

**CARBON MANAGEMENT PLAN
ANNUAL REPORT 2019-20**

East Dunbartonshire Council

Table of Contents

Executive Summary	3
Current Carbon Footprint and Costs	4
Introduction	4
Overall Footprint	4
Breakdown by Source	4
<i>Built Assets</i>	5
<i>Waste</i>	6
<i>Fleet</i>	6
<i>Street Lighting</i>	7
<i>Business Mileage</i>	7
Supporting Activities	8
Estimated Future Trends	9
Future Carbon Emissions	9
Future Costs	10
Conclusion	12

Executive Summary

East Dunbartonshire Council's Carbon Management Plan 2015-20 set a target of a 20% reduction in the Council's carbon emissions, which was altered in 2019 to a target of 44%. This increase in ambition was in response to carbon savings in 2018/19 being higher than anticipated; it was intended that stretching the target for the final year of the Carbon Management Plan would help to maintain ambition.

The Council's carbon emissions during 2019/20 – which arose from the Council's use of electricity, natural gas, oil and transport (fleet and business travel), and from waste management activities – totalled 18,257 tonnes. This figure is 767 tonnes, or 4%, lower than the emissions recorded in 2018/19 and represents a 14,163 tonne, or 44%, decrease in emissions compared to the baseline. The Council has therefore now met its new, more challenging target after significantly exceeding its original one.

The most significant contributors to the 4% reduction observed since last year are a recorded decrease in electricity-related emissions in Council buildings and a decrease in landfilling of waste.

While emissions have fallen significantly, cost estimates provided throughout the report give a clear indication that carbon emissions continue to be a significant financial consideration for the Council.

The original 5-year lifespan of the Carbon Management Plan has now expired. Corporate carbon management will form an important aspect of the new Climate Action Plan for East Dunbartonshire on which work is expected to start in early 2021. In the interim, 'bridging targets' for corporate emissions are required, in order to maintain momentum. A target of 49% reduction for 20/21, in relation to the baseline year, is set in this report; the 21/22 target will be set in the future as part of the Climate Action Plan preparation work, allowing the Council to take advantage of developments in understanding and methodologies.

Current Carbon Footprint and Costs

Introduction

In 2015, East Dunbartonshire Council revised its Carbon Management Plan¹, establishing a new 2012/13 baseline of 32,420 tonnes of carbon dioxide equivalent ('tCO₂e') and setting a new target of 20% carbon reduction by 2019/20. This target was revised in 2019 to a more challenging target of 44%, equating to a footprint of 18,155 tonnes of tCO₂e, in response to greater-than-expected emissions reductions being achieved as a result of changes to waste handling practices. The revised Carbon Management Plan also introduced a commitment to annual reporting; this is the fifth such report.

This report examines progress towards the 5-year target by looking at each emission source in turn. Future trends are also considered.

The Carbon Footprint Forecast and Projects Tool, a spreadsheet tool developed by Resource Efficient Scotland, the Sustainable Scotland Network and partners, has been used to calculate these carbon emissions and estimates.

This report also discusses the financial costs associated with the Council's carbon emissions; financial costs are an important issue in any area of Council activity, and there are particularly close links between carbon considerations and cost considerations. In the following sections, estimates are provided relating to costs associated with each element of the footprint.

Overall Footprint

The Council's overall carbon footprint in 19/20 was 18,257 tonnes of carbon dioxide equivalent ('tCO₂e'). This is 767 tCO₂e, or 4%, lower than last year's footprint and 14,163 tCO₂e lower than the 12/13 baseline of 32,420 tCO₂e, representing a 44% decrease. This significantly exceeds the original target of 20% and is in line with the revised target of 44%.

Breakdown by Source

The following diagram (Figure 1) shows the Council's carbon footprint broken down into its various components.

¹ The Council's Carbon Management Plan 2015-20 is available at <https://www.eastdunbarton.gov.uk/residents/planning/planning-policy/climate-change>

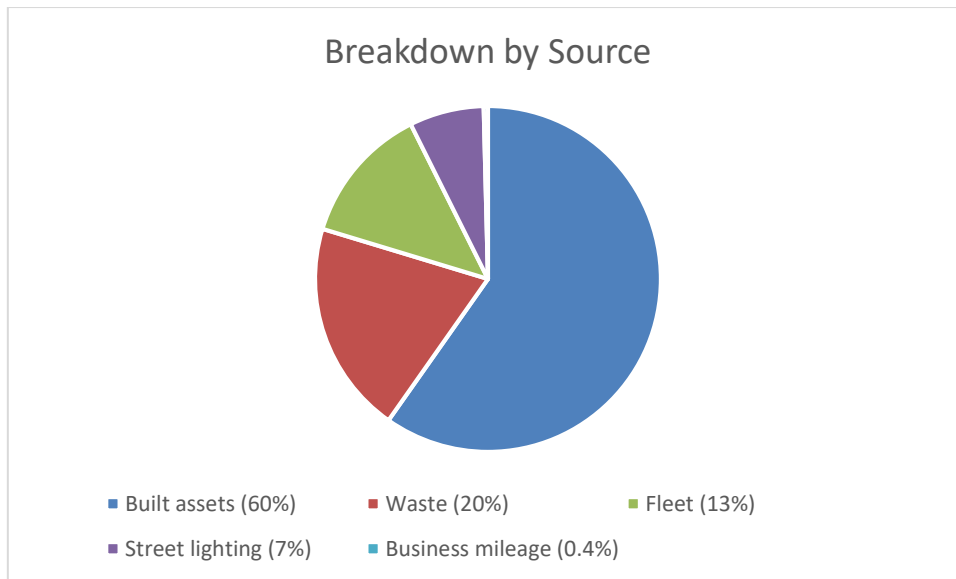


Figure 1: Breakdown of 19/20 carbon footprint by emission source

Each of the sources shown in

Figure is examined in more detail below. Developments are discussed in relation to the preceding year and the baseline year, with commentary on the likely reasons behind the observed trends.

Built Assets

Energy use in built assets – arising from electricity, gas, oil and biomass consumption – continues to be the largest source of the Council’s carbon emissions, constituting 10,855 tCO₂e, or 60%, of this year’s carbon footprint.

Emissions from energy use in built assets have decreased by 343 tCO₂e, or 3%, compared to the reported figure for 18/19 and by 5365 tCO₂e, or 33%, since the baseline year. The 3% reduction reflects a recorded 13% drop in electricity-related emissions since last year, which is partly masked by a recorded 7% increase in gas-related emissions.

The recorded drop in electricity-related emissions is partly due to the ongoing decarbonisation of the grid - emissions from grid electricity fell by 10% between 18/19 and 19/20 – and partly due to a change in the way that electricity use data is apportioned, following the end of the CRC Energy Efficiency Scheme. The recorded fall in electricity-related emissions also reflects actual reductions in electricity consumption in some buildings during the reporting year, including a 9% drop at Allander Leisure Centre; while such a change in recorded consumption is significant in absolute terms due to the size of the leisure centre, a 9% drop is considered to be within the range of natural fluctuation (which can happen for various reasons e.g. due to short-term changes in weather). The Council continues to benefit from solar PV installations which, during 19/20, are recorded as having generated 79,081 kWh of electricity, meaning that electricity-related emissions are 22 tCO₂e lower than they would otherwise have been.

The recorded rise in gas-related emissions is primarily due to billing arrangements for Lenzie Meadow Primary School – during the reporting year, 3 years' worth of gas consumption was billed for. In addition, gas consumption at Lenzie Academy and Boclair Academy experienced a temporary significant increase compared to the previous year due to biomass outages, which led to back-up gas boilers being used. Natural fluctuation in gas use also contributed to the recorded rise in emissions.

It is important to note that the Council's investment in biomass installations over recent years has brought gas-related emissions to a significantly lower level than would have otherwise been recorded. Additional biomass benefits were experienced during 19/20, which was the first full year of operation for St Nicholas Primary School, where biomass is used in place of the fossil fuel that powered the schools that it replaces. The total number of Council assets with biomass boilers in 19/20 was 17, and their collective heat generation during 19/20 is recorded as 6,461,412 kWh; without the contribution of these biomass installations, the Council's emissions for 19/20 would have been 1062 tCO₂e higher.

It is also important to note that the use of electric pool cars continued to be promoted during 19/20, meaning that electricity consumption in the buildings where vehicle charging points are installed is higher than would otherwise have been the case; it is anticipated that a corresponding relative decrease in fleet-related emissions will outweigh this.

To indicate the extent of costs associated with use of energy in built assets during 19/20, it is estimated that over £3 million was spent on electricity, gas, oil and biomass (unit costs and Climate Change Levy costs only). It should be noted that the aforementioned renewables installations partially offset these costs by generating income via the RHI and Feed-In Tariff schemes; the income generated in 19/20 by biomass alone was £283,125.27.

Waste

Emissions from the Council's landfilling, recycling, combustion, composting and anaerobic digestion of municipal and commercial waste are the second-largest source of the Council's carbon emissions, constituting 3,658 tCO₂e, or 20%, of this year's total footprint.

3,658 tCO₂e represents an 8% reduction in emissions from last year and a 63% reduction in relation to the baseline. The main contributor to this 8% drop is a decrease in landfilling; while landfilling of commercial and industrial waste increased very slightly during 19/20, landfilling of municipal waste reduced by 10%, which is understood to be due to an ongoing increase in combustion which, according to government calculations, is associated with relatively low carbon emissions. As explained in last year's report, this move away from landfill towards combustion is the main reason for the large decrease in waste-related emissions since the baseline year.

The costs relating to landfilling, recycling/diversion and composting of municipal and commercial waste are complex; however, it is estimated that over £472,000 was spent in 19/20 on landfill tax alone.

Fleet

Emissions from the Council's fleet of vehicles constitute 2,339 tCO₂e, or 13%, of this year's footprint.

Emissions from the Council's fleet have increased slightly by 102 tCO₂e, or 5%, since 18/19 and have decreased by 247.5 tCO₂e, or 10%, since the baseline year.

During 19/20, Council staff continued to be encouraged to use the Council's fleet of pool cars and bikes for work-related journeys instead of their own cars; it is understood that this has contributed to the slight rise in emissions. The ongoing electrification of the Council's fleet helps to offset this, as does ongoing fleet replacement activity, whereby older vehicles are replaced with more efficient vehicles. The introduction of FuelGood driver training during 19/20 is also promoting greater efficiency in the Council's fleet; while the training has only been rolled out to an initial group of staff, a significant miles-per-gallon increase of 9.2% was recorded during training, which it is hoped is being maintained. It is hoped that this training will be extended to other staff in the future.

The cost associated with fleet emissions in 19/20 (comprising fuel bills) is £859,414,75.

Street Lighting

In 19/20, emissions from street & Christmas lighting (collectively referred to as 'street lighting') constituted 1,203 tCO₂e, or 7%, of the Council's footprint.

Emissions from street lighting have decreased by 183 tCO₂e, or 13%, since 18/19 and by 2205 tCO₂e, or 65%, since the baseline year. The drop in actual electricity consumption is 4%, which is much lower than the drop in emissions, due to the ongoing decarbonisation of the grid. Emissions from grid electricity fell by 10% between 18/19 and 19/20. 13% is a relatively small decrease compared to last year, when a 28% improvement on the previous year's emissions was reported. This reflects a slowing in the decarbonisation of the grid, the rate of which has halved since last year. It also reflects the cessation of the large-scale programme of replacing discharge sodium street lighting lamps with LED lighting, which was not continued beyond 18/19; only the small-scale conversion programme has continued, resulting in approximately 200 lamps being replaced during 19/20.

(It should be noted that, if new housing developments are adopted, this causes a rise in emissions which can partly offset reductions such as those described above).

The costs associated with street lighting energy consumption in 19/20 are £579,833.

Business Mileage

Emissions from the Council's business travel activities in 19/20 constitute 76 tCO₂e, or 0.4%, of the total footprint.

Emissions from business mileage have decreased by 37 tCO₂e, or 33%, since 18/19 and by 202 tCO₂e, or 73%, since the baseline year.

As noted in previous reports, this significant decrease since the baseline year is partly influenced by the exclusion of Leisure & Culture Trust employees in reporting from 16/17 onwards and also by the introduction of stricter controls on mileage claims and an ongoing move towards use of pool cars, reducing the need for use of employees' own vehicles.

The estimated cost associated with business mileage emissions in 19/20 (comprising costs paid to staff) is £117,598.26.

Supporting Activities

As detailed in the Carbon Management Plan, in addition to activities with direct carbon impacts, carbon management is also influenced by strategic and 'soft' measures. Key developments in 19-20, which are anticipated to deliver corporate carbon benefits in the future, include:

- Continuation of the Carbon Management Officer Group (CMOG), bringing together officers with particular influence on carbon emissions
- Preparatory work for a Scottish Government-funded Local Heat and Energy Efficiency Strategy pilot project which will inform the future East Dunbartonshire Climate Action Plan
- Ongoing staff awareness initiatives linked to events such as Climate Week

Estimated Future Trends

Future Carbon Emissions

The achievement, in 19/20, of 44% emissions reduction since the baseline year means that the Council has met its carbon management target. It was intended that a new target would be set at this point, via a revised Carbon Management Plan which would be presented to Committee alongside this year-5 report. However, advances in climate science and the need for Scotland to fully contribute to international efforts to tackle climate change have resulted in the introduction of new, more ambitious Scottish greenhouse gas reduction targets. These targets, set out in the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 will require the Council to accelerate progress in reducing its own emissions over the next few years. Furthermore, the Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Amendment Order 2020 requires all public bodies to report on: their target date for achieving zero direct emissions of greenhouse gases; how the body will align its spending plans and use of resources to contribute to reducing emissions and deliver its emissions reduction targets; and arrangements for publishing, or otherwise making available, its progress towards achieving its emissions reduction targets.

As a result, it is proposed to develop a new zero direct emissions target for corporate emissions, along with interim targets, as part of a new Climate Action Plan covering both corporate and area-wide emissions, as well as actions to adapt to the impact of climate change. ‘Steering Scotland’s Pathway to Net Zero’, the Scottish Government’s Climate Change Plan update, published in December 2020, sets out the roadmap to achieve the much greater scale of emissions reductions needed across all sectors of Scotland’s economy and society to meet the net zero ambition. The Climate Change Plan includes commitments to decarbonise the public sector fleet and heating and to modernise public sector procurement to support the achievement of net zero. It emphasises that “Scotland’s public sector bodies have a strong leadership role in delivering the transition to net zero”. In support of this, the Scottish Government will implement a new Net Zero Carbon Standard for all new public buildings, accelerate efforts to use 100% renewable electricity on the public estate, require all new homes and buildings consented from 2024 to use zero-emission heating and be highly energy efficient, and expects the public sector fleet to be progressively decarbonised, starting with decarbonisation of the car fleet by 2025.

This step-change in the pace at which the Council must decarbonise within the next few years will drive our future emissions reduction targets. Work will progress on identifying options for emissions reduction as part of the Climate Action Plan during 2021 with the aim of completing an Options Report by late 2021/early 2022, before finalising the Plan, which will define the new more ambitious actions required to drive down our emissions by 2030.

To cover the two years that are expected to elapse before the Climate Action Plan is published, ‘bridging targets’ for corporate carbon management are necessary in order to maintain momentum in reducing our emissions. While the bridging target for 2020/21 is set out in this Report, that for 2021/22 will be developed as part of initial options work and will be aligned to the recommended trajectory for emissions reduction to meet a net zero target that will be developed during 2021. These will take into account the practicality and likely cost of achieving reductions across the Council’s functions, as well as the need to ensure that we are meeting the new requirements to decarbonise our fleet and heat, and modernise our procurement.

Establishing accurate projections for our emissions reductions in 2020/21 is challenging due to the effects of the pandemic on service delivery, which has been significantly disrupted over the year. While a reduction of some emissions is expected to result naturally from the disruption to service delivery, e.g. due to known reductions in fuel use in Council buildings during the first half of 20/21, it is expected that these reductions will, to an extent, be counterbalanced by increased emissions in other aspects of service delivery, e.g. via a temporary rise in landfilling due to the suspension of recycling, food waste and garden waste collections at the start of the pandemic. Additionally, the unpredictability of the effects of the pandemic in the latter part of 20/21 means that it is difficult to make confident predictions. Nevertheless, it has been possible to make tentative estimates; using predicted building energy use and waste arisings data, combined with expected carbon savings delivered by recently-completed and near-future projects, it is estimated that a further reduction of 1813 tCO₂e by the end of 20/21 is feasible; this represents a total reduction of 49% since the baseline year.

A key development in the path towards carbon reduction in 20/21 is the introduction of heat pumps; the Council's first heat pump installation, which serves the extension at Killermont Nursery, became operational in autumn 2020 and will be followed by installations at the three new-build nurseries in East Dunbartonshire, where heat pumps will be the lead heat source. While these heat pumps are serving new buildings and therefore not displacing existing heating systems, they will keep emissions below the levels that would otherwise be recorded and will be an important step towards decarbonising the Council's heat supply.

To meet the requirement to accelerate the reduction in our emissions from 2021/22, it is important that the opportunity is taken to examine the options to reduce emissions across all Service areas, and particularly in relation to decarbonisation of heat and fleet, further progress towards zero waste and procurement modernisation. The Council's Sustainability Policy Team will therefore work with Council services in 2021 to determine how they will enable the related costs and practical challenges to be met and, in turn, how they will help the Council to reach the first milestone towards becoming net zero.

Future Costs

It continues to be difficult to definitively project future carbon-related financial costs, particularly in relation to emission sources such as electricity and gas use, due to changes in government policy, including taxation rules. The cost of renewable energy equipment is progressively falling and, if this trend continues, the affordability of installing low and zero carbon technologies will improve, reducing the capital cost of transition.

The cost of the rapid pace of transition required to meet legislative and policy requirements remains to be established but it is proposed to commence work on this in 2021, as part of preparation of the Climate Action Plan. The Scottish and UK Governments are introducing a range of financial support which can contribute towards the costs inherent in actions to reduce our future carbon footprint.

While the cost of carbon-reduction projects should be fully considered when developing business cases, so too should paybacks – the savings generated by carbon reduction projects often outweigh start-up and maintenance costs, especially when a longer-term view is taken. The Carbon Footprint Forecast and Projects Tool can help to calculate payback periods.

It can be asserted with reasonable certainty that the cost per tonne of the landfill tax is expected to continue to progressively increase and options to reduce landfilling and concomitant emissions and landfill tax savings..

Conclusion

Reductions in carbon emissions resulting from a variety of a variety of factors have further reduced the Council's carbon footprint in 19/20; as such, the revised target of 44% reduction, compared to the 12/13 baseline, has been met.

Targeting further emissions reductions in 20/21, to reach a total reduction of 49% compared to the baseline, will help to maintain momentum; however, the local, national and international policy landscape surrounding climate change continues to evolve rapidly, and it is therefore important that the Council continues to be ambitious, especially given the financial and reputational costs at stake.

It is crucial that the preparation of the Climate Action Plan for East Dunbartonshire, which will encompass corporate carbon reduction, takes account of the anticipated strengthening of targets and new requirements which are emerging from various sources - including the Climate Change (Emissions Reductions Targets) (Scotland) Act, amended in 2019, and the subsequently-updated Climate Change Plan – and that a net zero target, interim targets and a clear pathway are set out, in order for East Dunbartonshire Council to demonstrate recognition of the grave threat posed by climate change, and its commitment to reduce, and ultimately halt, its carbon emissions.