

# Policy & Sustainability Committee

10.00 am, Tuesday, 20 April 2021

## 2030 City Target Monitoring Approach

Executive/routine  
Wards  
Council Commitments 18

### 1. Recommendations

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It is recommended that the Policy and Sustainability Committee:

- 1.1 Note the progress made against previous emission reduction targets of a 42 % reduction in emissions by 2020 (for both the city and the Council).
- 1.2 Note the city has achieved emissions reductions of 6% (or 167 kilo tonnes of CO<sub>2</sub>e) between 2017/18 and 2018/19, based on the most up-to-date data available
- 1.3 Agree annual reduction targets based on an estimated trajectory against a 2018/19 baseline, to reach net zero by 2030.
- 1.4 Note that this report has been brought forward in April in response to a request at Committee for early sight of reporting data.
- 1.5 Note that in future annual reports outlining progress against the 2030 target will be brought to Committee in November of each year, when each years' datasets become available, starting from November 2021.
- 1.6 Agree that, in line with the approach to the Council's historical 2020 target, the new net zero by 2030 target will replace the previous city target of a 42 % reduction in city emissions by 2020 in all future monitoring and reporting.
- 1.7 Note that city approaches to offsetting will be consulted upon as part of the 2030 Sustainability Strategy consultation.

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## 2030 City target monitoring approach

### 2. Executive Summary

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- 2.1 This report clarifies the boundary selected to monitor progress against the new net-zero target set for both the Council and the city in May 2019. As agreed at Full Council on 25 August 2020<sup>1</sup>, this report also presents “revised targets for carbon emissions reduction, specifying the annual increments required to achieve net zero by 2030” for city emissions.
- 2.2 The approach set out in this report is presented as a worked example of how city emissions and progress towards the target will be tracked. It is being provided for Elected Members’ consideration in response to a request at Committee for early sight of reporting data and in order to inform of the first annual report on the city 2030 target, which will be brought to Committee in November 2021 when data for 2019/20 becomes available.
- 2.3 The Council’s own organisational emissions are additionally monitored and reported through Public Bodies Climate Change Duties reporting, and in greater detail than for the city target due to additional data being available.

### 3. Background

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- 3.1 The City of Edinburgh Council declared a Climate Emergency in 2019 and committed to work towards a net zero emissions target by 2030 for the whole city. In doing so, the Council recognises its leadership role in engaging with city partners on the climate agenda and is at the forefront of city leadership on climate change, having set an area-wide target for the city, in addition to its own Council target. According to a survey conducted by APSE in 2020, only 39 % of net zero targets apply to area-wide emissions, 52 % of them only apply to the Council’s own emissions, while 9 % of the targets have unclear scopes<sup>2</sup>.
- 3.2 As detailed in previous reports, Councils typically contribute to only 1-3% of their area-wide emissions and no one partner has all the answers, powers or resources to reduce city’s emissions to net zero by 2030 acting alone. Thus, the Council is engaging with city partners to bring forward a city-wide 2030 Sustainability Strategy

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<sup>1</sup> <https://democracy.edinburgh.gov.uk/documents/s26225/Item%204.1%20-%20Minute%20of%2025%20August%202020.pdf>

<sup>2</sup> [So you've declared a Climate Emergency, what next? APSE publication](#)

for consultation in late spring/early summer and publication in autumn. The Council will also work with city partners to develop an appropriate performance and reporting framework to evaluate and monitor the implementation of the strategy, to be brought forward by the end of the calendar year.

## 4. Main report

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### 2020 target

- 4.1 In 2015, the Council committed to reducing both city and corporate emissions by 42 % by 2020, compared to a 2005 baseline.
- 4.2 The Council target was based on financial years and aimed to achieve a 42 % reduction in emissions by 2020/21 from a baseline year of 2005/06. The Council has exceeded this target a year early by achieving a 62 %<sup>3</sup> reduction in emissions in 2019/20.
- 4.3 There is a two-year lag in the data<sup>4</sup> underpinning the City 2020 target. The final dataset for this target will be available in June 2022. A 36 % reduction has been achieved between 2005 and 2018, and the City is on track to achieve the 42 % target.
- 4.4 These two targets have now been superseded by the more ambitious net zero by 2030 target. The Council previously committed to continuing to report against the 2020 city target until final datasets become available in order to ensure appropriate accountability and transparency. However, as detailed in the next section of this report, a more precise and comprehensive boundary has been developed for both targets that takes into account all greenhouse gases (rather than just carbon dioxide).
- 4.5 Given the Council target has already been achieved and both the Council and the city are now working towards a more challenging target, moving forward future reports will only detail progress towards the 2030 target. This is in line with the approach to the Council's previous 2020 target and will help avoid confusion between targets and scopes and focus strategic activity and reporting towards the more challenging target of achieving net zero by 2030.

### Net-zero target – scope

- 4.6 The Council declared a Climate Emergency in 2019 and committed to work towards a net zero emissions target by 2030 for the whole city. A comprehensive boundary has been defined for this new target and is illustrated at Appendix 1.
- 4.7 The net zero boundary is compliant with the Greenhouse Gas Protocol for Cities<sup>5</sup> and covers the territorial boundary of the City of Edinburgh. The framework covers five key emission sources: stationary energy (i.e. energy consumption from industries,

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<sup>3</sup> Since the last November 2020 Committee report, diesel and petrol figures have been revised, increasing the emission reduction from 60 to 62 %. Changes have been submitted on time for the Public Bodies Climate Change Duties Report in November 2020.

<sup>4</sup> [BEIS dataset](#), published annually at the end of June

<sup>5</sup> <https://ghgprotocol.org/greenhouse-gas-protocol-accounting-reporting-standard-cities>

non-domestic buildings and homes); transport; waste; agriculture, forestry and other land use (AFOLU); industrial processes & product use.

- 4.8 The boundary includes Scope 1 and 2 emissions (direct emissions and indirect emissions linked to electricity consumption) plus electricity transmission and distribution losses (which are Scope 3 emissions) and covers all greenhouse gases (expressed in CO<sub>2</sub> equivalent – CO<sub>2e</sub>).
- 4.9 Some emissions are not covered by the city’s territorial boundary. An explanation is provided for each of them in Appendix 2. In particular, aviation emissions are excluded because they are not under the direct control or influence of the City. However, it is recognised that aviation emissions are significant and that city partners have a role in helping to tackle them. This will be addressed through partnership working and engagement with citizens in the course of implementing the 2030 Sustainability Strategy.
- 4.10 Emissions from purchased goods (i.e. ‘consumption-related’ emissions) are also excluded, insofar as they are generated out-with the city’s territorial emissions boundary. This is in line with the approach to emission scopes most commonly taken by other cities. That said, the 2030 Sustainability Strategy will still seek to address these emissions by including strategic action on developing a more circular economy within the city and shortening and decarbonising supply chains. The emission scope has been defined with replicability in mind and to support benchmarking with other Councils: all the datasets used are publicly available (Appendix 3) and include figures for all Scottish local authorities.

### Reporting arrangements and schedule

- 4.11 There is a range of performance reports which will include progress towards the 2030 net zero target for the city. The reporting schedule for these are summarised in Table 2 below. Council emissions are reported through the November PBCCD submission and in August via the Carbon Disclosure Project.

Table 1: Reporting calendar

Key dates	City-wide emissions	Schedule
<b>April 2021</b>	Proposed reporting approach (2018/19 data)	N/A – singular report in response to request from Full Council 25 August 2020
<b>May 2021</b>	City of Edinburgh Council Annual Performance report (2018/19 data)	Annual (data published previous November)
<b>July 2021</b>	Carbon Disclosure Project (2018/19 data)	Annual (data published previous November)
<b>November 2021</b>	Annual 2030 target progress report (2019/20 data)	Annual (newest data)

<b>January 2022</b>	Edinburgh by numbers (2019/20)	Annual (data published previous November)
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- 4.12 Most of these datasets are published with a two-year lag, and some datasets are not published until Autumn. Therefore, the most recent data available at the time of writing relates to 2018/19. It is recommended that going forward, an annual report outlining progress against the 2030 target is brought to Committee in November each year, so that members are provided with progress updates as soon as data becomes available. This coincides with the annual Public Bodies Climate Change Duties (PBCCD) report submission, which details the Council's organisational emissions.
- 4.13 The Council participated in the Carbon Disclosure Project (CDP)<sup>6</sup> for the first time in late 2020. The CDP is an international non-profit organisation for companies and cities' environmental reporting. It is the largest climate change focused data collection and assessment programme in the world. Participation is free and entirely voluntary. CDP evaluates the quality of the response, benchmarks performance against other cities and finds areas of opportunity for cities. This first evaluation will be available from CDP in autumn 2021.
- 4.14 The Council signed up to the Global Covenant of Mayors<sup>7</sup> initiative in 2011 and to the Mayors Adapt initiative in 2015. Since 2016, both initiatives have merged within the Covenant of Mayors for Climate and Energy, which is a global coalition of city leaders addressing climate change by pledging to cut greenhouse gas emissions and prepare for the impacts of climate change. Submitting to CDP meets the reporting requirements for the Covenant of Mayors. In 2020, the Council has been awarded with the maximum of six badges recognising its climate mitigation and adaptation efforts.

### Baseline and annual targets

- 4.15 As noted previously, the net zero target is monitored using data with a two-year time lag, meaning the most recent data we have is for the year 2018/19. Although the net zero target was set in 2019/20, the baseline year has been selected as 2018/19, which corresponds to the most recent data available. It should be noted that the data presented therefore relates to activity prior to the more challenging net zero target being set.
- 4.16 The annual targets have been calculated based on two interim milestones in 2022/23 and 2026/27, represented with diamond markers in Figure 1 and the assumptions underpinning this are set out below:
- **Initial reductions between 2018/19 and 2022/23:** The City net zero strategy will be published in October 2021 and, while partners can and do act now, it is expected the strategy will take time to bed in and for implementation to begin, with early results

<sup>6</sup> <https://www.cdp.net/en/cities>

<sup>7</sup> <https://www.globalcovenantofmayors.org/>

visible from 2022 onwards. The overall objective for this time period is to achieve a **25 % reduction** by 2022/23 compared to 2018/19 levels.

- **Acceleration between 2022/23 and 2026/27:** The annual targets within this window correspond to a linear decrease between 2022/23 levels and 2026/27, where a **50 % reduction** target is set, compared to 2018/19 levels. It has been assumed that during this period city partner action to deliver the 2030 strategy will be well underway, with new approaches being tested and core programmes delivering impact.
- **Scaling up between 2026/27 and 2030/31:** Large-scale projects which have a potential to have a more significant impact of the City’s emissions take time to scope, test and implement at scale, and 2026 has been chosen as the estimated point of expansion and acceleration. By building on knowledge, expertise and capacity acquired up to 2026/27 through maximising external funding and collaborating on tests of change, it is projected that citizen and city partner action will lead to an increase in the pace of emissions reductions during this period. Also at this point in time, a number of key national policies and requirements will be operational (for example, the New Build Zero Emissions from Heat Standard, the revised Energy Efficient Standard for Social Housing, the Deposit Return Scheme, or the biodegradable waste to landfill ban), which are expected to have a further positive impact on emissions reductions within this window.

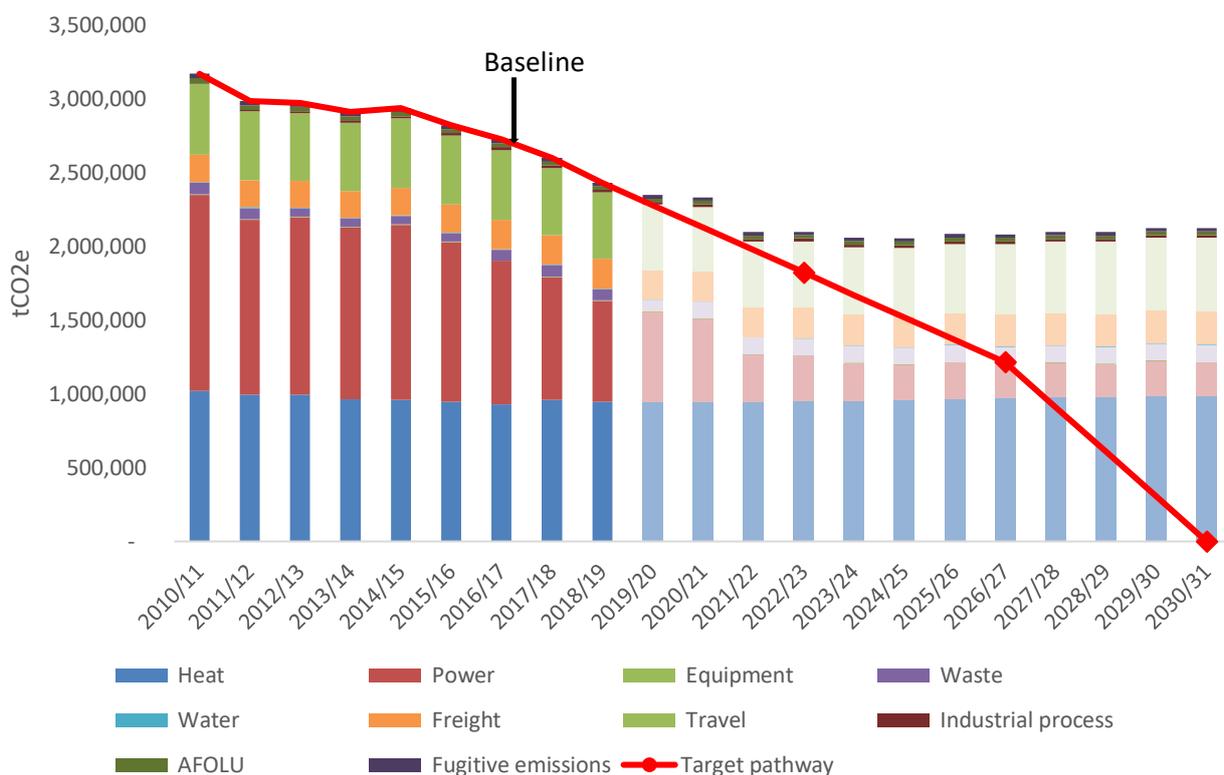


Figure 1: City's emissions based on the new Net Zero boundary. Darker shades represent historic emissions. Lighter shades represent Business As Usual projections based on various factors such as population growth (different age groups for different emission sources), Transport Scotland road, bus and rail mileage forecasts, household numbers projections, school rolls projections, and grid electricity decarbonisation (based on [UK Treasury Green Book](#) ).

- 4.17 It should be noted that the estimated trajectory implies a simple path to zero, when the impact of interventions is likely to be more sporadic and are not possible to estimate with a high degree of accuracy with the data available. Actual reductions will almost certainly vary from the projected pathway. By 2030 it is very likely some residual emissions will remain, with precise levels difficult to predict as they are based on unknown factors<sup>8</sup>.
- 4.18 Therefore, city partners, including the Council, will need to identify and agree strategies for achieving net zero by balancing these residual emissions with carbon uptake activities (for example the purchase of offsets). Although individual organisations will need to develop their own off-setting strategies and budgets, there may be value in developing a set of principles with city partners. Furthermore, there is a need to consider if or when off-setting may be appropriate, with this requiring careful consideration at both city and organisational levels. Approaches to offsetting will therefore be consulted upon as part of the 2030 Sustainability Strategy consultation before being brought back to the Policy and Sustainability committee for further consideration prior to the strategy publication in October.
- 4.19 The proposed annual reduction targets are set out in Table 3 below and have been profiled to account for offsetting of residual emissions. In line with the assumptions underpinning Figure 1 above, they assume a slight improvement on the business as usual trajectory prior to the new target being set and in the lead up to the strategy's publication in 2021, followed by an increase in pace as the strategy beds in and new approaches are developed, with that pace then accelerating from 2026 onwards as whole system approaches are rolled out at scale.

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<sup>8</sup> Factors affecting the level of emissions include the long-term carbon intensity of the grid and the rate of future technology development and uptake. Residual emission sources are likely to be from some types of HGV and equipment for which there are currently no low carbon alternatives; agricultural and livestock activities, wastewater processes, and residual grid electricity related emissions.

Table 2: Incremental annual targets – City target

Year	Annual target reduction (%)		Actual reduction	
	Compared to previous year	Compared to baseline	MtCO <sub>2e</sub>	% reduction compared to previous year
2017/18	N/A	N/A	2.595	5%
2018/19	Baseline year	Baseline year	2.428	6%
2019/20	6%	6%	<i>Data available Autumn 2021</i>	
2020/21	7%	13%	<i>Data available Autumn 2022</i>	
2021/22	7%	19%	<i>Data available Autumn 2023</i>	
2022/23	8%	<b>25%</b>	<i>Data available Autumn 2024</i>	
2023/24	8%	31%	<i>Data available Autumn 2025</i>	
2024/25	9%	38%	<i>Data available Autumn 2026</i>	
2025/26	10%	44%	<i>Data available Autumn 2027</i>	
2026/27	11%	<b>50%</b>	<i>Data available Autumn 2028</i>	
2027/28	25%	63%	<i>Data available Autumn 2029</i>	
2028/29	33%	75%	<i>Data available Autumn 2030</i>	
2029/30	50%	87%	<i>Data available Autumn 2031</i>	
2030/31	100%	100%	<i>Data available Autumn 2032</i>	

### Progress against target – between 2017/18 and 2018/19

- 4.20 Table 3 shows that, in 2017/18, the city’s emissions totalled 2.595 MtCO<sub>2e</sub><sup>9</sup>. The following year (2018/19), emissions amounted to 2.428 MtCO<sub>2e</sub>. This represents a 6 % reduction and corresponds to activity prior to the new target being set.
- 4.21 The main factors contributing to the 6 % reduction are listed in Table 4. It can be seen that 94 % of the effort has been achieved thanks to the decarbonisation of the electricity grid<sup>10</sup>. Other contributing factors include a slight reduction (1 %) in gas emissions, and a 12 % reduction in emissions from buses.
- 4.22 It can also be seen that emissions from HGVs and cars have increased between 2017/18 and 2018/19, showing that the transport sector requires additional effort to align with a net zero pathway. Overall, emissions from the whole transport sector only

<sup>9</sup> Based on the net zero boundary.

<sup>10</sup> Between 2010/11 and 2017/18, electricity-related emissions almost halved, while consumption only decreased by 13 %, due to the fact that the carbon content of a unit of electricity (in kgCO<sub>2e</sub>/kWh) decreased by 41 % during this period.

decreased by 2 % since 2010/11, with emissions from cars and HGVs decreasing by respectively 4 and 1 %, and emissions from vans increasing by 15 %.

Table 3: Factors contributing to the City's 6.4% emissions reduction between 2017/18 and 2018/19

Emission source	Emissions 2017/18 (ktCO <sub>2e</sub> )	Emissions 2018/19 (ktCO <sub>2e</sub> )	Change between 2018/19 and 2017/18	Change between 2018/19 and 2017/18	Contribution to total emission reduction
			%	tCO <sub>2e</sub>	
Electricity	857	701	-18%	-156	93.6%
Natural gas	888	879	-1%	-7	4.1%
Local bus	37	32	-12%	-4	2.6%
Waste	75	74	-2%	-1	0.9%
Vans	120	119	-1%	-1	0.8%
Other fuels	84	83	-1%	-1	0.4%
Cars	406	408	+1%	+2	-1.3%
HGV	80	84	+4%	+3	-2.0%
All Other sources	59	58	-3%	-1	0.9%
<b>Total</b>	<b>2,595</b>	<b>2,428</b>	<b>-6%</b>	<b>-167</b>	<b>100%</b>

- 4.23 It should be noted that these greenhouse gasses were emitted prior to the Council setting the new net zero target in May 2019, and so do not reflect activity undertaken since setting the target. Furthermore, the year 2020/21 has been marked by the COVID-19 pandemic and this will be visible in the datasets published in Autumn 2022, with action already underway to explore how the city can 'lock in' some of the emission reductions seen during the pandemic. The time lag in data availability makes climate action monitoring challenging. To overcome this lack of visibility, the Council has developed the Carbon Scenario Tool with the Edinburgh Centre for Carbon Innovation. The Carbon Scenario Tool has been designed to inform Council decision making, by giving Councillors and officers validated data on emissions impact at project, programme or city level, presented as a dashboard including key sustainability indicators. As such, it helps the Council understanding to which extent planned programmes of projects will contribute to the reduction pathway, and where there are sectors requiring further efforts.
- 4.24 A Council emission reduction plan focussing on the Council's own organisational emissions is provided in a separate Committee report.

## 5. Next Steps

- 5.1 City's emissions for year 2019/20 and Council's emissions for year 2020/21 will be available from Autumn 2021 and a full report on city-wide progress towards the 2030 target will be brought to Committee then, and annually thereafter.

- 5.2 The Council will continue to disclose to CDP, with the next reporting cycle closing in July 2021.
- 5.3 The Scottish Government has agreed funding to support the further development and roll out of the Carbon Scenario Tool across the Scottish Cities Alliance membership.

## **6. Financial impact**

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- 6.1 There is no financial impact arising from this report. However, it should be noted that the financial challenges to achieve net zero emissions will be significant. It should be noted that investing in carbon reduction projects often results in wider co-benefits such as the creation of local jobs, improved air quality and public health, or reduced congestion (to name just a few).

## **7. Stakeholder/Community Impact**

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- 7.1 Climate action has the potential to reap wider social, health and economic co-benefits and positively impact communities.
- 7.2 A City Sustainability Strategy which will set out high-level strategic priorities for achieving net-zero city emissions by 2030 will be open for public consultation from spring 2021.

## **8. Background reading/external references**

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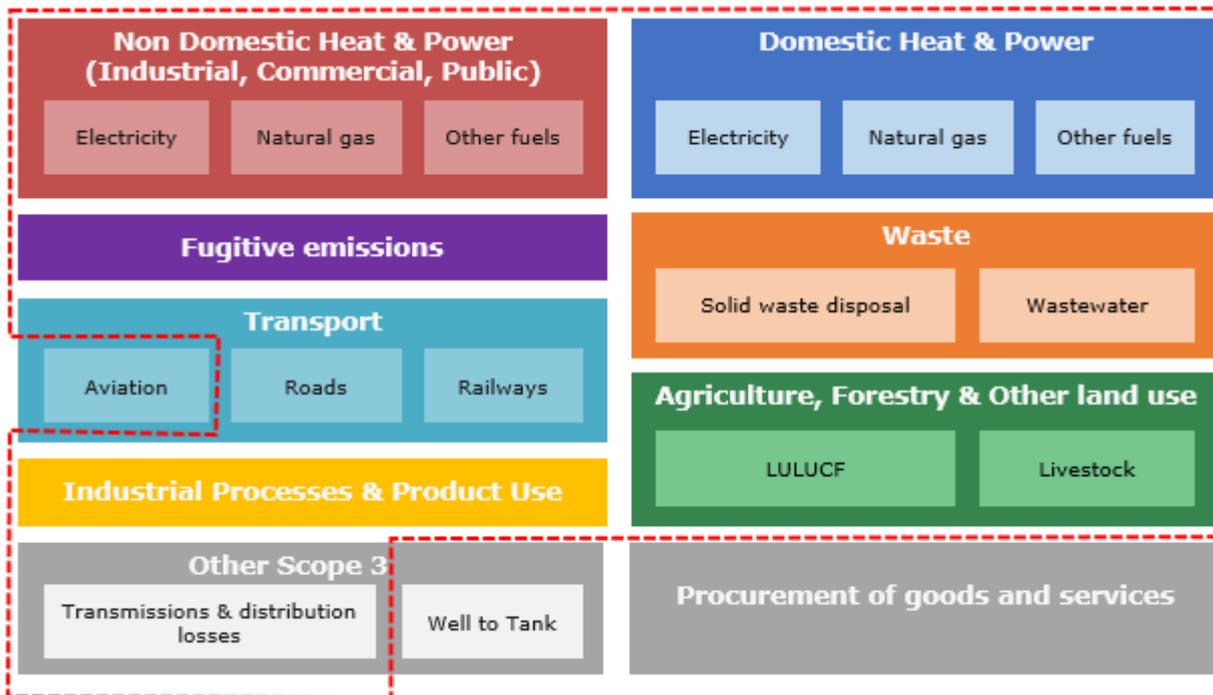
- 8.1 [The City of Edinburgh Full Council meeting – Tuesday 25 August 2020](#)
- 8.2 [Public Bodies Climate Change Duties report 2019/20 – 10 November 2020](#)
- 8.3 [City Sustainability Strategy Approach](#) – 1 December 2020
- 8.4 [Short Window Improvement Plan Progress Update](#) – 10 November 2020

## **9. Appendices**

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- 9.1 Appendix 1 - City-wide carbon footprint boundary
- 9.2 Appendix 2 - List of emissions not covered by the net-zero boundary
- 9.3 Appendix 3 - Datasets for the calculation of the City's net zero boundary

## Appendix 1 - City-wide carbon footprint boundary



## Appendix 2 - List of emissions not covered by the net-zero boundary

Emission source	Rationale
<b>Well-to-tank (WTT)</b>	Well-to-tank emissions are fuel lifecycle emissions, occurring “upstream” from the point of use of the fuel. They result from the extraction, transport, refining, purification or conversion of primary fuels to fuels for direct use by end-users and the distribution of these fuels. They are classed as Scope 3 according to the GHG Protocol. They are considered as out of the net-zero boundary because the latter focusses on territorial emissions and covers Scope 1 emissions (direct emissions occurring within the boundary) and Scope 2 emissions (indirect electricity-related emissions). It also includes some Scope 3 emissions from transmission and distribution losses in the electricity network.
<b>Water supply</b>	The majority of energy consumption for the water network are covered under the stationary energy > non-domestic category, and Scottish Water's transport-related emissions are included in the Transport category. Process emissions from wastewater treatment are included under the wastewater category.
<b>Aviation</b>	The net zero boundary focusses on Scope 1 and 2 emissions only. Aviation emissions include Scope 3 emissions which occur outside of the territorial boundary and are therefore excluded from the baseline. Scope 1 emissions are not under the direct control or influence of the City. However, it is recognised that aviation emissions are significant and that they should be tackled. The Council's “Protocol for long distance UK travel” establishes rail over air as the Council's preferred choice for UK travel on Council business.
<b>Procurement – Consumption of goods &amp; services</b>	Consumption-related emissions consider the carbon impact (manufacture and transport) of all the goods purchased in the city, even if those were manufactured outside of the city. The Council is following a “production-based” approach to calculate the City’s carbon footprint, meaning that the scope is focussing on territorial emissions, including from goods that will be exported. The calculation of consumption-related emissions is very complex and there is no standard methodology at the moment. Consumption-based emissions do not have to be reported officially by any country. However, it is acknowledged that these emissions are very significant and that they should still be addressed. Although consumption-based emissions are not included in the net zero boundary, they are still being covered by the Sustainability Programme.

## Appendix 3 - Datasets for the calculation of the City's net zero boundary

Figures are based on the following publicly available datasets:

- Sub-national electricity sales and numbers of customers, BEIS
- Sub-national gas sales and numbers of customers, BEIS
- Sub-national estimates of non-gas, non-electricity and non-road transport fuels, BEIS
- Road transport energy consumption at regional & local authority level, BEIS
- Household and business waste tables, SEPA
- Scottish Water carbon footprint (published in their annual report)
- Local authority area statistics database, Scottish Government
- Number of livestock by region and sub-region, Scottish Government
- UK local authority & regional CO2 emissions national statistics, BEIS
- Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland, NAEI
- Projected Population of Scotland, NRS Scotland