Item 4

20th September 2022

Glasgow City Council

Net Zero and Climate Progress Monitoring City Policy Committee

Report by Executive Director of Neighbourhoods, Regeneration & Sustainability

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UPDATE ON GLASGOW CITY COUNCIL CO_2 EMISSIONS

Purpose of Report:

To update Committee on the Council's performance in relation to its targets set out in the Carbon Management Plan and contribution to the city's net zero targets set out in the Climate Plan.

Recommendations:

It is recommended that Committee notes the contents of this report, including;

1) The progress made to reduce emissions from Council activities from baseline
2) The detailed emissions data from Council activities in 2021/22
3) The continuing progress and plans for reducing emissions further in line with the targets and actions set within the Climate Plan

Ward No(s):	Citywide: ✓
Local member(s) advised: Yes ☐ No ✓	consulted: Yes ☐ No ✓

1 Introduction

1.1 Previous reports to Committee have considered updates on how the Council is progressing its Carbon Management Plan (CMP), which set out the actions for the Council to take as a distinct organisation in order to meet Glasgow's carbon emissions reduction ambitions . CMP phase 1 was in effect between 2008 and 2013 and saw a reduction in the Council's emissions of 9% against the baseline year of 2005/06. Phase 2 of the plan, CMP2, built on this work and helped the Council to reduce its carbon emissions by 46.6% from baseline between 2013 and 2020. A full breakdown of this can be viewed here.

1.2 In light of the Council's commitment to achieve net zero carbon by 2030, a revised CMP will be required with a target(s) to reflect this ambition for the Council estate.

1.3 The city had a 30% reduction target for the year 2020 which was matched for the Council's own estate and activities within CMP2. This report continues to quantify the ongoing role of the Council and its family services in reducing their own carbon emissions. It shows how the Council is playing its part in contributing to lower emissions for Glasgow and thereby seeking to be an exemplar organisation. In addition, it illustrates how savings from reduced energy usage are being realised and thereby supporting the Council's wider budgetary processes.

2 Managing the Council's carbon emissions

2.1 The CMP describes a strategy and sets out actions for the Council to reduce its emissions. A revised version was approved in 2014 and can be accessed using the link below.

www.glasgow.gov.uk/index.aspx?articleid=17181

2.3 The overarching aim of the CMP was to reduce the Council's carbon emissions by 30% by 2020. This was based on a 2005/06 baseline and equated to a reduction of approximately 60,000 tonnes of carbon dioxide from that year's emissions (tCO_2). This target was achieved in 2017/18, two years ahead of schedule and continues to be exceeded. The focus of new targets, as detailed in the Climate Plan, are to help achieve net zero for the city as a whole by 2030. Despite having expired in 2020, the work of the CMP has continued and this report follows true to the approach of the CMP in reporting on the council and its extended family's emissions.

2.4 The work related to the CMP has historically been split into two distinct responsibilities, Utility Management and Carbon Management. Utility management involves the management of the electricity, gas and water supply contracts for Council premises. It also relates to the associated metering arrangements, monitoring contracts and invoicing. Carbon management involves reducing the impact of the Council and its family services in relation to CO_2 emissions.

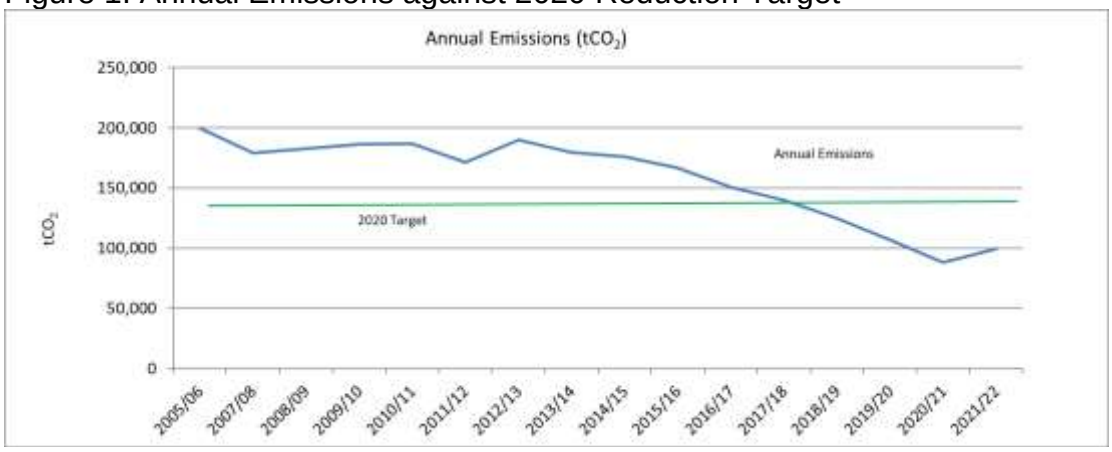
2.5 Work is ongoing on a variety of projects which seek to reduce the consumption and/or cost of gas, electricity, heating oil, petrol and diesel for the Council. In addition, a number of city-wide programmes have been managed by the Sustainability team - for example, the electric vehicle charge point network and a range of renewable energy projects.

3 Emissions performance in 2021/22

3.1 The scope of the CMP involves all building related energy consumption. It also covers street and stair lighting, together with the primary use of oil, petrol and diesel fuels, as well as calculated emissions from business travel.

3.2 Significant progress has been made against the 2005/06 baseline. The Council family produced emissions of 99,363 tonnes of CO_2 in the 2021/22 reporting year, representing a reduction of 50.3% from baseline. Figure 1 below illustrates the trend line from the baseline year, 2005/06.

Figure 1: Annual Emissions against 2020 Reduction Target

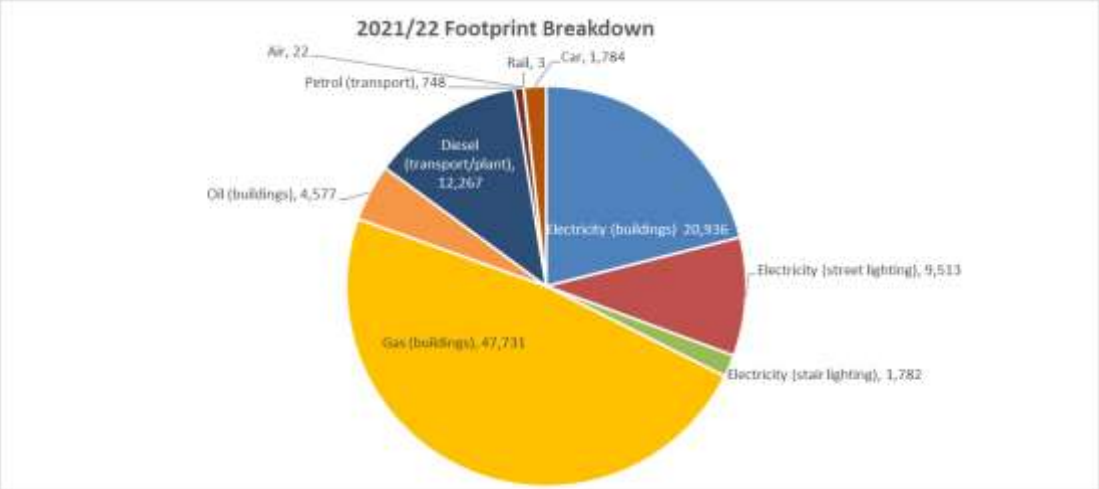


3.3 As can be seen above, the Council has continued to exceed its 2020 reduction target which was first achieved in 2017/18, two years ahead of schedule. This is positive progress and shows how a consistent focus on driving down emissions can produce results. There is, of course, no room for complacency and further work needs to be undertaken in order to maintain a downward trend in emissions, particularly with a view to achieving net zero where many of the "quick wins" have already been achieved.

3.4 Despite falling significantly below the 2020 reduction target, the Council's activities in the year 2021/22 resulted in a 13.1% increase in emissions against the 2020/21 total. The majority of the increase arises from electricity and gas usage in the Council estate and transport emissions as normal Council activities resumed following pandemic lockdown restrictions. Comparisons with the more typical activity of 2019/20 demonstrate an overall emissions reduction of 6.8%. This reveals that overall emissions reduction progress continues to be achieved as we emerge from the effects of the pandemic.

3.5 Figure 2 below and the data presented in Appendix 1 gives a breakdown of emissions by source from different aspects of the Council family's activities for 2021/22.

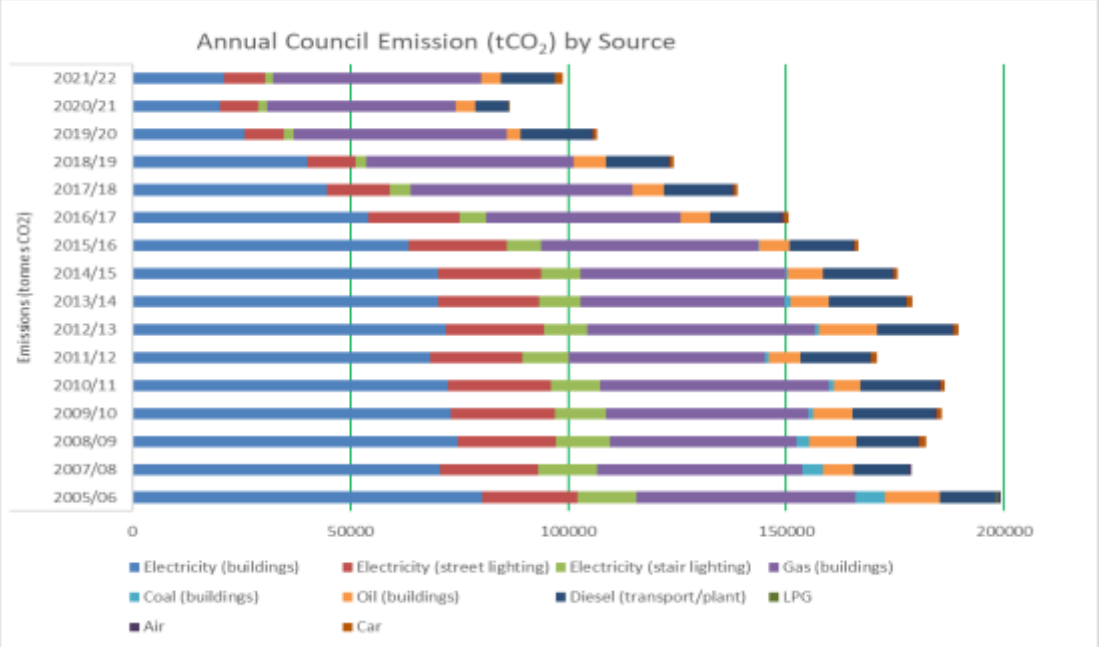
Figure 2: 2020/21 Carbon Emissions Breakdown.



3.6 Building related consumption represents 75.7% of the Council's total carbon emissions, with diesel consumption responsible for 12.4% of emissions and street and stair lighting a further 11.4%.

3.7 Figure 3 below presents the breakdown of the annual emissions by source for the Council and its family since baseline year. A tabular version is provided in Appendix 1.

Figure 3: Annual emissions and sources



3.8 In terms of savings against 2005/06, the greatest reductions have been made in electricity consumption. This is largely due to LED lighting installations and retrofits in buildings, street lighting and stair lighting.

3.9 The Council's emissions have also benefitted from the decarbonisation of electricity nationally and the reduction in the resultant carbon conversion factor. Direct coal consumption has also been eradicated.

3.10 The electrification of the Council's fleet will reduce diesel usage and achieve the aims within the Fleet Strategy to "have alternative fuel solutions powering our fleet that support our operational objectives, significantly reduce our carbon footprint and advance the council's drive towards net zero emissions."

3.11 Whilst gas consumption rose by over 10% from 2020/21 levels, there was a reduction of 2.4% from the more typical year of 2019/20. However, gas usage constitutes 48% of the Council's CO_2 emissions. This highlights the difficulty of decarbonising heat and illustrates the need for significant investment in zero and low carbon heat technologies. Work is ongoing at the city level to identify renewable heat sources and build heat networks that GCC buildings can connect to. This will be covered in the forthcoming Local Heat and Energy Efficiency Strategy that will be presented to this committee in 2023.

3.12 The ongoing programme of building management system (BMS) installation and use has had a positive impact on the gas consumption at individual sites. The BMS installations were part of an ongoing project involving 28 installations. Despite installations being paused during the pandemic a further 8 installations were finalised in 2021/22. BMS installation ensures that heating is only delivered when required by either weather conditions or building occupancy rather than relying on timeclocks. Detailed consumption data allows for the interrogation of energy data in specific premises and at specific times in order to ensure optimal energy usage. Investigations are underway to deliver more BMS installations across those areas of the council estate where this is viable but has not yet happened. This will include connection to a BMS bureau service, thus ensuring one point of control for these buildings. This forms part of the wider approach to enhanced controls in the reduction in energy consumption across the council estate and will be included in the pending Carbon Management Plan.

3.13 Various projects to reduce emissions from the Council estate have been progressed in 2021/22. This includes an additional solar array using the new technology of solar tiles instead of traditional panels on a new building used by Social Work. This project added 10.74kW capacity to the total 1,113kW capacity at 28 buildings. A further £2M in match funding is being developed through the SALIX fund, a government backed fund eligible to be matched against energy efficiency and renewable technology investment, to be matched with the £2M in capital funding allocated to solar PV on the council estate, thus doubling the potential roll-out. Existing feasibility work is to be refreshed, with more sites to be added given the increase in funding. Roll-out is expected to commence in 2023. This too will form part of the pending Carbon Management Plan.

3.14 Four lighting and control projects were completed in 2021/22, including three car parks retrofitted with LED lighting to replace fluorescent lights. Associated controls also reduce energy usage by restricting lighting when not necessary. A further lighting project was also completed at the Blair Court building. These projects represent an energy saving of 495,343kWh and 136 tonnes of CO_2. This completes the roll-out of LED lighting and controls in the GCC multi-storey car park estate. Those buildings in the estate that remain to be converted will be examined and decisions made based on planned life-span and available funding. For example the interim evaluation of the Eastgate building to LED lighting has been completed and is being considered for progressing.

3.15 During 2021/22, an additional 50 publicly available chargers for electric vehicles were installed, bringing the total number of publicly available EV chargers installed by the Council to 292, with a further 80 planned for installation.

3.16 During 2021/22, £247,752 of funding from the Central Energy Efficiency Fund (CEEF) was used to develop energy efficiency projects. CEEF was a revolving fund to all of Scotland's local authorities, the health boards and Scottish Water for investment in a number of energy efficiency measures such as draught proofing, lighting and insulation, which bring about energy, cost and carbon savings. The ability to re-invest savings has allowed for a total of £6,912,144 of project funding to be derived from £1.9M of CEEF funding by GCC. An additional £172,776 of SALIX funding has also been utilised in 2021/22, bringing the total under this funding source to £522,989.

3.17 Upon completion of the council's hybrid working pilot, an assessment will be made regarding the potential to reduce the size of the built estate and this will have a direct impact on the consumption of energy and related carbon emissions.

4 Next Steps

4.1 The Council has now met its 2020 carbon emissions reduction target and progress continues on emissions reduction with the aim of contributing towards the target of net zero by 2030.

4.2 Work will continue with colleagues to improve the efficiency of the Council's operational building assets and with Project Management and Design (PM&D) on new build and major refurbishment projects.

4.3 In addition, work is ongoing with colleagues in relation to the fleet replacement programme and the decarbonisation of the councils transport fleet.

4.4 The publication of the Glasgow Climate Plan with the target of Net Zero Carbon by 2030 will require the Council to set an example of best practise in relation to its own activities and require the CMP to be updated. This will ensure that the Council continues to contribute to carbon reductions, both locally and nationally. The new CMP for the council is planned to be completed in 2023.

5 Policy and Resource Implications

Resource Implications:

Financial:	Reduced consumption reduces expenditure on energy, which is likely to be of increasing importance.
Legal:	Emission reduction targets do not currently carry legal risk
Personnel:	None
Procurement:	Individual carbon management and Climate Plan projects have procurement requirements, which are managed on a case-by-case basis.

Equality and Socio-Economic Impacts:

Does the proposal support the Council's Equality Outcomes 2021-25? Please specify.	Not directly. However reducing the Council's utility costs and liability with free up financial resources that could be focused on the Council's equality objectives.
What are the potential equality impacts as a result of this report?	No significant impact.
Please highlight if the policy/proposal will help address socio-economic disadvantage.	Yes. Examples would be reduced fuel poverty through localizing energy supplies and providing some protection against increasing energy costs, and increased social inclusion through improved public transport infrastructure.

Climate Impacts:

Does the proposal support any Climate Plan actions? Please specify:	This work delivers a significant positive environmental impact. Reducing utility consumption directly reduces the Council's environmental impact through the avoidance of CO2 emissions. The work also supports actions 14,17,49 and 54 of the Climate Plan.

What are the potential climate impacts as a result of this proposal?	Positive climate impacts are expected as emissions from the Council estate reduce in pursuit of the net zero target.
Will the proposal contribute to Glasgow's net zero carbon target?	Yes. As an employer, service provider and building / vehicle owner of scale in Glasgow, reductions in emissions from GCC activities will have a positive impact on the city's net zero target as a whole. GCC must also serve as an exemplar of positive climate actions.
Privacy and Data Protection Impacts:	No data protection or privacy impacts.

6 Recommendations

It is recommended that Committee notes the contents of this report, including;

1) The progress made to reduce emissions from Council activities from baseline
2) The detailed emissions data from Council activities in 2021/22
3) The continuing progress and plans for reducing emissions further in line with the targets and actions set within the Climate Plan

Appendix 1: Annual Emissions by Source

Energy Usage	**Emissions (tonnes CO2)**		
	2005/06	**2021/22**	**2021/22 % of total**
Electricity (buildings)	80190	20936	21.07%
Electricity (street lighting)	21816	9513	9.57%
Electricity (stair lighting)	13623	1782	1.79%
Gas (buildings)	50197	47731	48.04%
Coal (buildings)	6752	0	0.00%
Oil (buildings)	12767	4577	4.61%
Diesel (transport/plant)	12797	12267	12.35%
Petrol (transport)	656	748	0.75%
LPG	338	0	0.00%
Air	782	22	0.02%
Rail		3	0.00%
Car		1784	1.80%
Total	199919	99363	100.00%