

From: Susan Carey, Cabinet Member for Environment
Simon Jones, Director of Growth, Environment and Transport

To: Environment and Transport Cabinet Committee – 8 September 2021

Subject: Kent County Council Approach to Monitoring the Net Zero Target

Date: 10 September 2021

Classification: Unrestricted

Past Pathway of Paper: n/a

Future Pathway of Paper: n/a

Electoral Division: All

Summary: In September 2020, the Cabinet Member for Environment took the decision for the Council to achieve net-zero emissions by 2030. This target includes the Council's own estate (excluding schools), operations and those of its traded companies.

This paper provides an update on the approach to measuring emissions to achieve the target, outlining the changes in emissions scope and calculations compared to the previous greenhouse gas emissions target monitoring, previously reported in Kent County Council's Quarterly Performance Report and which ended on 31st March 2021.

Recommendation(s):

The Environment and Transport Cabinet Committee is asked to note the changes to measuring carbon emissions.

1. Introduction

- 1.1 In response to emerging evidence, the UK government revised the Climate Change Act 2008 in 2019. This introduced into law the UK target of Net Zero carbon emissions by 2050. Alongside the 2050 Net Zero target, the Act also requires the government to set 5-yearly carbon budgets¹, to ensure the country remains on track to reach Net Zero. The Carbon Budget Order 2021 set the sixth carbon budget for 2033-2037, equivalent to a 78% reduction in UK emissions by 2035 compared to 1990 levels.
- 1.2 Kent County Council has set an accelerated target of net-zero emissions by 2030 for its corporate estate and traded companies.
- 1.3 Since 2005, Kent County Council has measured its own contribution to global climate change by calculating the carbon dioxide emissions arising from its own estate and operational activities, setting successive five-year targets, and

¹ A carbon budget places a restriction on the amount of greenhouse gases the UK can emit over a 5-year period. Under a system of carbon budgets, every tonne of greenhouse gas emitted between now and 2050 will count. Where emissions rise in one sector, the UK will have to achieve corresponding falls in another.

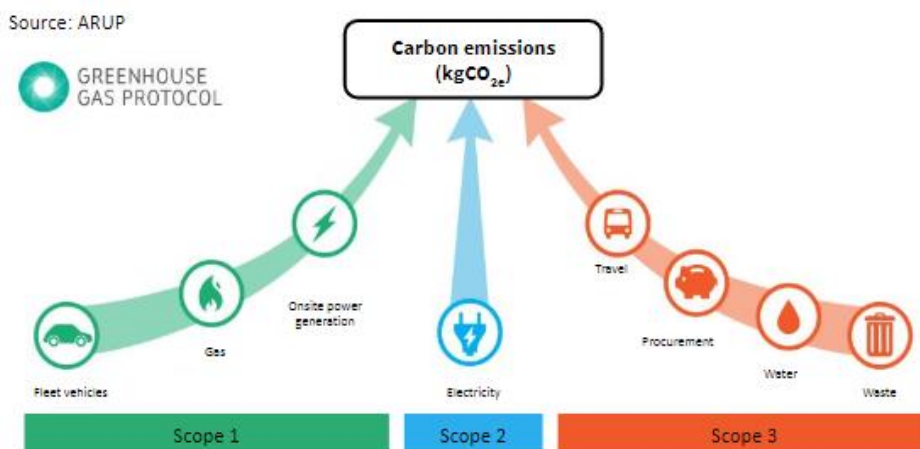
successfully delivering carbon reduction actions, which have reduced emissions by 73% in the last 10 years.

- 1.4 During this time, the methodology for calculating emissions has also evolved internationally, with the most recent target period 2016-2021 being measured as total greenhouse gas emissions, also known as carbon dioxide equivalent (CO₂e), which recognises that other gases such as nitrous oxide, methane and ozone also contribute to climate change. Prior to 2016 only carbon dioxide emissions were measured.
- 1.5 This report describes the changes to the emissions monitoring approach planned to achieve the Net Zero target, detailing the scope of emissions counted and the calculation methodology used. This report seeks to make clear the differences between previous greenhouse gas emissions target measurement and the new emissions measurement for Net Zero target, which commences from 1st April 2021. The rationale for the changes is set out below and include a wider source of emissions collected compared to previous years.

2. Kent County Council Net Zero by 2030 – establishing a new baseline

- 2.1 In order to set the Net Zero target, a comprehensive piece of modelling work was completed by LASER Energy Management (part of the Commercial Services Group) on behalf of Kent County Council. Data was collected to use as a baseline for the model and was an expansion on data collected previously to measure greenhouse gas emissions (see 2.3) and defines the scope of emissions that will be measured to track progress against the Net Zero target from 1st April 2021.
- 2.2 We follow the methodology established by the Greenhouse Gas Protocol, which is the internationally recognised standard carbon accounting framework for measuring greenhouse gas (GHG) emissions, used by the majority of private and public sector organisations. In line with this protocol KCC collect Scope 1 and 2 emissions and some Scope 3 emissions, where this data is already readily available and under our direct control (See Figure 1).

Figure 1 Carbon emissions scopes



- 2.3 The KCC Net Zero target baseline includes all data collected for the previous greenhouse gas emissions monitoring period April 2016 - March 2021:

- Electricity used for streetlighting and other highways assets (Scope 2),

- Energy used in all corporate estate buildings, including buildings occupied by Commercial Services Group (Scope 1 and 2),
- Fleet vehicle fuel (Scope 1),
- Business mileage claims by staff using their own cars (Scope 3),

Plus, additional data:

- Building energy use, fleet fuel and business miles from all of Kent County Council's traded companies (Scope 1, 2 and some scope 3),
- Office type wastes collected from and disposed of from corporate estate buildings (Scope 3),
- Leaks of refrigerant gases from air conditioning/chiller plant and equipment (Scope 3).

2.4 To calculate the total emissions from these raw data sets, emissions factors² published annually by the government department for Business, Energy, and industrial Strategy (BEIS) are used.

2.5 In addition to the data already being collected, there are plans to capture water consumption data once a new water supply contract is agreed, as this is within the Council's direct control.

2.6 Understanding the emissions generated from procured goods and services is also being reviewed and will be used to influence commissioning and procurement activities. These Scope 3 emissions are not included in the KCC Net Zero target commitment as they are not directly within our control. The calculation of Scope 3 emissions will be undertaken and used when updating contract requirements with the aim to secure commitment from contracted third parties towards achieving Net Zero for Kent by 2050.

3 Kent County Council Net Zero by 2030 – changes to method of calculation

3.1 For the period April 2016 – March 2021, greenhouse gas emissions were measured and reported through the Kent County Council quarterly performance report using a fixed factor basis, applying the 2015 baseline factors to all calculations throughout this five-year period.

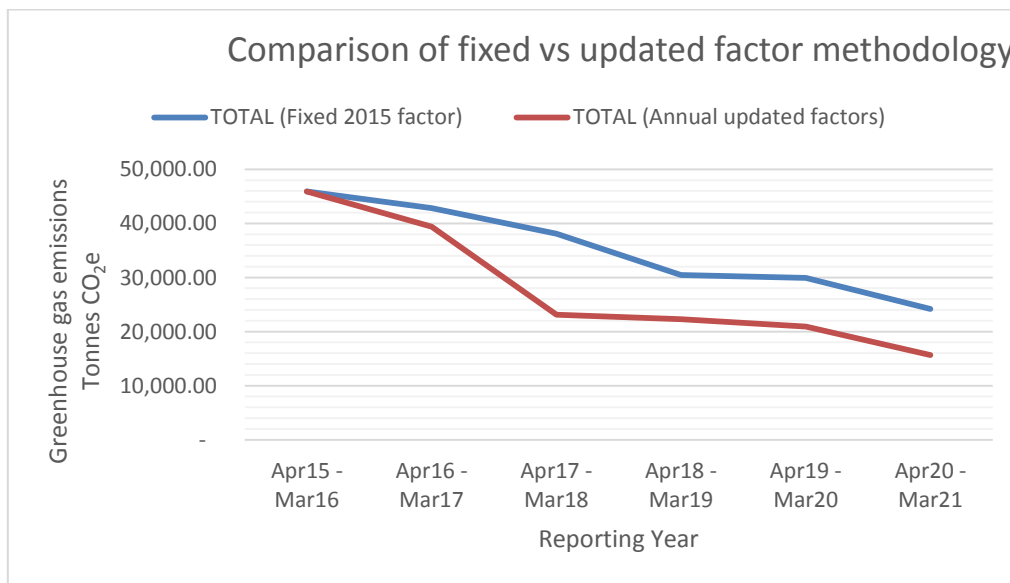
3.2 This enabled the measurement of progress directly attributed to actions taken by Kent County Council services. By March 2021, emissions were down to 24,180 tonnes CO₂e (a reduction of 21087 tonnes CO₂e or 47% reduction compared to 2015), exceeding the 38% reduction target (having been revised upwards from the original 32% reduction target set in 2016). In the final year of the five-year period, reductions were also influenced by the pandemic, in particular significant reductions in emissions from reduced business travel.

3.3 By fixing the emissions factors used at the 2015 baseline year, allowed KCC to exclude the emissions reductions delivered through UK grid energy supplies, such as the increase in the proportion of UK electricity derived from renewable and nuclear energy sources. This measurement approach specifically accounts for the impact of KCC carbon reduction actions and investments alone, which as shown has delivered a significant 47% reduction over the last five-year period.

² Emissions factors are unique values for determining an amount of a greenhouse gas emitted for a given quantity of activity (e.g., metric tons of carbon dioxide emitted per litre of diesel burned)

- 3.4 When the additional emissions reduction of grid energy supplies is also taken into account by applying the updated emissions factors each year, the actual greenhouse gas emissions for the 12 months to March 2021 was 15,677 tonnes CO₂e (a reduction of 29,590 tonnes CO₂e or 65% reduction compared to 2015).
- 3.5 This confirms that Kent County Council achieved a greater proportion of reductions through its own actions and investments over this period, most significantly due to the £40 million upgrade of streetlighting and other highways assets to light emitting diode (LED) lamps. Figure 2 shows the comparison of trends over the five-year target period using the fixed factor (current methodology) and updated factors (proposed methodology).

Figure 2 Comparison of methodologies for calculating greenhouse gas emissions



- 3.6 The KCC Net Zero target will be measured using 2019-20 year as the new baseline year (21,056 tonnes). This baseline includes the expanded set of data (Table 1) and takes account of the changes in emissions from the UK energy supplies, by applying emission factors updated annually by the Department for Business, Energy, and Industrial Strategy (BEIS) (equivalent to red line in Figure 2). Interim annual targets up to 2030 will also be set, informed by the Net Zero forecast model, instead of a five-year target period as used previously. This approach provides a more comprehensive measurement of actual emissions in line with the Greenhouse Gas Protocol, the internationally recognised standard carbon accounting framework.

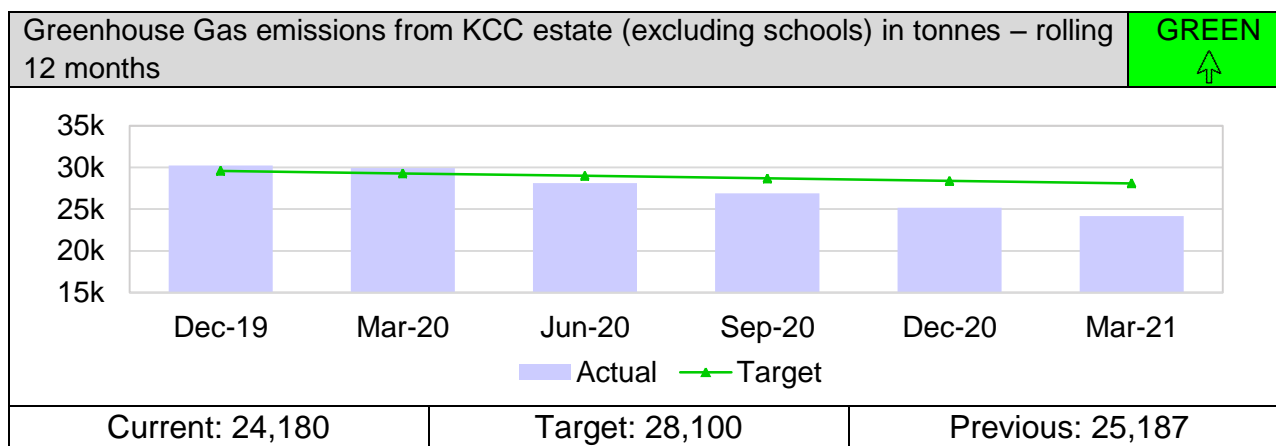
TABLE 1 New baseline emissions sources

Emissions Source	2019-20 emissions (Tonnes CO₂e)
Electricity	10972
Gas	4516
Heating oil	594
Fleet vehicle fuel	1750
Business miles	3108
Traded companies, waste, fugitive gases (additional data collected)	116
Total	21056

4 Tracking progress towards Net Zero

4.1 The current greenhouse gas emissions performance indicator published in the council's quarterly performance report is visually measured using a simple bar chart – line chart method which tracks overall emissions in period vs target. Figure 3 shows the latest quarterly data to March 2021 and is the last quarterly report to be published using the fixed factor methodology. The next report period April – June 2021 will mark the start of tracking the Net Zero target progress.

Figure 3



This data was calculated using a fixed emission factor from 2015 and does not reflect emissions reductions from grid energy supplies.

4.2 As there is significant public interest and attention to this agenda, it is recognised that a simple method of tracking progress visually should be provided on the KCC website, which also takes account of past progress. Officers are evaluating alternative methods of displaying the data.

5. Financial Implications

5.1 There are no cost implications to make changes to the way emissions are calculated and reported. The financial implications of the actions necessary to achieve the Net Zero target were previously estimated at £27 million through the net-zero modelling work presented to County Council and the Environment & Transport Cabinet Committee in 2020.

6. Policy Framework

6.1 This paper and the activity within it are directly linked to the Interim Strategic Plan, in particular, the priority to tackle the climate emergency and protect and enhance our natural environment. It is also relevant to the Kent and Medway Growth and Infrastructure Framework, Kent and Medway Economic Renewal and Resilience Plan, Kent and Medway Infrastructure Proposition, Kent Waste Disposal Strategy, Kent Health and Wellbeing Strategy and informs the emerging Local Transport Plan 5.

6.2 Developing this approach is in line with KCC's Environmental Policy, and the Kent and Medway Energy and Low Emissions Strategy, which forms part of the Kent Environment Strategy and its Implementation Plan.

7. Equalities Impact Assessment

7.1 An Equalities Impact Assessment has been undertaken for the KCC net-zero plan (Appendix 1), there were no significant adverse findings. Individual projects to deliver Net Zero will have their own Equalities Impact Assessment completed as needed.

8. General Data Protection Regulation Considerations

8.1 A Data Protection Impact Assessment is not needed as the monitoring approach does not require the processing of personal data.

9. Conclusion

9.1 The proposed change in calculating emissions provides a more comprehensive measurement of emissions arising from Kent County Council estate and activities and aligns with the Greenhouse Gas Protocol, the internationally recognised standard carbon accounting framework.

10. Next Steps and Timescales

10.1 Monitoring of progress towards Net Zero will be included in the Council's quarterly performance report, complemented by a simple visual tracker on the KCC website.

11. Recommendation(s)

Recommendation(s):

The Environment and Transport Cabinet Committee is asked to note the changes to measuring carbon emissions.

12. Background Documents

- Kent and Medway Energy and Low Emissions Strategy – [Kent and Medway Energy and Low Emissions Strategy - Kent County Council](#)
- Greenhouse Gas Protocol - [Corporate Standard | Greenhouse Gas Protocol \(ghgprotocol.org\)](#)
- Appendix 1: Equality Impact Assessment: <https://democracy.kent.gov.uk/documents/s105516/Appendix1ApproachtoMonitoringKCCNetZero.docx.pdf>

13. Contact details

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