

REPORT TO EXECUTIVE

Date of Meeting: 29 November 2022

REPORT TO COUNCIL

Date of Meeting: 13 December 2022

Report of: Net Zero Exeter & City Management

Title: Working Towards Net Zero - Exeter City Council's Corporate Carbon Footprint Report and Carbon Reduction Action Plan

Is this a Key Decision?

No

Is this an Executive or Council Function?

Council

1. What is the report about?

1.1 To report on the work of the Net Zero Team, to both assess the Council's potential to achieve its commitment for its own corporate activities to be net zero by 2030 and to deliver the first City Council Carbon Reduction Plan.

1.2 To share the City Council's Corporate Carbon Footprint report, 'Achieving Net Zero'. A detailed bottom up analysis of the Council's own corporate activities and associated greenhouse gas (GHG) emissions. The methodology undertaken in this study provides significantly improved emissions data across the majority of the Council's direct and indirect activities, with a detailed assessment across these services.

1.3 A Corporate Carbon Reduction Plan is established to bring to the fore a mix of potential actions set out in the Carbon Footprint, ranging from straightforward to far more challenging, and potentially contentious solutions in one complete table. The measures set out in the Carbon Reduction Plan are needed to drive forward action across all services to work towards net zero.

2. Recommendations:

That Executive recommends to Council:-

2.1 That members note and endorse Corporate Carbon Footprint report, and acknowledge the detailed analysis and improved data provided on previous year's reports, but also the challenge to improve data capture across the whole organisation. The projections reinforce the measures required across all Council activities, and that organisationally achieving Net Zero in such a short timeframe is extremely challenging.

2.2 That Members acknowledge the scale of the challenge set out in the Corporate Carbon Footprint Report and combination of aggressive carbon reduction measures

included in the projections which will require a step change in Council policy, activity, and capacity.

2.3 That Members acknowledge the importance of the Corporate Carbon Reduction Plan, work already in progress, and service wide commitment required to deliver net zero, with a dedicated team to lead on activity. Equally, the need to undertake an annual assessment of the Council's GHG emissions to monitor, identify change and evaluate actions needed to deliver net zero.

2.4 That Members note to achieve net zero by 2030 will require an increase in capacity, financial investment and operational resource, both internally and from government at a national level. Whilst the carbon footprint provides accurate carbon reduction measures, the precise amount of resource needed is currently not quantifiable. This will require a detailed investment plan based on costed proposals.

2.5 Members recommend the Net Zero team research options of achieving net zero, in the use of carbon offsetting.

3. Reasons for the recommendation:

3.1 Exeter City Council declared a Climate Emergency in 2019 and as part of this commitment, it aims to achieve net zero Green House Gas (GHG) emissions for its own corporate actives by 2030. The target year is 20 years in advance of the 2050 national net zero target required under the Climate Change Act and reported on in the Sixth Carbon Budget.

3.2 In 2021 the Net Zero team commissioned a corporate carbon footprint baseline report, which was undertaken and completed by the Centre for Energy and the Environment, at the University of Exeter. The footprint is a detailed evaluation of the Council's emissions across seven sectors, and sets out a range of carbon reduction measures, projections and offsetting options to deliver net zero.

3.4 Members have a clear understanding and appreciation of the Council's GHG emissions, changes needed within the Council and the resources, both financial and non-financial, needed to deliver net zero by 2030; and that current resources are an under estimation for a timeframe as tight as 2030.

3.5 Members understand that Council decisions have an impact on net zero, such as delivering other Council Corporate Priorities, including constructing new buildings purchase of new assets and contract selection.

4. What are the resource implications including non financial resources

4.1 Achieving net zero, whether nationally, locally or organisationally, requires broad action across all emission scopes and across every service. Reducing Council carbon emissions will be very challenging in such a tight time frame and with the resources currently available.

4.2 Further support will be required to enable the Net Zero Team to strategically plan the required organisation change and investment budget needed to deliver activity across services to support one of the main Council's corporate priorities. Financial and non-financial resources currently in place, were detailed in a report to Executive July 2022.

4.3 Investment and a clear policy change will be required to support the Council to achieve net zero by 2030. Furthermore, capacity (financial and non-financial) to deliver the measures set out across services in the Carbon Reduction Plan must be addressed with some urgency.

5. Section 151 Officer comments:

5.1 The report itself does not specifically have any financial implications for Council to consider. However, clearly there is a pointed acknowledgement that there is a need to assess the financial resources required to deliver the Carbon Reduction Plan. This is likely to be significant and the section 151 Officer will work with other Officers to identify the scale of the challenge.

6. What are the legal aspects?

6.1 None identified.

7. Monitoring Officer's comments:

7.1 The monitoring officer has no comment on the content of this report.

8. Carbon Baseline Report and Way Forward

8.1 Exeter City Council (ECC) declared a Climate Emergency in 2019 and as part of this commitment aims to achieving "net zero" greenhouse gas (GHG) emissions for its own corporate activities by 2030. ECC commissioned the Centre for Energy and the Environment (CEE) at the University of Exeter to assess the potential to achieve the commitment.

8.2 The definition of "net zero" in this context includes all GHG emissions arising from the Council's direct activities (termed Scope 1 and 2) and from other indirect activities including its supply chains (termed Scope 3), which together result in the Council's gross GHG emissions. Deducting the emissions mitigated through the export of low carbon energy and land use change gives net GHG emissions. The aim is to achieve net GHG emissions as close to zero as practicable possible by 2030. Remaining net emissions require the purchase of carbon offsets. The objective is to achieve net zero with as little reliance on offsets as is practicable possible.

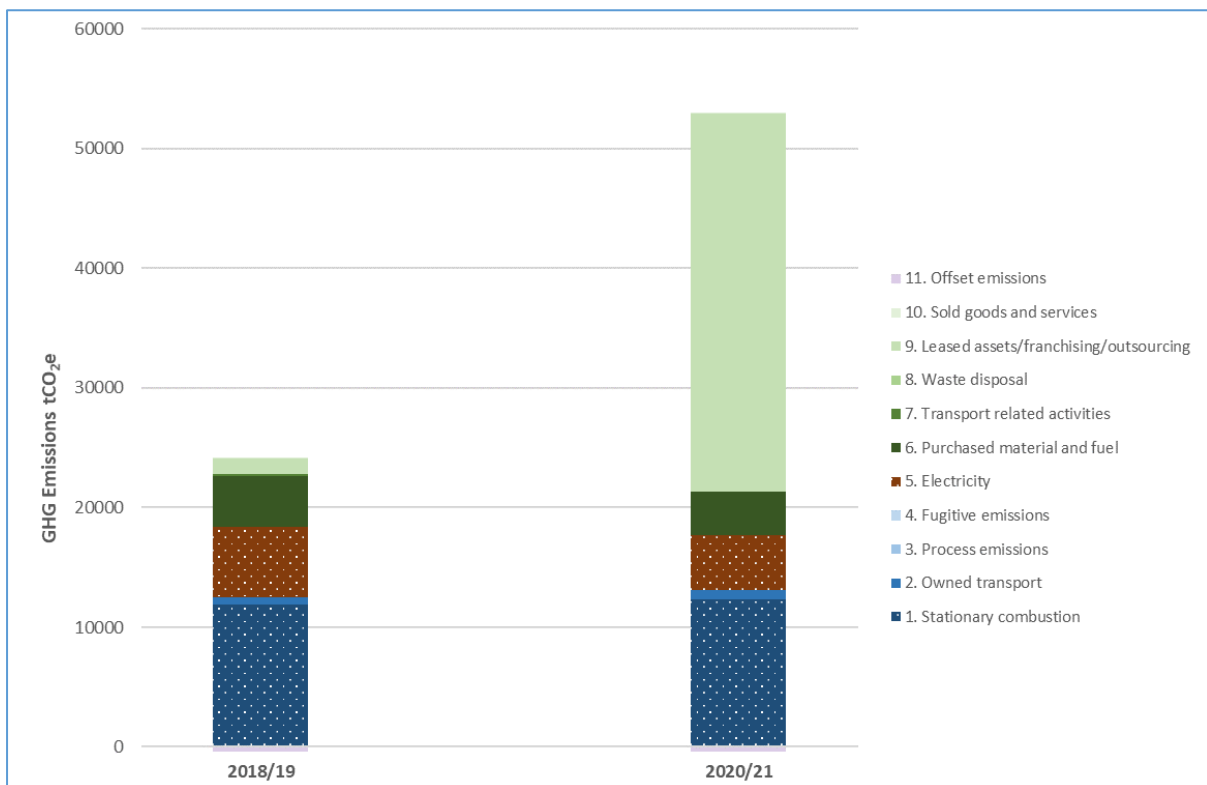
8.3 The approach taken updated the Council's carbon footprint from the assessment made in 2018/19, and assess the potential to reduce these emissions across seven sectors: non-domestic buildings, council-owned housing, transport, procurement, F gases and waste, renewable energy and land use change / afforestation. The assessment of carbon reduction potential in each sector includes:

- appraisal of central government policy,
- input from discussions with ECC service leads and other officers in relevant departments and
- consultation with key ECC documents and data sources.

8.4 The service assessments are desk based, as there was no scope for detailed site visits or audits. However, the use of improved data and methodologies to develop a more detailed evaluation of emissions for each sector feeds back into the updated footprint.

These changes inevitably lead to adjustments in the 2020/21 footprint when compared to 2018/19. As data collection across all Council service has been challenging, discussions are ongoing with service and Net Zero Ambassadors to improve data collection. The Net Zero Team have already begun working with Ambassadors from every service, who will also receive Carbon Literacy training along with elected members, senior and organisational management, and relevant officers.

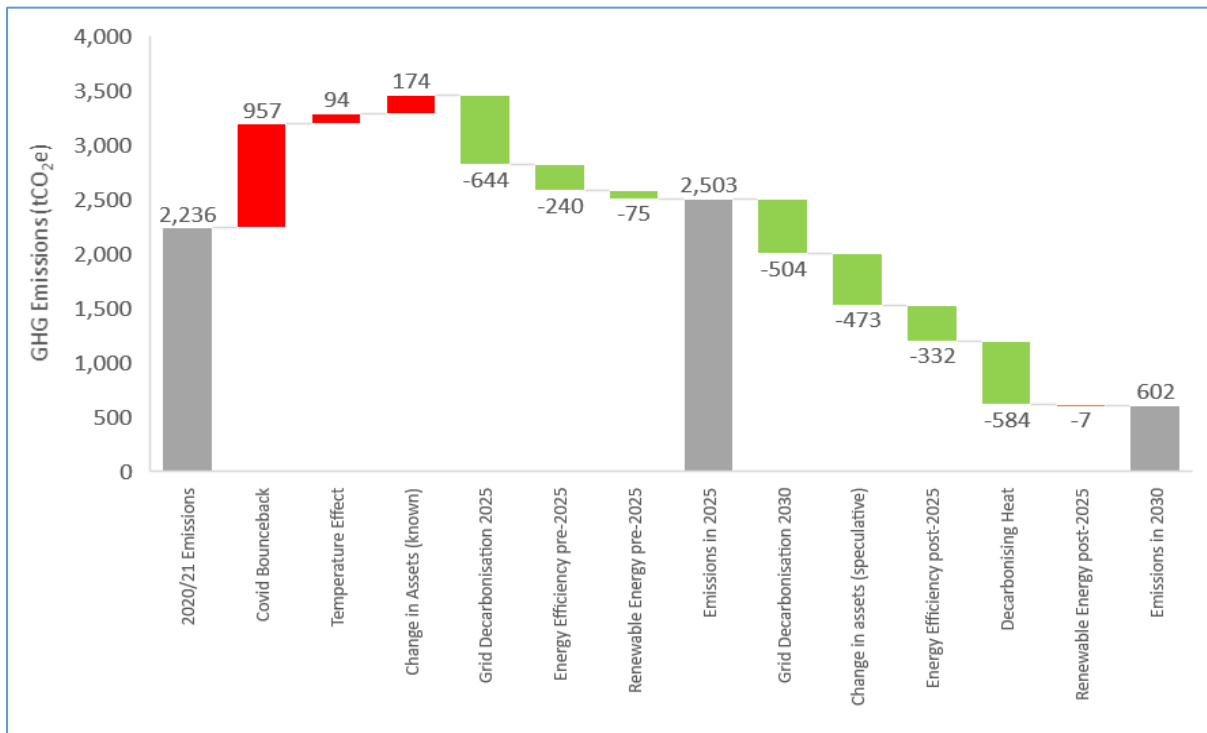
8.5 In 2020/21 GHG emissions for the Council totalled 52,551 t CO₂e. The most significant change from 2018/19 is a reported increase of over 500% in indirect GHG emissions. This is a result of improved data, methodologies that are more detailed and, most significantly, changes in the activity levels including the construction of the new St Sidwells Point (see 8.10). Indirect emissions are now twice direct emissions which have fallen a modest 4% over the two-year period (including the impact of Covid), one-fifth of the rate needed to achieve net zero in 2050.



ECC's GHG emissions by footprint reporting category for 2018/19 and 2020/21 showing Scope 1 (blue) Scope 2 (red) and Scope 3 (green)

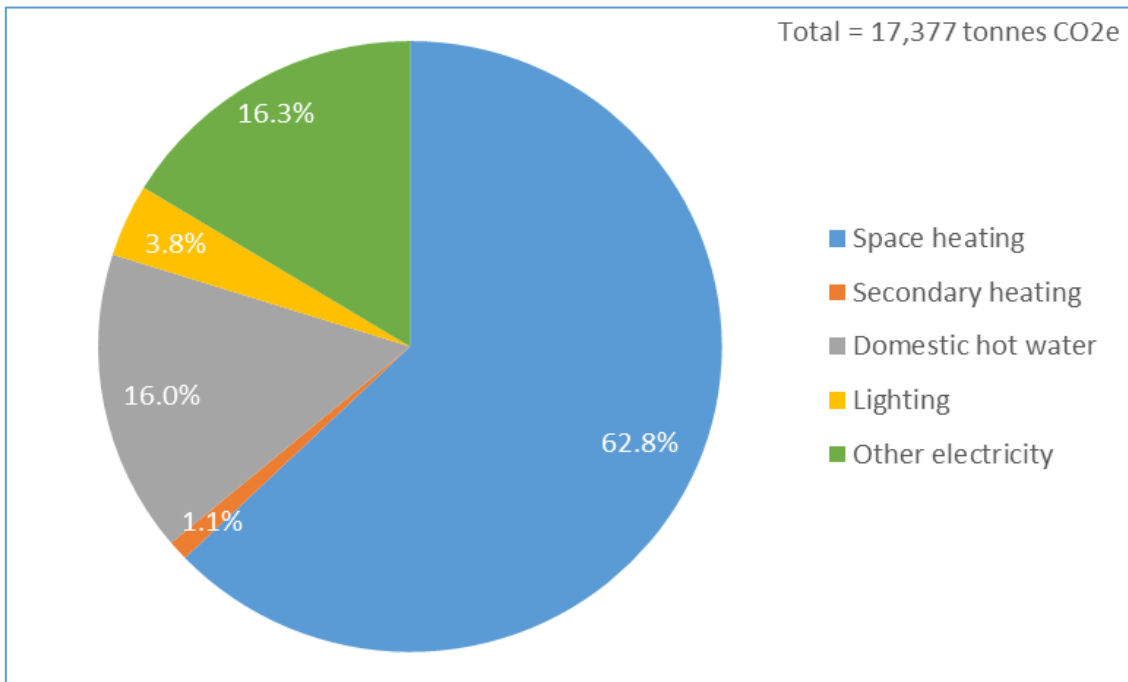
8.6 In 2020/21 the council's non-domestic building stock emitted 2,236 t CO₂e, the Royal Albert Memorial Museum (RAMM) has the largest footprint. More generally, around 80% of building emissions are associated with the council's corporate estate and leisure centre buildings. The expectation is that increase in building use post-Covid will see increasing emissions in 2025. This is expected to be countered to some extent by grid decarbonisation. Non-domestic building energy consumption is 40% electricity so this has a significant impact on emissions. However, pre 2025 (including savings from energy efficiency and PV) is insufficient to reduce emissions. Outside its effect on existing electricity use, the grid emissions factor also plays a role in the next largest projected emissions reduction post 2025; the switch from gas heating to heat pumps across the

estate. Energy efficiency makes a similar contribution. The projections also include some speculative changes in assets that reduce the estate footprint. By 2030 emissions are projected to fall to 602 tCO₂e, a 73% reduction from 2020/21.



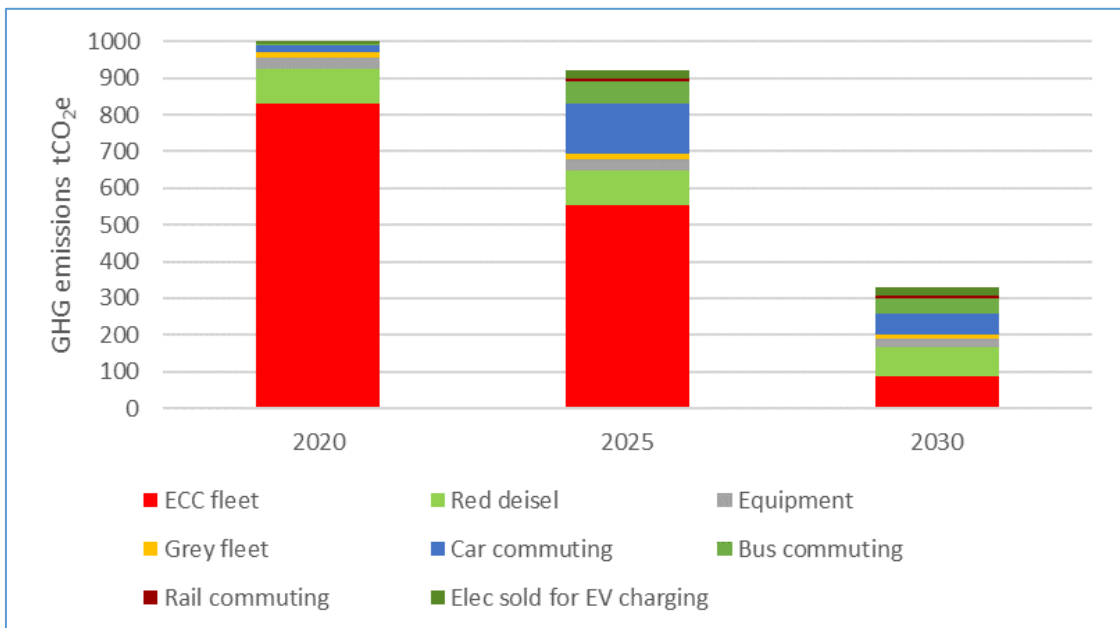
Projected emissions from non-domestic buildings for ECC in 2020, 2025 and 2030

8.7 Emissions from the Council’s housing stock contributes a third of gross emissions and is the sector with by far the most significant contribution to direct emissions (85%). Extensive analysis of data from Energy Performance Certificates quantifies a range of measures on existing council homes, which, despite emission increases from 1,000 new homes, reduce the sector’s emissions from 17,319 t CO₂e in 2020/21 to 1,916 t CO₂e in 2030 (89%). Energy efficiency measures and rooftop PV contribute 5% and 3% respectively, but post 2025 deep retrofit and heat pumps make up the bulk (70%) of the savings. These expensive measures are required to make significant progress in the housing sector.



Estimated emissions from energy consumption in City Council owned homes by end use in 2020.

8.8 A detailed bottom-up analysis of the Council's transport, including previously unidentified vehicles and equipment, shows emissions of 1,018 t CO₂e in 2020/21. Of these, 82% are from the Council's fleet and 9% from red diesel (used in the maintenance of public and green spaces). Reducing emissions relies on electrification across the sector. The projections include an extension of the current enlightened initiative to replace high emission waste trucks with electrically powered vehicles and the assumption that an electric vehicle replaces every vehicle that leaves the fleet from now on. As a result, fleet emissions in 2030 are 11% of current levels. Overall transport emission including those over which the council has less control, e.g. staff commuting, are projected to fall to 331 t CO₂e, a 68% reduction from 2020/21.

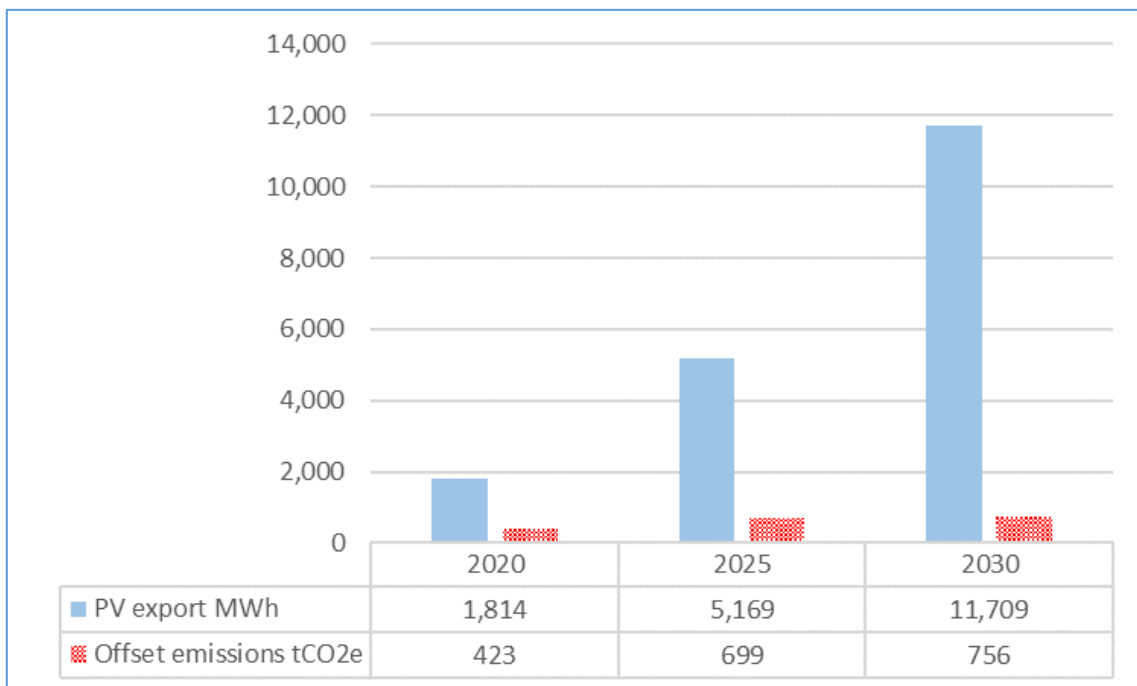


Projected transport emissions in 2020, 2025 and 2030

8.9 Indirect emissions from the goods and services the Council bought in 2020/21 is the largest source of emissions (61% or 32,380 t CO₂e). Nearly half of these emissions are a result of the St Sidwell's Point development, which is a very carbon intensive activity, and is responsible for 60% of 2020/21 emissions. Projections assume that similar construction activity does not take place in 2030 although 100 new Council homes built each year are included. The 2030 projection shows emissions reduced to 9,658 t CO₂e, largely due to a fall in embodied construction emissions. Indirect emissions from external sources are inevitably those over which the Council has least control and, while it is important to take steps to influence indirect emissions, this should not overly divert attention from reducing direct emissions where the Council is in control.

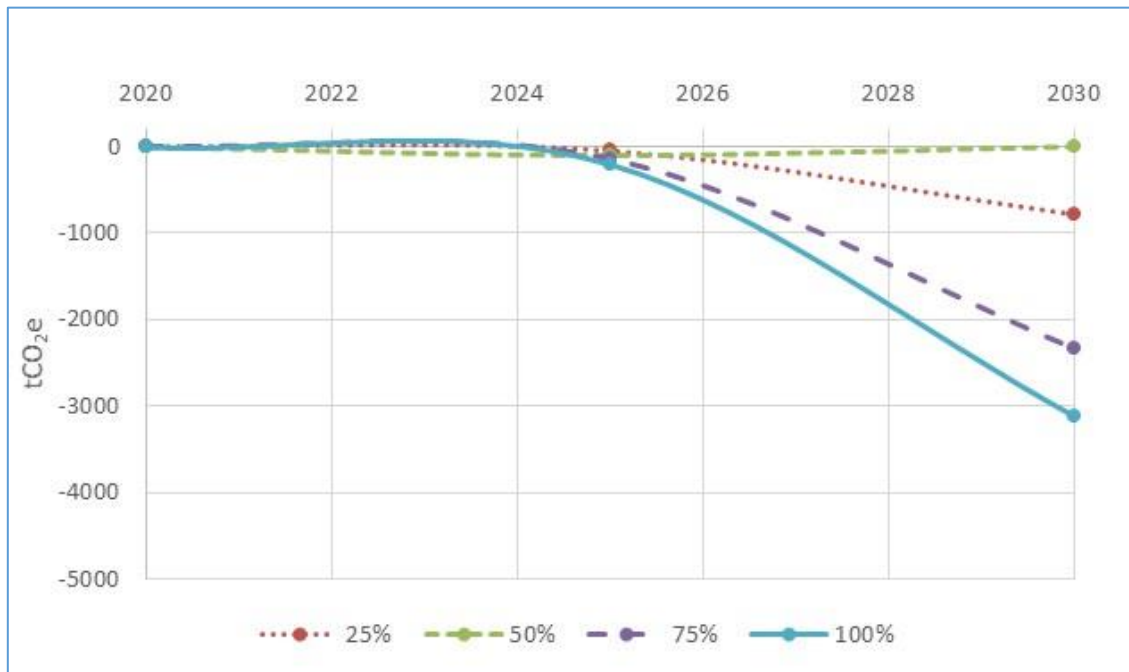
8.10 Emissions from the Council's own waste disposal and use of F gases are currently small (21 t CO₂e in 2020/21). However, this is the only service where projections show a significant rise in emissions. 2030 emissions increase over tenfold to 252 t CO₂e due to F gas leakage resulting from the rollout of 5,500 heat pumps in homes and non-domestic buildings. This new source of GHG emissions will need to be closely scrutinised.

8.11 Exported renewable energy and changes to land use through afforestation are deducted from the Council's gross emissions. Council non-domestic and domestic PV generated an estimated 2,600 MWh in 2020/21 exporting 1,800 MWh that offset 423 t CO₂e. Projections show that expansion of the PV portfolio on non-domestic buildings, from ground arrays and house rooftops has the potential to increase total generation to 15,200 MWh with exports offsetting 756 t CO₂e. Grid decarbonisation means that the offset GHG emissions do not match the dramatic increase in generation, but own use PV generation is deducted from electricity consumption (Scope 2 emissions). It should be noted that added benefits of renewable energy generation at source provide energy security and long term financial savings.



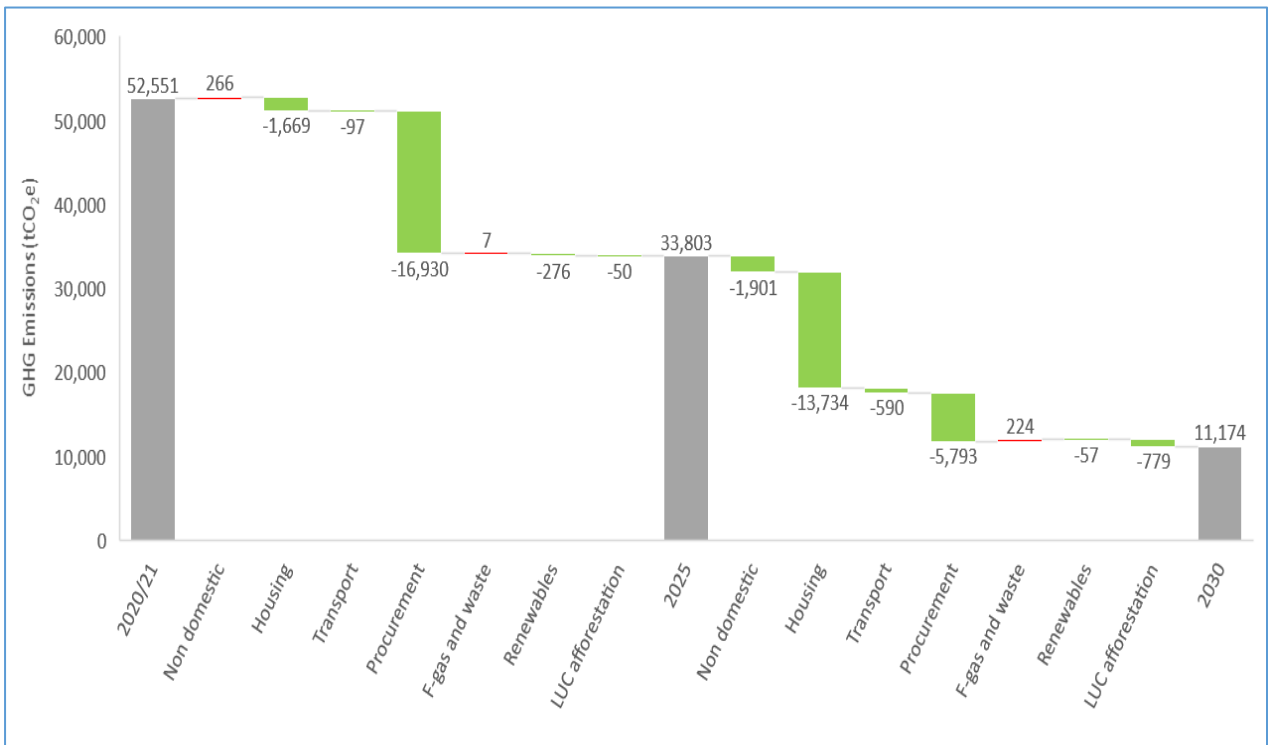
PV export generation and GHG offset (in MWh and t CO₂e respectively on the same scale)

8.12 An analysis of opportunities to Carbon Offset by planting of broadleaf trees and conifers in the Valley Parks and other greenspaces between now and 2030 have the potential to offset as much as 9% of current emissions. The projections below show various percentages of planting of the valley parks and greenspaces areas and the associated reductions in emissions. For example, if 25% of the valley parks and greenspaces area were planted with broadleaf, this would deliver a reduction of 829 t CO₂e in 2030.



GHG offset from planting varying proportions of Valley Parks and greenspace with broadleaf woodland

8.13 The combination of aggressive carbon reduction measures included in the projections indicate the potential to reduce 2020/21 net emissions from 52,551 t CO₂e to 11,174 t CO₂e, a fall of 79%. Indirect emissions from procurement dominate the residual 2030 emissions (76%). Excluding procurement, residual emissions fall 92% from 20,171 t CO₂e to 1,516 t CO₂e with housing the largest remaining emitter (62%). Offset of these 2030 emissions through the purchase of Pending Issuance Units (PIU) for UK Woodland Carbon Units, or alternatively, direct coniferous tree planting between now and 2030 of 941 ha or 128 ha respectively achieves these offsets.



Projected emission for all sectors for 2020, 2025 and 2030

8.14 Scope 3 procurement and Council housing emission dominate. Procurement of goods and services, the sector the council perhaps has least control over, accounts for 61% of emissions in 2020 rising to 76% in 2030. Council Housing currently contributes a third of emissions although its share falls to 15% in 2030 due to the implementation of extensive carbon reduction measures across the stock. The dominance of these sectors must not distract attention from the emissions in other sectors where the Council has the ability to make progress.

8.15 Achieving net zero, whether nationally, locally, or organisationally requires broad action across all sectors. The projections for the Council reinforce this message and demonstrate enormous opportunity to make significant GHG emission savings.

8.16 There have been considerable challenges in collecting baseline data from services across the Council, to develop the Council’s Carbon Reduction Report. There are some services that haven’t been able to provide data to date, this will be a priority going forward, to ensure we have comprehensive data.

8.17 The City Council’s carbon footprint report, supporting carbon reduction plan and risk register, will inform the work programme of the Net Zero team for the foreseeable future. This will also be the case for individual Council services.

8.18 The annual assessment of the council’s GHG emissions will enable the evaluation and updating of the Carbon Reduction Plan and actions required to deliver net zero. This will be reported to Strategic Scrutiny every six months along with the Risk Register, the next update being March 2023

8.19 A number of officers from the Net Zero Team work with the Devon Climate Emergency team in collaborating on projects to reduce Council carbon emissions, and in the delivery of the Devon Carbon Plan.

9. How does the decision contribute to the Council’s Corporate Plan?

9.1 This report and the work of the Net Zero team links directly to the Exeter Vision and a number of corporate priorities. Work will have to be delivered in partnership with all City Council service areas to reduce our carbon emissions.

Exeter Vision	Innovative & Analytical City	The team has developed a range of data sets to monitor City Council carbon emissions
	Healthy & Inclusive	Ensure City Council owned homes are energy efficient
	The Most active city in the UK	Projects are developed to support active travel for employees
	Accessible world class educations	N/A
	Liveable & connected	Commercial and residential properties are energy efficient and built to the best possible standard
	A leading sustainable city	The City Council is a role model for other organisations in Exeter in reducing carbon emissions
Corporate Plan	Net Zero Carbon City	Net Zero team focuses on reducing City Council carbon emissions to deliver Net Zero by 2030.
	Healthy & Active	Working in partnership with Live & Move in developing sustainable travel options and low traffic neighbourhoods for staff active travel
	Housing & Building Great Neighbourhoods and Communities	Working with Building Greater Exeter, Liveable Exeter, Exeter City Living and other developers in developing sustainable and accessible neighbourhoods and new homes, using sustainable constructions methods
	A Balanced Budget	Carbon reducing actions will be commercially viable and will reduce service delivery costs. Some net zero activity delivers an income stream for the City Council
	Well-Managed Assets	Programme of decarbonisation for assets occupied by the City Council

10. What risks are there and how can they be reduced?

10.1 The development of the Council’s carbon footprint report, supporting action plan and supporting risk register will inform the work programme of the Net Zero team and that of other services for the foreseeable future. The action plan and risk register will be presented to Strategic Scrutiny every six months for ongoing monitoring and evaluation. If this stream of work is not supported, the Council will not deliver net zero by 2030.

10.2 Ownership, understanding and a lack of some emissions data is being addressed by the Net Zero Team, with initiatives undertaken such as the Net Zero Ambassadors and Carbon Literacy Training Programme, as listed in the Carbon Reduction Plan.

10.3 The financial cost to deliver net zero within the Council will be significant. This report provides a detailed carbon reduction projections, and measures that can be taken to deliver those projections. The team is unable to provide accurate financial costs for the measures needed, this will require investment plans and accurate cost proposals to be included in the work going forward.

11. Equality Act 2010 (The Act)

11.1 In delivering the action plan, the Net Zero team will take into account the potential impact of actions in relation to age, disability, race/ethnicity (includes Gypsies and Travellers), sex and gender, gender identity, religion and belief, sexual orientation, pregnant women and new and breastfeeding mothers, marriage and civil partnership status in coming to a decision. A separate EQIA will be developed for each action being developed.

12. Carbon Footprint (Environmental) Implications:

12.1 The City Council declared a Climate Emergency in 2019 and as part of this commitment, it aims to achieve net zero emissions for its corporate activities by 2030. The Carbon Reduction Plan provides a clear roadmap of actions to reduce Council GHG emissions.

12.2 The Net Zero Risk Register will consider the carbon reduction measures required to achieve net zero.

13. Are there any other options?

13.1 There is the option of not committing financial and non-financial resources to work towards Net Zero within the Council. This would result in a lack of co-ordination, strategic direction and delivery in reducing our carbon emissions and to realise the Council's Net Zero 2030 target. On a regular basis, the Net Zero team are sourcing and applying for external funding to support the delivery of the Council's own carbon reduction plan, working with services to identify capacity and match funding within the Council.

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Local Government (Access to Information) Act 1972 (as amended)

Background papers used in compiling this report:-

None

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