020-2021	2021-2022
Waste recycling	2	2	2
Energy from waste	4	4	4
Total	6	6	6



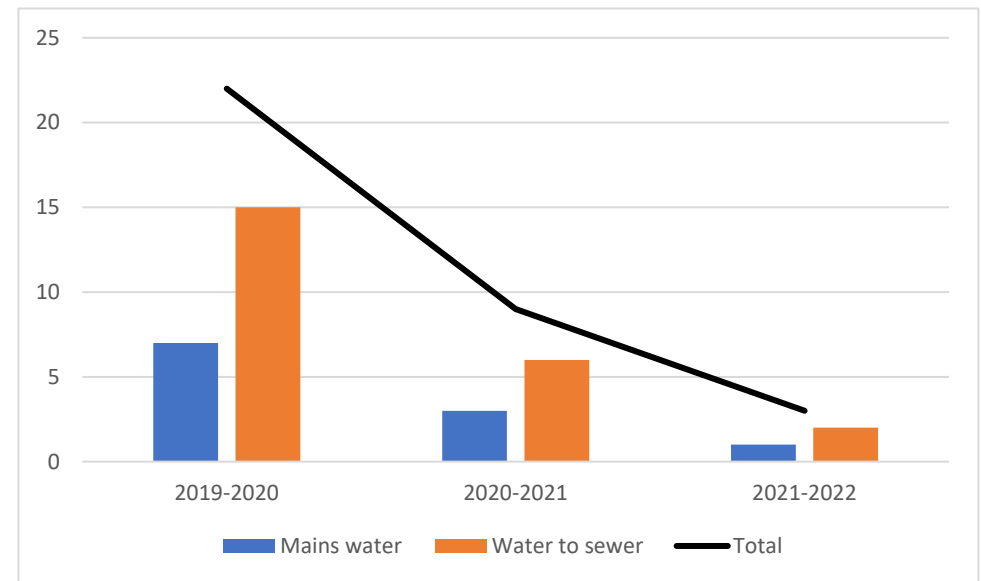
Three-year carbon footprint comparison



Yearly water emissions in tCO₂e

It is noted that the consumption of mains water and water to sewer, have fallen consistently to 2021-2022. It is anticipated that there will be a plateau of water use and water to sewer unless there are changes to the hybrid working and the buildings we operate in.

Water	2019-2020	2020-2021	2021-2022
Mains water	7	3	1
Water to sewer	15	6	2
Total	22	9	3



An update of our Actions

Our Corporate Plan, Climate Change Strategy and Carbon Neutral Plan includes climate change as priorities. The following provides an update to our Carbon Neutral Plan 18 approved actions, in order to meet our goal of carbon neutrality by 2030.



Main Challenges

The tracking of our carbon footprint demonstrates we have three main challenges:

1. Reducing net carbon emissions from buildings
2. Reducing net carbon from transport
3. Investing in carbon positive activities

01

Reducing net emissions from buildings

The carbon footprint of our buildings is dominated by gas consumption, gas burnt to heat our buildings and produce hot water. It remains our intention to decarbonise, as far as practicable, gas burnt to heat our buildings and produce hot water.

02

Reducing net emissions from transport

The carbon footprint of our vehicles is dominated by diesel consumption although across our reported Transport category we are encouraged that there are 18 full electric vehicles including our Mayoral car. Our intention is to minimise and optimise, wherever practicable, our fleet journeys and seek alternative fuel sources.

03



























Investing in carbon positive activities


















Our intention is to seek renewable energy opportunities where it is possible. In addition undertake tree planting which will not only sequest carbon but add to biodiversity.






































Detailed analysis of our actions






Timescale	CO ₂ e reduction Impact	Borough impact	Financial cost /risk	Project owner	Progress
0-2 years	Low	Low	Low	Officer	In preparation
3-5 years	Medium	Medium	Medium	Manager	In progress
5 plus	High	High	High	Head	Complete

No.:	Action detail:						Commentary:	
1	Ensure dedicated resources are in place to implement the management and delivery of the Carbon Neutral Plan.						<p>The Climate Action Board meets to ensure that the Carbon Neutral Plan actions are managed and delivered effectively while ensuring delivery is financially sustainable. The current, approved Capital Plan contains a Climate Action Fund budget of £1 million available to progress individual projects. This resource will be used to fund feasibility studies and other preparatory work. We also have a dedicated full-time Sustainability Officer.</p> <p>Individual projects, if shown to be feasible, will be funded by Capital or Revenue, with the associated authorisation obtained through established governance routes.</p>	
2	Formalise and embed a process for evaluating the impact arising from the Council's decisions.						<p>The guidance document for decision-making reports is in development to strengthen how a report, issue/proposed decision contributes, mitigates, or reduces our impact on the climate, our goal to be carbon neutral or the likely impact on our carbon footprint.</p>	

3	Install a solid and better insulating door at the rear entrance of the Town Hall (stage door) to eliminate the current loss of heat and cold draughts.					£	We have recently appointed a new Building Surveyor and this task is part of allocated immediate priorities. However, whilst this will reduce the loss of heat, (as detailed in Action 4) it has been identified that the Town Hall requires a holistic review of its fabric, insulation, heat and use requirements.	
4	Commission a technical feasibility study for low or zero carbon heating options in the Town Hall. This replace the 20-year-old boiler and would be installed as part of a full building renovation					£	Town Hall boilers are less than ten years old. Informal scoping of a feasibility study has been undertaken. As the Town Hall operators require structural alterations, a wider feasibility study and options appraisal is to be commissioned (as 3 above).	
5	Renew quotes for double glazing and flat roof insulation at Charnwood Museum and procure the best option.					£	Our new Building Surveyor has been tasked to renew the quotes for double glazing and flat roof insulation, procure and arrange for installation.	
6	Complete LED installations in Museum staff areas with person-in-room sensors					£	Our Mechanical and Engineering Surveyor has been asked to review the extent of LED light installation and person-in-room sensors in the Museum staff areas.	
7	Continue to replace bulbs when needed with best available LED option across the estate.	 				£	As per our policy, as traditional units/lamps fail, they are being replaced by LED options, where practicable. A quotation has been sought to replace all lamps with an LED equivalent at Southfield Road. Assuming our criteria are met, a contractor will be appointed and the installation program commenced. This will be organised to prevent disruption to our colleagues.	

8	Procure renewable gas					£	<p>Given wholesale energy market conditions (particularly gas) this is no longer a financially viable project.</p> <p>The green gas premium was in the region of 0.9p/kWh in May 2022. The unit standard gas price in 21/22 was 1.4321ppkWh and in 22/23 is 2.4788 ppkWh.</p>	
9	Upgrade and switch to electric vehicles in the street management & pest control fleet	 				£	<p>Fleet procurement across the world is experiencing significant difficulties and this is the same experience here at Charnwood. While trying to action this project, we have experienced vehicle lease providers not being able to commit to any pricing because of the long lead in times for supply and the uncertainties around costs going forwards.</p> <p>This is still being pursued and it's hoped that problems will ease soon, as supply chains return to normal.</p> <p>However, charge points have been installed at the Pest Control unit ready for charging EV vehicles.</p>	
10	Smart bin feasibility study					£	A trial, probably within a village setting, is to be commenced later in 2022-2023 financial year.	
11	Cross-service electric pool car and charging feasibility study.					£	An electric/petrol hybrid has been ordered as part of a wider trial. A sustainable compromise had to be sought because of the vehicle supply chain issues with electric vehicles. This was why a hybrid was chosen rather than full electric (EV).	

12	Cross-service maintenance vehicle feasibility and pilot						A feasibility study and viable project is yet to be started.	
13	Progress tree programme including 13,000 to 14,000 trees at Hathern during Autumn/Winter 2021-2022.						14,000 trees are scheduled to be planted across autumn/winter of 2022/2023 ready for completion by the end of March 2023. This will add to our sequestration figures in 2022-2023.	
14	Embedding Nature P.O.Sitive in the Carbon Neutral Plan						Discussions are progressing with our contractor idVerde.	
15	Site feasibility studies for Solar PV installations on Council owned land, including land purchased for the purpose						A feasibility study has been undertaken and whilst theoretically possible, the National Grid has no ability to receive power from a solar farm. In addition, National Grid has a queue of upgrades to carry out before a potential solar farm can be connected. It is anticipated that this will be revisited after the period of this plan.	
16	Borough-wide feasibility study for land-based solar PV installations, for example at Council owned car parks.						The Car Parks Team are reviewing this topic based upon the car parks directly owned by us.	
17	Feasibility study for rooftop solar PV installations across our built estate.	 					The operational assets (buildings only) are to be assessed and a list devised for inclusion into a holistic feasibility study. The Commercially let council owned property are being assessed on an individual basis.	

18	Site feasibility studies for wind energy generation taking account of Local Plan Opportunity Areas.					£	There are currently two wind power installations, one at West Beacon Farm and the larger one at the Severn Trent Sewage Treatment Works, Wanlip. Areas have been identified in the Charnwood Local Plan 2021-37 Pre-submission Draft July 2021.	
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Sustainable Development Goal alignment

The Sustainable Development Goals (SDGs) are a collection of 17 interrelated goals set by the United Nations. By measuring and reducing our carbon footprint we directly contribute to 9 SDGs:



- 100% of water treated
- Reduction in water consumption



- Our plans are for sustainable infrastructure.



- Reduction in carbon from buildings, transport & water
- Decarbonisation
- Climate Change Strategy.



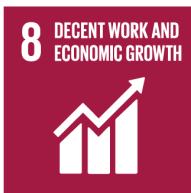
- 100% of energy demand met by renewable energy



- Measured carbon emissions
- Reduction in carbon from buildings, transport & water



- Reduction in carbon from buildings, transport & water



- Reduction in carbon from buildings, transport & water



- Measured carbon emissions
- Reduction in carbon from buildings, transport & water



- Reduction in carbon from buildings, transport & water
- 14,000 trees are scheduled to be planted in 2022-2023.

Sources

Information has been abstracted from invoices and internal sources to derive energy related data. CO₂e emissions have been calculated using BEIS conversion factors 2022.

The “Charnwood GHG Accounting Tool” was used to calculate carbon emissions and sequestration figures.

The “Detailed analysis of actions” was a result of discussions with the members of the Climate Action Board.

Caveats

Electricity consumption data for Southfield Road has been reduced based upon the area that we occupied in 2021-2022.

Our 2022 Carbon Footprint has been calculated using the principles in 2020-2021 to ensure a true comparison.

The total amount of renewable electricity claimed is the total amount of electricity purchased from those buildings that we are responsible for.

There may be unit differences in data (particularly totals) where rounding to a decimal place has been applied.

Waste data was not available for 2021-2022 as there was a change in the company who we transfer our waste to. Waste has been estimated for 2021-2022 based upon the average tCO₂e since 2018-2019.



Charnwood

Charnwood Borough Council
Southfield Road
Loughborough
LE11 2TX

01509 263151

www.charnwood.gov.uk