**Medway Council’s Greenhouse Gas Emissions 2021/22**

(Own Estate and Operations)

This report represents the fourth consecutive year of reporting the Council’s operational greenhouse gas emissions. Emissions have been calculated using the [Local Government Association Greenhouse Gas Accounting Tool](https://localpartnerships.gov.uk/resources/greenhouse-gas-accounting-tool/) which directly references the standard [conversion factors](https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting) published annually by the UK government.

We are improving how we calculate our emissions so that we can monitor progress against the [Climate Change Action Plan](https://www.medway.gov.uk/climatechangeplan).

# What improvements have we made in this period?

We have continued to achieve more accurate designation of data relating to gas and electricity usage across each of our sites. This has increased the accuracy of our emissions reporting. During collation of 2021/22 data it was noted that the gas consumption, of one site in 2020/21, had been double counted. The additional emissions, represent less than 1% of the Council’s total emissions in that year and therefore the error is not considered to have been materially misleading (according to the GHG Protocol Corporate Accounting and Reporting Standard). We have made the decision not to update the published 2020/21 report. For comparison purposes, the tonnes of CO2e value for heating and the total tonnes of CO2e for 2020/21 have been updated in the table below and will continue to be included in future reports.

# What is our carbon reduction target?

In 2020, we commissioned [Local Partnerships](https://localpartnerships.org.uk/about/) to undertake a technical study to understand the Council’s carbon footprint and to inform our approach to reducing our emissions. The study identified a series of interventions to put the Council on a path to **reducing its emissions by 95% by 2050 against a baseline year of 2018/19**. The study uses the science-based target approach to reducing emissions at a rate that is in line with keeping global temperature rises below 1.5°C. This means halving emissions every ten years as opposed to reducing emissions by a fixed amount every year. **It sets the first carbon budget for 2020/21-2027/28 as 57,631 tonnes of carbon dioxide emission equivalent (tCO2e)**.

# What is included in our emissions reporting?

Our carbon footprint includes:

Direct Emissions (Scope 1 & 2)

* Energy to heat Council owned buildings.
* Emissions from small fleet vehicles and Refuse Collection Vehicles owned or leased by the Council.
* Fugitive emissions - this term refers to leaks or unintended releases of pollutants from a contained source, such as an air conditioning unit, into the surrounding atmosphere.
* Electricity for Council owned buildings and street lighting. In 2021/22, this also included electricity used to charge a fleet of electric vehicles which were trialled during this period.

It does not include Council owned housing except for energy supplied to communal areas and sheltered housing.

Indirect emissions (Scope 3)

* Staff business travel
* Water (including waste water treatment)
* Transmission and distribution losses – this term is used to describe the proportion of electricity purchased by the Council that is lost between the power station and the point of use (e.g., buildings or street lighting). It is directly proportional to the amount of electricity used so if less electricity is used the losses will be less.

We have not included areas of indirect control for example emissions from Local Authority Schools, staff commuting and contracted out services, such as school transport and waste disposal.

# What are the main sources of emissions across our estate and operations?

| **Source** | **Scope**  **(1, 2 or 3)** | **Tonnes CO2e**  **2018/19** | **Tonnes CO2e**  **2019/20** | **Tonnes CO2e**  **2020/21** | **Tonnes CO2e**  **2021/22**  (% difference from previous year in brackets) | **% of overall emissions**  (2020/21 data in brackets) |
| --- | --- | --- | --- | --- | --- | --- |
| Heating (Gas and other heating fuel) | Scope 1 | 3,576.02 | 3,438.45 | 2,251.39  (value updated from 2020/21 report for reasons given above) | **2,804.76**  **↑**  (+24.6%)  +553.37 tCO2e | **34%**  (27.1%) |
| Fleet (Diesel and Petrol) | Scope 1 | 1,320.45 | 1,120.51 | 1,332.86 | **1,274.03**  **↓**  (-4.4%)  -58.83 tCO2e | **15.4%**  (16.1%) |
| Fugitive Emissions | Scope 1 | 0 | 5.88 | 4.16 | **0**  **↓**  (-100%)  -4.16 tCO2e | **0%**  (0.1%) |
| Building (Electricity) | Scope 2 | 3,453.80 | 2,617.52 | 2,367.17 | **2,158.18**  **↓**  (-8.8%)  -208.99 tCO2e | **26.1%**  (28.5%) |
| Street Lighting (Electricity) | Scope 2 | 2,762.29 | 2,442.13 | 1,741.10 | **1,449.19**  **↓**  (-16.8%)  -291.91 tCO2e | **17.6%**  (21%) |
| Transmission and Distribution Losses | Scope 3 | 529.83 | 429.56 | 353.31 | **319.23**  **↓**  (-9.6%)  -34.08 tCO2e | **3.9%**  (4.3%) |
| Staff Business Travel | Scope 3 | 319.52 | 305.39 | 118.96 | **207.81**  **↑**  (+74.7%)  +88.85 tCO2e | **2.5%**  (1.4%) |
| Water | Scope 3 | 143.20 | 150.73 | 133.38 | **44.21**  **↓**  (-66.9%)  -89.17 tCO2e | **0.5%**  (1.6%) |
| **Total** |  | 12,105.11 | 10,510.17 | 8,302.33  (value updated from 2020/21 report for reasons given above) | **8,257.41**  **↓**  (-0.54%)  -44.92 tCO2e | **100%** |

Table 1 – Emissions summary 2021/22

# How does this compare with the previous period/year?

The previous reporting year (2020/21) was impacted by the Coronavirus (COVID-19) pandemic, with many of the council's corporate buildings, leisure centres and libraries etc either operating at reduced capacity or closed. As Covid restrictions lifted from April 2021 and services reopened, we expected carbon emissions to rise again due to increased energy consumption. In fact, emissions have not returned to pre-pandemic levels. The total emissions for 2021/22 are 44.92 tCO2e less than 2020/21 levels (an annual reduction of 0.54%) and remain 21.4% less than pre-pandemic levels (2019/20).

Carbon emission reductions have been achieved across all sources except for heating and staff travel. The increase from these sources is likely to be due to buildings opening back up and a return to staff travelling for business as Covid restrictions lifted.

Scope 1 emissions (heating and fleet) are the biggest overall contributor to our total emissions at 49%. In the previous year, Scope 2 emissions (electricity use within buildings and street lighting) made the biggest contribution to total emissions.

The biggest reduction in emissions continues to be from street lighting with a reduction of 291.91 tCO2e on the previous year (16.8%). Our LED street lighting programme was underway in 2020/21 and is likely to have contributed to this reduction. It is expected that further reductions from street lighting energy use will be observed as the roll out of the LED street lighting programme is completed in 2022/23.

The reduction in transmissions and distribution related emissions continues to reflect the reduction in electricity consumption from the LED street lighting programme and energy reductions in buildings.

The biggest percentage reduction in emissions, comes from water use. Emissions have reduced by 66.9% due to [changes in the 2021 government greenhouse gas conversion factors for company reporting](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1049348/2021-ghg-conversion-factors-major-changes.pdf).

# What rate of reduction have we achieved against the baseline year?

In 2021/22, the Council’s carbon emissions fell by 31.8% against the baseline year (2018/19).

# How are we performing against the First Carbon Budget?

We have kept within the projected carbon budget for Year 2 (2020/21) of the First Carbon Budget.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Year** | **2020/21 (year 1)** | **2021/22**  **(year 2)** | **2022/23**  **(year 3)** | **2023/24**  **(year 4)** | **2024/25**  **(year 5)** | **2025/26**  **(year 6)** | **2026/27**  **(year 7)** | **2027/28**  **(year 8)** | **Cumulative** |
| **First Carbon Budget (tCO2e)** | 9,930 | 8,994 | 8,146 | 7,378 | 6,683 | 6,053 | 5,482 | 4,965 | 57,631 |
| **Actual Emissions (tCO2e)** | 8,303 | 8,257 | - | - | - | - | - | - | - |
| **Surplus (Staying Within Budget)/Deficit (Going Over Budget)** | 1,627 surplus | 737  surplus | - | - | - | - | - | - | - |

Table 2 – Projected First Carbon Budget

# How have we achieved carbon reductions?

The reduction reported in our footprint has been achieved through a combination of factors including:

* continued operational changes and new ways of working, following the Coronavirus (COVID-19) pandemic.
* carbon reduction initiatives during this period; primarily the LED street lighting programme.
* decarbonisation of the UK electricity grid.

# Next Steps

To deliver significant emission reductions before 2050, the Council recognises that a shift away from fossil fuel use across its vehicles and buildings is essential, as well as steps to improve the energy efficiency of our buildings. Currently, 60.1% of emissions are linked to energy use in buildings. We will focus our efforts on delivering projects that support this vision, and which we have committed to in our Climate Change Action Plan. Examples of these projects include our [Re:fit programme](https://www.medway.gov.uk/info/200348/climate_change/1697/making_our_council_buildings_more_energy_efficient) and a phased approach to the electrification of the Council’s fleet. We intend to work more robustly to analyse our emissions; further improving data accuracy and including additional sources of Scope 3 emissions.