Appendix 4 - **Options for Carbon Budgeting and Accounting**

1.0 ABOUT A CARBON BUDGET

1.1 The Intergovernmental Panel on Climate Change Special Report on 1.5C (2018) states that carbon budgets inform strategies, limiting carbon dioxide (CO_2) emissions, in line with meeting climate change goals.

1.2 UK Government sets 5 year carbon budgets, setting out an average percentage reduction compared to 1990 levels and as a result, total emissions for the five-year period. It considers Committee on Climate Change guidance that the use of "outperformance" in any period is not used to help meet future budgets. Scotland's climate change legislation also includes annual targets for every year to net-zero. The targets are expressed as percentage reductions from the 1990/1995 baseline.

1.3 A carbon budget can simply be defined as the cumulative amount of carbon emissions that an organisation has agreed is the largest it will emit within a particular period of time e.g. within a year. Breaking it into allocated amounts helps with forward planning and decision making in the short and medium, as well as long term. The development of a carbon budget aims to improve understanding of energy consumption, in doing so the costs associated with carbon expenditure. To stay within this budget requires cutting carbon emissions by an agreed amount each year. *For the purposes of this appendix, "carbon emissions" refers to tonnes of carbon dioxide equivalent (tCO2e).*

1.4 A cumulative emissions concept and how much the council has already emitted, can be used to calculate the actual amount of carbon emissions, the "carbon budget", that it is permitted to emit in the future.

2.0 CARBON BUDGETING AND ACCOUNTING

2.1 Following approval of a Council Energy and Climate Routemap in May 2020, a Council Energy and Climate Plan establishing a net zero target year and covering net zero emission reduction measures and climate resilience for Council assets and operations is due to be established by March 2021.

2.2 Carbon accounting to measure and monitor the Council's direct and indirect emissions will be necessary to deliver any net zero target. Carbon emissions from Council assets and operations are calculated annually by financial year to meet requirements for Climate Change Reporting.

2.3 A Council carbon budget accounting process is being developed as part of the work under the Council Energy and Climate Plan due by March 2021. Establishing a Council emission reduction allocation aims to support planning with the activities and investment required to reduce emissions and enable the Council to maintain a trajectory to a net zero target. Under a carbon budget, measures to reduce carbon emissions can be reviewed annually to inform investment requirements and identify potential savings.

2.4 This appendix considers options for carbon budgeting. Based on the options set out in Table 1 of this appendix, the preferred approach to develop for the Council Energy and Climate Plan is Option 3. This aims to establish a methodology to set carbon budgets annually for the council. Under this approach a Council carbon budget could be prepared annually and carbon

allocations apportioned, agreed and assigned to a Function or Cluster based on their influence on action. This could build greater accountability for the delivery of actions and improve understanding of corporate carbon emissions.

2.5 While there are no direct financial implications from this option to establish a carbon budget it should be noted there will be capital costs in the development of some actions towards the net zero target established through the final plan, these would be addressed on an individual project basis..

2.6 The development of an annual emissions reduction budget for Council emissions sources can feed into the budget setting process. Identifying investment requirements required to deliver a net zero carbon target and identifying any financial savings achieved through emission reduction actions. However, it should be recognised that while financial savings may be minimal through the delivery of some projects, actions could have a significant impact on emission reductions,

2.7 It should be noted that:

- There is a risk that carbon savings may not be delivered in a reporting period, if projects are delayed or not delivered. This may have a knock-on impact on reaching any annual carbon allocation. However, a carbon budgeting approach can allow for variables in any given year.
- Internal governance is in place on climate change and the carbon budget methodology will be developed in dialogue and through further consultation with relevant officers.
- Staff time will need to be allocated to developing and annually reviewing the carbon budget.
- There are few examples where a carbon budget approach has been taken at organisation level and there are no specific tools area available to support the development of an internal carbon budget at organisation level.
- There is understanding and monitoring of the Council carbon emissions to support statutory requirements.

3.0 OPTIONS CONSIDERED:

3.1 Option 1 - Continuing to collate annual data on carbon emissions, though does not support forward planning or target setting on emission reduction. There are no additional costs associated with this option however, it would not build understanding on carbon data and progress. This may mean failure to meet climate change requirements.

Expected Benefits - None

Risks Specific to this Option

- Failure to reduce emissions, in line with statutory climate duties.
- Failure to meet proposed mandatory requirements to set a target year for net zero.
- A plan for carbon reduction measures is not put in place to support delivery of national targets.
- No shared responsibility across the council for action on climate change.
- Lack of understanding of carbon data and progress
- Risk of losing benefits that could be derived from carbon savings.

3.2 Option 2 - Commission an external consultancy to calculate a carbon budget for the Council. This would allow access to external expertise and would allow a reduction approach to be established. However, there may be insufficient staff understanding of the methodology. This may result in a disconnect in understanding between project implementation and carbon reduction. External commissioning may result in a time lag with council initiatives, statutory reporting, budget setting. There are costs associated with this approach and there may be further costs in any review of the carbon budget or adjustments in approach to align with internal processes and statutory requirements.

Expected Benefits

- Access to external expertise.
- Assigns responsibility and accountability for emission reduction.
- Aims to encourage collaborative working/ shared responsibility for action.
- Sets targets/ trajectories for emission reduction.
- Allows for annual adjustments.
- Able to calculate different emission pathways.

Risks Specific to this Option

- Insufficient staff understanding of the methodology. May require annual costs to commission and update data annually.
- A disconnect in understanding between project implementation/ carbon target.
- May result in a time lag with council initiatives, statutory reporting, budget setting.
- Risk if projects are not delivered in the reporting period, that carbon savings are not delivered and this has a knock-on impact on reaching targets.
- Risk that the Council may not meet its overall and annual targets.
- Expected Costs £ Cost – unknown to be confirmed.
- Few examples of Councils where this approach has already been taken.

3.3 Option 3 - Develop an in-house methodology for a calculating an overarching annual carbon budget for the Council and progressing the approach to allocate an agreed fair portion to Functions and/ or Clusters, based on their influence (through service plans and budget) to implement carbon reduction projects. Under the approach, actions/ projects will be identified to contribute to an overall annual emission reduction target,

Expected Benefits

- Sets targets/ trajectories for emission reduction.
- Provide a means to monitor progress.
- Improved understanding of corporate CO2 emissions.
- Allows annual adjustments to be made.
- Carbon allocations can be assigned to a Function.
- Gives ownership and accountability to reducing emissions.
- Integrates carbon into decision making.
- Aligns with budget setting and service planning.
- Staff time is the only cost associated with this option.
- Aligns with information required for the statutory annual Climate Change Report.

Risks Specific to this Option

- Need to allocate staff time to developing a methodology
- No specific tools to support the process at organisation level.
- Risk if projects are not delivered in the reporting period.
- Risk that the Council may not meet its overall and annual targets.
- Need to agree a fair method of apportioning emissions between Functions.
- Internal allocations may need to be adjusted if there is internal restructuring.
- Risk that relevant functions do not achieve their annual allocations.

3.4 Option 4 – Develop an in-house methodology for a calculating a carbon budget for the Council. – (allocated to themes for the plan). Establishing a methodology and an annual carbon budget for the council and apportion an annual carbon allocation for each of the operational themes under the plan; buildings, transport and other operations. This would have similar benefits/ risks to option 3, allocating to themes would support the delivery of the Council Energy and Climate Plan and emissions data can be readily apportioned to themes. However, under this approach there may be a disconnect to the budget setting and service planning process.

Expected benefits

- Sets targets and trajectories for emission reduction.
- Improve understanding of corporate CO2 emissions.
- Data is already attributed to themes.
- No internal adjustments will be required if there is internal restructuring.
- Approach can be designed that aligns information required for the statutory annual Climate Change Report.
- Staff time is the only cost associated with this option.

Risks Specific to this Option

- Need staff time to developing a methodology.
- Less able to align with budget setting and service planning.
- Less accountability for carbon reduction actions.
- Risk that the themes may not meet the annual carbon budgets and the Council may not meet overall annual carbon budget.

3.5 Option 5 - Implement a carbon management approach. By setting a long-term emission reduction target actions could be identified that can contribute to the target. However, there would be less flexibility in the short to medium term and less understanding of the immediacy for action. This approach would not be the most effective for alignment to budget setting and service planning.

Expected benefits

- Approach can be designed that aligns information required for the statutory annual Climate Change Report.
- Schedules carbon reductions.
- Staff time is the only cost associated with this option.

Risks Specific to this Option

- Lack of flexibility.
- Lack of responsibility across Functions and Clusters to contribute to the emission reduction targets.
- Less able to align to short/ medium term decision making.

Table 1: Scoring Options Against a Net Zero Council Objective

Objectives – Net Zero	Option 1		Option 2		Option 3		Option 4		Option 5	
Ease of use	N/A	0	Unknown	0	Need to update if restructuring. To apportion budget	2	Aligns with emission theme work	3		3
Builds understanding	Not build understanding:carbon data/ progress	0	May be insufficient staff understanding methodology	2	Improved understanding of carbon emissions	3	Improved understanding of carbon emissions	2	Less understanding of carbon emissions	1
Resource use	Benefits from carbon savings lost	0	Access external expertise	2	Staff time to develop/ update	2	Staff time to develop/ update	2	Staff time to develop/ update	2
Links decision making	No planned approach	0	May be a time lag with reporting and decision making	2	Can align with budget setting and service planning	3	Can align with budget setting and service planning	2	Less able to align to short/ medium term decision making.	1
Cost		2	£ cost to commission. Annual update costs	-1		2		2		2
Effectiveness	No responsibility for action on climate change	0		3	Assigns responsibility for emission reduction to Functions/ clusters	3	Assigns responsibility for emission reduction to themes	2	Less responsibility on emission - Functions/ Clusters	1
Allows for flexibility		0	May be less so if internal changes	1	Flexible	3	Flexible	3	Lack of flexibility	0
Supports compliance	Failure to reduce emissions/ set target(s)	0	Can support compliance	3	Can support compliance	3	Can support compliance	3	Can support compliance	3
Total		2		12		21		19		13
Ranking		5		4		1		2		3

Fully delivers 3, Mostly delivers 2, Delivers to an extent 1, Does not deliver 0, Negative impact on objective -1