Appendix 5

Council: Carbon Budget

1.0 Carbon budget

1.1 A carbon budget is the maximum amount of carbon equivalent emissions that the Council can emit in a given period to keep on track with carbon reduction targets.

1.2 Duties under Part 4 of the Climate Change (Scotland) Act include that a public body must, in exercising its functions, act in the way best calculated to contribute to the delivery of emissions reduction targets.

1.3 The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Amendment Order 2020, strengthens climate reporting. This includes the addition of the following information:

- where applicable, a target date for achieving zero direct emissions of greenhouse gases
- a requirement to report on alignment of spending plans and use of resources to contribute to reducing emissions and delivering their emission targets.

1.4 The Council Climate Change Plan includes an action to develop a carbon budget, piloting the approach. Actions from the Council Climate Change Plan will contribute the interim targets of at least a 48% reduction in tonnes of carbon dioxide equivalent (tCO2e) from Council assets and operations by 2025 and a 75% reduction by 2030; and net zero by 2045.

2.0 Findings from the Carbon Budget pilot 2021/22

2.1 Fleet assets (vehicles and plant) are 8% of Council emissions. The carbon budget pilot year, targeted fleet assets and explored ways to apportion the carbon budget at Council, function, cluster and service level. Aims of the pilot, the findings and next steps are indicated in Table 1.

Table 1: Findings from the Carbon Budget pilot 2021/22 and next steps

Pilot 2021/22: aims	Progress/ Findings	Next steps
Calculate emissions reduction pathway	• Linear trajectory calculated based on historic emissions.	• Annual calculation and realignment.
Refine the carbon budget scope, process, methodology	• Scope defined for fleet assets and other emissions. • Process/ methodology was developed with key officers. • Sections 3 & 4 provide a summary.	• Implement, monitor, refine, roll out.
Determine data availability/ frequency for fleet assets	• Fleet Management System was introduced 21/22. • Will include data on vehicle asset carbon footprint.	• Refine carbon outputs - Fleet Management System 22/23 for monitoring. • Align data collation with the Commissioning Cycle.
Apportion the carbon budget - fleet assets	• Allocation of the carbon budget fleet assets determined for Function, Cluster, Operational level. • Apportioned to fleet users.	• Track carbon budget alongside planned actions for fleet

Establish monitoring method/ frequency	• Methodology/ timelines for the carbon budget were developed in consultation with relevant officers.	• Data improvements are outlined in 4.2. • Monitoring - outlined in 4.3 measured performance.
Understand implications for a wider roll out	• A key dependency is the availability & complexity of data. • Carbon budgets will need to target main sources of emissions.	• Phased roll out of the carbon budget. • Target high sources of emissions eg carbon budget for buildings. • Address data improvements in turn for each source of emissions.

2.2 Defined areas for carbon savings from fleet include:

- The transition from fossil fuels to low/ zero carbon vehicles. City, Growth & Resources Committee (November 2021) approved the Fleet Replacement Programme, noting non-carbon fuelling technologies will be prioritised where these options exist.
- Improved route planning.
- Where practical, rationalising the size and weight of vehicles.
- Removing the need for vehicles.

A number of actions relevant to carbon savings are being progressed under the Council Climate Change Plan.

2.3 Identified areas that could cause pressure on the fleet carbon budget include:

- A current lack of availability of low carbon alternatives for some vehicle types and plant in the market place.
- Roll out of electric and hydrogen fuel cell vehicles is co-dependent on appropriate charging and refuelling infrastructure.
- Any increase in fleet usage, relevant to service demands.
- Any increases in fossil fuel fleet assets.

3.0 Council Carbon Budget for 2022/23

3.1 The overarching carbon budget for the period of the Council Climate Change Plan April 2021 – March 2025, is 110,860 tonnes of carbon dioxide equivalent (tCO2e). This has been calculated using a linear reduction trajectory from the baseline year 2015/16.

3.2 To keep on track with targets, the emissions "cap" for 2022/23 is 28,956 tonnes CO2e *(Table 2).* This is the maximum carbon emissions that can be emitted during the year from: energy and water use Council buildings, Council fleet, street lighting, internal waste and staff travel.

Table 2: Overall Council Carbon Budget

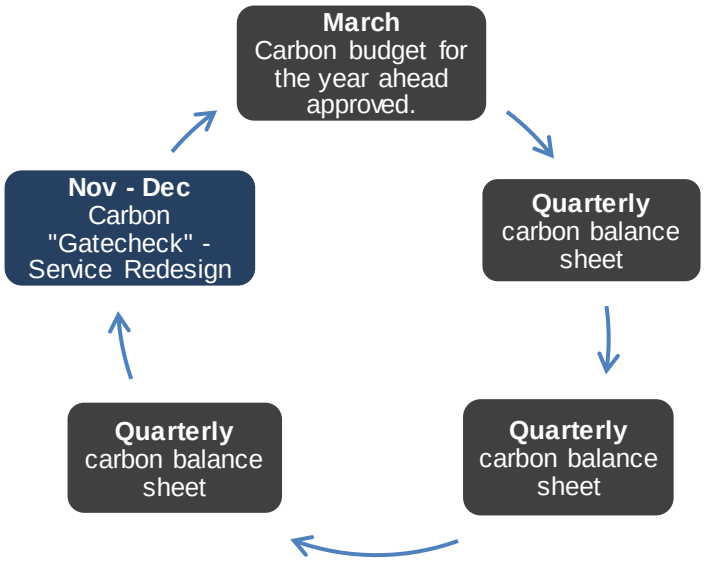
	Baseline 2015/16	Carbon budget cap 2021/22	Carbon budget cap 2022/23	Forecast budget cap 2023/24	Forecast budget cap 2024/25
	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e
Total	46,370.9	31,438	28,956	*26,474*	*23,992*
		Carbon budget 2021/22 - 2024/ 2025 110,860 (tCO2e)			

3.3 Based on historic emissions, the carbon savings required from fleet assets over the for the period April 2021 to March 2025 are 1,268.04 tCO2e, an indicative annual reduction of 317.01 tCO2e to stay on track *(Table 3).*

Table 3: Carbon Budget "cap" 2022/23 and required carbon savings

Emissions source	Baseline 2015/16	Carbon budget cap 2022/23	Required carbon savings 2022/23
	tCO2e	tCO2e	tCO2e
Fleet	**3,774.90**	**2,359.10**	**317.01**
Operations	-		*308.51*
Commissioning	-		*3.26*
Customer	-		*4.47*
Resources	-		*0.77*
Street lighting	**8,149.70**	**5,093.75**	**471.00**
Buildings	**33,545.40**	**20,965.88**	**1,789.09**
Staff travel	**469.40**	**279.70**	**27.10**
Internal waste	**213.10**	**127.00**	**12.30**
Water	**218.40**	**130.20**	**12.60**

3.4 Carbon budget cycle



- **Targeted:** to high emission sources, addressing complexity of data.
- **Allocated**: to relevant Clusters/ Operations based on their scope to influence.
- **Informed:** data on carbon saving, actions, pressures shared.
- **Phased:** refined and rolled out as data flows improve.

4.0 Development programme for the carbon budget

4.1 The carbon budget will be iterative as data improves, as carbon budgeting matures and as it is rolled out. Timeframes and processes for data collation will be accelerated to ensure carbon is managed in the Commissioning Cycle/ budget setting:

Carbon Budget phased programme

Year		
20/21	Council Climate Change Plan approved 3 March 2021	
21/22	Pilot	- Fleet Assets (Vehicles & Plant)
22/23	Phase 1	- Refine the carbon budget for fleet. - Extend carbon budgeting to buildings.

		- Nominate Carbon Budget holders. - Progress data improvements. - Establish the monitoring framework. - Review & strengthen alignment with Service Redesign.* - Establish carbon gatecheck in the Commissioning Cycle.
23/24	Phase 2	- Refine carbon budget for buildings. - Roll out to further key emissions sources. - Build in scenario modelling.
24/25		

* Data for some areas, ie water and internal waste is quite low and it may not be suitable to break down the carbon allocation in these areas to Service level. For any areas where the carbon budget cannot be broken down to Cluster and Service level, it will be managed at Council or Function level and opportunities to strengthen consideration of carbon in the Service Redesign process will be investigated.

4.2 **Data improvements:** The Council already compiles an annual carbon inventory to support statutory climate change reporting requirements. This is produced annually in November, for the previous financial year.
Improvements to the availability, frequency and accessibility of emissions data are being built into the carbon budget process, to support decision making.

4.3 **Measured performance:** Carbon budget exceedance or a slow rate of reduction will have a knock on impact to subsequent years, meaning the scale and pace of action may need to be increased in particular areas. The carbon budget will be monitored, realigned if any areas are not on track and information aligned with our annual financial budget setting process.

- Carbon budget holders will be nominated in dialogue with relevant Chief Officers as carbon budgets are rolled out.
- Quarterly data returns will be provided to the Performance Board and issued to carbon budget holders. This will help to:
  - assess if planned emission reduction actions are on track;
  - help with planning reduction pathways;
  - identify if there are areas where more action may be needed; and
  - if there are areas that could cause pressure on the carbon budget.
- An annual carbon budget will be set alongside the financial budget and reported to committee.

It should be noted fluctuations in emissions can exist in any single year due to internal factors, such as an increase in estate; and external factors, such as a cold year increasing energy demand.

4.4 **Scenario modelling**: tools that can support scenario planning for cost-effective emission reduction interventions and the timeline for these will be identified. This can support financial planning, highlighting the scale and pace of change that may needed and help to better identify impacts on financial budgets.