

REPORT TO SUSTAINABILITY COMMITTEE – 14 SEPTEMBER 2022

ABERDEENSHIRE COUNCIL ROUTE MAP 2030 AND BEYOND UPDATE

1 Executive Summary/Recommendations

1.1 This report contains the updated draft of Aberdeenshire Council's Route Map 2030 and Beyond which has been developed by consultants with the support of Aberdeenshire Council officers. This updated draft contains new estimated figures and where possible the report provides feedback from Area Committees.

1.1.1 The project looked at what the requirement and financial investment will be across the Council to reach its own 75% reduction in emissions by 2030 target and Net Zero by 2045. A part of this work included the development of a Carbon Budget Toolkit to identify a complete view of decarbonisation progress against planned Carbon Dioxide Equivalent (CO₂e) reduction. This includes a view of the capital/revenue impact and cost effectiveness (£/tCO₂e) of each reduction project so that the Council can analyse the impact on the overall budget and prioritise project selection.

1.2 The Committee is recommended to:

1.2.1 Consider and comment on feedback provided by the Area Committees on the Route Map 2030 and Beyond (Appendix 2);

1.2.2 Consider and comment on the updated draft Route Map 2030 and Beyond (Appendix 1); and

1.2.3 Instruct the Director of Environment and Infrastructure Services to finalise the Route Map 2030 and Beyond in order for it to be presented to Full Council on 29 September 2022 for approval.

2 Decision Making Route

2.1 Section 44 of Part 4 of the Climate Change (Scotland) Act 2009 places duties on public bodies relating to climate change which entered into force on 1 January 2011. These duties require that a public body must, in exercising its functions, act:

- in the way best calculated to contribute to delivery of the Act's emissions reduction targets;
- in the way best calculated to deliver Scotland's statutory climate change adaptation programme; and
- in a way that it considers most sustainable.

2.2 The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 sets national emissions reduction targets as:

- At least 75% lower than the baseline year by 2030;
- At least 90% lower than the baseline year by 2040; and
- Net Zero by 2045 ('Net Zero' refers to achieving an overall balance between emissions produced and emissions taken out of the atmosphere).

- 2.3 On 18 March 2020 Aberdeenshire Council ([item 9](#)), agreed a Climate Change Declaration committing to working towards a carbon free society by reducing its own emissions by 75% (2010/11 baseline) by 2030 and to work with others across the region to ensure that Aberdeenshire reaches Net Zero by 2045.
- 2.4 On 24 June 2021 Aberdeenshire Council ([item 10](#)), agreed a one-off allocation of £100,000 to support the next phase of developing the Carbon Budget setting process. The revised process has been to support the Council in developing a toolkit which has helped to cost out a Route Map to 2030. The next steps will be to fully integrate the Carbon Budget with the Council's financial budgets.
- 2.5 On 25 August 2021, the Sustainability Committee ([item 6](#)) agreed a project outline for the one-off allocation and consultants Arcadis began working on the Route Map 2030, Toolkit development (for estimating cost per tonne saved for all the significant measures through the creation of a Marginal Abatement Cost Curve - MACC), and Carbon Budget 2022-23 on 22 November 2021.
- 2.6 On 16 February 2022, the Sustainability Committee ([item 6](#)) was provided an update on the progress of the development of the Carbon Budget 2022/23, Route Map 2030, and Toolkit.
- 2.7 On 9 March 2022, Aberdeenshire Council ([item 7](#)) approved the Carbon Budget 2022 – 2023. At the same meeting, £500,000 was approved to support the further development of the Route Map through necessary feasibility work on a cross section of the Council's operational buildings. Some other opportunities for feasibility/technical studies are also being considered as outlined by the recommendations in section 2.2 of the Route Map 2030 and Beyond document (**Appendix 1**).
- 2.8 On 15 June 2022, the Sustainability Committee ([item 6](#)) was presented the draft Route Map 2030 and Beyond for consideration and comment. The Committee agreed to Instruct the Director of Environment and Infrastructure to circulate the report to Area Committees for their consideration and comments following which to progress the delivery of a workshop for Sustainability Committee members and the Chairs, Vice Chairs and opposition spokespeople of the Policy Committees on the Route Map and the methodology used within the toolkit and then to finalise and present the report to Full Council for approval.

3 Discussion

- 3.1 The updated Route Map 2030 and Beyond can be found in **Appendix 1**. Since the Sustainability Committee meeting on the 15 June 2022, amendments have

been made to the draft Route Map 2030 and Beyond. These have related mainly to the annual Capital investment required for decarbonising the Council’s operational non domestic building stock (**Appendix 1**, Table 1).

- 3.2 Targets and emission estimates within the fleet and streetlighting sections have also had some minor amendments (**Appendix 1**, Tables 2, 3, & 4).
- 3.3 The total Capital investment required has also been amended to take into account the adjustments made across all 3 main emission areas of non-domestic operational buildings, fleet and streetlighting. The 10% additional requirement for emissions wider than these 3 areas has therefore also increased to £10,809,600. The total Capital investment for Aberdeenshire Council to achieve 75% by 2030 is now estimated to be around £118,905,621 (**Appendix 1**, Table 6).
- 3.4 It needs to be noted that these are still estimates based on assumptions within the Carbon Budget Toolkit which was developed alongside the Route Map 2030 and Beyond. Annual feasibility work for projects and other factors such as energy costs, supply and demand of material etc. will likely change the totals to be more accurate over time. Updating of the Toolkit will occur annually by officers across the key services.
- 3.5 Area Committees were attended on the following dates:
 - Formartine – 23 August
 - Kincardine & Mearns – 23 August
 - Banff & Buchan – 30 August
 - Marr – 30 August
 - Buchan – 6 September
 - Garioch – 6 September
- 3.6 Feedback which was collected from Area Committees can be found in **Appendix 2** and any additional matters from the meetings on 6 September will be provided verbally.

4 Council Priorities, Implications and Risk

- 4.1 This Report helps deliver all of the Council’s Strategic Priorities under the three Pillars by embedding the key principle of ‘climate and sustainability’ across Aberdeenshire Council.

Pillar	Priority
Our People	<ul style="list-style-type: none"> • Education • Health & Wellbeing
Our Environment	<ul style="list-style-type: none"> • Infrastructure • Resilient Communities
Our Economy	<ul style="list-style-type: none"> • Economy & Enterprise • Estate Modernisation

4.2 The table below shows whether risks and implications apply if the recommendations are agreed.

Subject	Yes	No	N/A
Financial	X		
Staffing	X		
Equalities and Fairer Duty Scotland	IIA attached as Appendix 3		
Children and Young People's Rights and Wellbeing	IIA attached as Appendix 3		
Climate Change and Sustainability	IIA attached as Appendix 3		
Health and Wellbeing			X
Town Centre First			X

4.3 The financial implications in reaching carbon emission reduction targets are significant and will need to be addressed and identified for the organisation as a whole. This work will inform the Council's Medium-Term Financial Strategy and in doing so seeks to ensure that the programme of activities and projects represent best value in how the Council helps to deliver the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. The target of 75% by 2030 is more challenging and will involve the need for considerable investment by both the Council, UK and Scottish Government and other stakeholders. The development of the toolkit has supported this requirement by identifying the need and amount of investment required.

4.3.1 Capital expenditure of implementing a reduction in Aberdeenshire Council's emissions has been estimated by the consultants who developed the Route Map 2030 and Beyond and Carbon Budget Toolkit (**Appendix 1**, Table 6). The estimates are broken down to the level of annual expenditure with an estimated total of £108,096,021 to reach a 75% reduction in emissions by 2030. These indicative costs focus on only operational buildings, fleet and streetlighting. It is estimated a further 10% of funding should be considered to cover actions in other areas where the Council reports emissions which brings the total estimated investment to £118,905,621. It is also important to note that the toolkit is still to be finalised and so this figure may still change. Further feasibility studies to be completed in 2022/23 will provide more detailed and robust whole life costings. In addition, there will always be some fluidity with these figures as costs behind assumptions change with current market climate.

4.3.2 The figures above do not include revenue consequences of borrowing which will be around £4million for 40 years. They also do not include future revenue savings being made by some of the interventions, for example energy efficiency projects. They also do not demonstrate potential increases in future operational costs. However, the Carbon Budget Toolkit will allow for revenue implications to be calculated at project level as demonstrated by the Marginal Abatement Curve example (**Appendix 1**, Figure 7). Some of the funding required will already be set out in the Capital Plan. For example, £5 million per annum from 2025/26-2030/31 has already been approved for fleet replacement. Therefore, the total of additional funding for the Council to meet its targets is

still to be determined. Once this has been identified, changes to the Capital Plan would need to be agreed by the Capital Plan Group for affordability and would then need approval by Full Council. Some work is still required to complete this before the Route Map 2030 and Beyond is put before Full Council for approval.

4.3.3 A Capital Plan Review is currently ongoing which considers the capacity in the revenue budget to support agreed priorities within the Capital Plan. A number of service priorities are still awaiting consideration for inclusion in the Plan, including the capital investment which will be required to achieve the objectives of the Route Map 2030 and Beyond.

4.3.4 The table below provides an indication of the current estimates for expenditure to meet the 2030 targets: together with the current provision in the Council's Capital Plan and the associated differentials. As indicated previously the estimates will require further validation as part of the feasibility works currently being undertaken. The feasibility studies will provide a basis for the level of capital investment on the type of programmes, the level of capital investment and associated revenue implications both in terms of borrowing costs and any reduction in running costs. It is evident, however, at this juncture that significant investment will be required to deliver on the targets.

Net Zero Targets Capital Implications Route Map 2030 and Beyond							
Year	Property (P) £	Fleet (F) £	Street Lighting (SL) £	Other Services £	Total Capital Expenditure £	Current Capital Plan Allowance £	Current Anticipated Additional Investment £
2023/24	9,361,326	0	510,000	1,351,200	11,222,526	P=284,000 SL=510,000	10,428,526
2024/25	9,361,326	0	0	1,351,200	10,712,526	P=300,000	10,412,526
2025/26	9,361,326	1,455,692	0	1,351,200	12,168,218	P=400,000 F=5,000,000	6,768,218
2026/27	9,361,326	3,882,912	0	1,351,200	14,595,438	P=600,000 F=5,000,000	8,995,438
2027/28	9,361,326	5,459,129	0	1,351,200	16,171,655	P=600,000 F=5,000,000	10,571,655
2028/29	9,361,326	6,081,665	0	1,351,200	16,794,191	P=600,000 F=5,000,000	11,194,191

2029/30	9,361,326	7,402,341	0	1,351,200	18,114,867	P=600,000 F=5,000,000	12,514,867
2030/31	9,361,326	8,413,674	0	1,351,200	19,126,200	P=600,000 F=5,000,000	13,526,200
TOTAL	74,890,608	32,695,413	510,000	10,809,600	118,905,621	34,494,000	84,411,621

4.3.5 In achieving the Council's targets we will also have to include a general evolution of staff roles to incorporate consideration of climate change as part of the day job. In the next 2 - 5 year period Services and Directorates will be supported through augmenting the corporate lead team on Climate Change as well as putting in place project specific leads. The options for funding this approach will be developed further in discussion with Finance and Service leads. This is likely to be a combination of sourcing external funding, building into the Capital Programmes of work, gaining support as part of collaborations and putting in place secondment opportunities.

4.4 An Integrated Impact Assessment (IIA) has been carried out as part of the development of the proposals set out above. It is included as **Appendix 3** and there is a positive impact as follows:

- The Route Map 2030 and Beyond identifies many projects which will support a reduction in the Council's own emissions and therefore its contribution to regional emissions, demonstrating a positive impact towards supporting action on climate change mitigation and adaptation.
- Reducing emissions from actions within the Council will support a cleaner, safer environment for children, young people, staff and residents of Aberdeenshire as well as provide exciting opportunities for development and learning.

4.5 The following Risks in the [Corporate Risk Register](#) have been identified as relevant to this matter on a Corporate Level. However, it is acknowledged that working towards a 75% reduction in Council owned emissions has the potential to impact upon any number of areas across the Council risk portfolio.

- Risk ID ACORP010 as it relates to environmental challenges;
- Risk ID ACORP006 as it relates to reputation management; and
- ACORP001 as it relates to Budget Pressure.

4.5.1 The following Risk in the [Directorate Risk Register](#) has been identified as relevant to this matter on a Strategic Level:

- Risk ID ISSR010 as it relates to Climate

By adopting and implementing the recommendations within the Route Map 2030 and Beyond the above risks could be mitigated against with the addition of sufficient communication and engagement on the progress Aberdeenshire Council is already making with regards to climate change mitigation and adaptation. Budget pressures will require additional support but with the use of the Carbon Budget Toolkit, projects which are most cost effective at reducing emissions can begin to be prioritised while others are developed to seek external funding opportunities.

5 Scheme of Governance

- 5.1 The Head of Finance and Monitoring Officer within Business Services have been consulted in the preparation of this report and their comments are incorporated within the report. They are satisfied that the report complies with the Scheme of Governance and relevant legislation.
- 5.2 The Committee is able to consider and take a decision on this item in terms of Section R paragraph 1.1 (a) of the List of Committee Powers in Part 2A of the Scheme of Governance as it relates to monitoring the Council's work in respect of sustainable development and climate change.

Alan Wood
Director of Environment and Infrastructure Services

Report prepared by Claudia Cowie Team Leader Sustainability and Climate Change
Date: 31 August 2022

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Appendix 1 - Aberdeenshire Council Route Map 2030 and Beyond
Appendix 2 - Feedback collected from Area Committees meetings
Appendix 3 - Integrated Impact Assessment (IIA)



From mountain to sea

Route Map 2030 and Beyond (DRAFT)

Aberdeenshire Council

August 2022



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1 Introduction to the Route Map

Aberdeenshire Council is responsible for providing a wide range of services to the population of Aberdeenshire (circa 243,000). The Council is currently made up of 70 elected Councillors representing 19 multi-member electoral wards with a number of Councillors in each.

Aberdeenshire Council currently employs around 13,500 workers and is responsible for an annual revenue budget of around £661 million.

On 18 March 2020 Aberdeenshire Council agreed a Climate Change Declaration, committing to working towards a carbon free society by reducing its own emissions by 75% (2010/11 baseline) by 2030 and to work with others across the region to ensure that Aberdeenshire reaches Net Zero by 2045.

Aberdeenshire Council's first Carbon Budget was set on 9 February 2017. Each year the process has been developed further and it has also become more embedded within services.

However, the Carbon Budget has never been fully integrated into the financial budgets and the Route Map aims to position the key actions and financial impact of reaching a 75% reduction in emissions by 2030.

This Route Map 2030 and Beyond document describes:

- Aberdeenshire's Route Map to 2030 and Beyond, summarising the key activities and milestones to deliver the vision; and
- The future Carbon Budgets.

2 Route Map to 2030 and Beyond

2.1 Introduction

Scotland has set in law ambitious targets to reach net-zero emissions by 2045 (Scottish Government, 2019) with interim targets of 90% reduction by 2040 and 75% reduction by 2030. Aberdeenshire Council has aligned with these targets.

As set out in the Public Sector Leadership on the Global Climate Emergency Guidance:

"Climate change is a responsibility for all organisations, and action on it is a core deliverable of all public bodies. There must be clear accountability across senior leadership in the organisations for climate action. Climate change should be embedded using good governance principles".

Communication of the direction of change and key milestones through this Route Map 2030 and Beyond is to provide opportunities for joining up national and local priorities.

The content is built up from an amalgamation of key activities and targets from the following sources

- **Scottish Government national guidance** – refer to Appendix A for a detailed overview of the key policies;
- **Climate Ready Aberdeenshire** - Aberdeenshire's climate change adaptation and mitigation regional strategy development;
- **Aberdeenshire Council Climate Change Declaration** - the move to a more sustainable and low carbon future; and
- **Route Map 2030 Transformation Map** – summarising key activities to transform the authority and build the capability and capacity to meet a 75% reduction in its own emissions by the end of the decade.

As part of the Route Map development, a detailed analysis was conducted of current Council challenges around climate action, followed by an assessment of the root causes and recommended solutions of these issues.

This insight fed into a risk assessment to Route Map 2030 implementation aimed at considering the key risks to delivering on the 2030 and 2045 milestones. All risks were categorised Very High, High, Medium and Low to support prioritisation of the mitigation measures. The Transformation Map presents the proposed actions to mitigate these risks in different colours as indicated in the legend of Figure 1.

2.2 Recommendations

Recommended actions have been grouped for implementing the Route Map as follows:

- **Process & Organisation**
 - **Technology**
 - **Information**
 - **People and Culture**
-

2.2.1 Process & Organisation

	Recommended actions	Key Stakeholders
1	Set up a central steering group: Take ownership of and monitor progress of delivery of the projects and Route Map 2030. Identification and recommend measures to manage resistance to change.	Senior representatives from all Directorates
2	Define clear roles & responsibilities: Define accountabilities, roles, responsibilities across the Authority for delivering the Route Map 2030. This should be followed by delivering an internal capability and capacity gap analysis against this for all services and recommend actions to address the gaps and resource challenges.	Environment & Sustainability working closely with HR and Legal
3	Supply Chain Capacity and Capability Gap Analysis: Confirm the ability for current and local suppliers to deliver the future type and volume of hard interventions and services. This includes procurement strategy review, frameworks and existing (long term and FM) contract gap analysis.	Procurement
4	Set targets for reducing Direct and Indirect emissions: Requirement as set out in the Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Amendment Order 2020 for reporting periods commencing on or after 1 April 2021. These will need to be identified and then different targets set for different sources.	Environment and Sustainability working closely with other services e.g. Housing, Commercial & Procurement

2.2.2 Technology

	Recommended actions	Key Stakeholders
5	Delivery of the Feasibility studies at operational buildings, to support definition of the 2023/24 Carbon Budget by January 2023, which includes: <ul style="list-style-type: none"> • Pilot study design and feasibility study specification • Heat pump study specification (both ground and air source) 	Property and Facilities Management

	<ul style="list-style-type: none"> • Procure contractors to deliver both surveys as well as the hard interventions to the estate • Oversee delivery of the surveys and quality assurance • Assessing the potential for further renewables programme • Assess data and design interventions • Develop the Whole Life Cost and Business Case regarding the financial implications of the interventions • Identify the synergies with concurrent activity including the Non Domestic Energy Efficiency Fund • Identify roofs on buildings that are suitable for the installation of PV and the enabling works required to allow PV to be installed • Finalise 2023/24 Carbon Budget <p>This should include the following elements:</p> <ul style="list-style-type: none"> • Design heat pump pilot studies and develop specification for the survey; and • Update current fuel/technology choice strategy. 	
	Delivery of supporting technical studies including	
6	<ul style="list-style-type: none"> • EV/H2 Fleet Assessment 	Roads and Infrastructure
7	<ul style="list-style-type: none"> • Develop Hydrogen Strategy 	Environment and Infrastructure Services/Business Services
8	<ul style="list-style-type: none"> • Electrification Risk/Resilience Study • Embed zero carbon standard for both new build and retrofit initiatives 	Property and Facilities Management
9	<ul style="list-style-type: none"> • Residual Emission Action Plan including an organisational carbon footprint scope and target review • Resilience/Adaptation Assessment • Develop Local Heat and Energy Efficiency Strategy (LHEES) • Develop Re-use Business Case 	Environment & Sustainability

2.2.3 Information

	Recommended actions	Key stakeholders
10	Central assurance and reporting: Design and implement a central reporting function, possibly incorporated in the current carbon budget tool. All services should centrally store progress data to track if projects are on track, delivered on or under budget and risks to successful delivery can be identified on time to be mitigated. A dashboard function can present near real-time data to management to support KPI reporting and data led decision-making.	Environment & Sustainability

2.2.4 People and Culture

	Recommended actions	Key stakeholders
11	Communications to support and implement the change and generate buy-in of the people and Directorates at all levels: Design and management of the communications and map the impact on the people and what it means for them.	Environment & Sustainability, supported by senior representatives from all Directorates

Figure 1: Aberdeenshire Transformation Map – Recommendations to set up the organisation and people for successful delivery of the Route Map

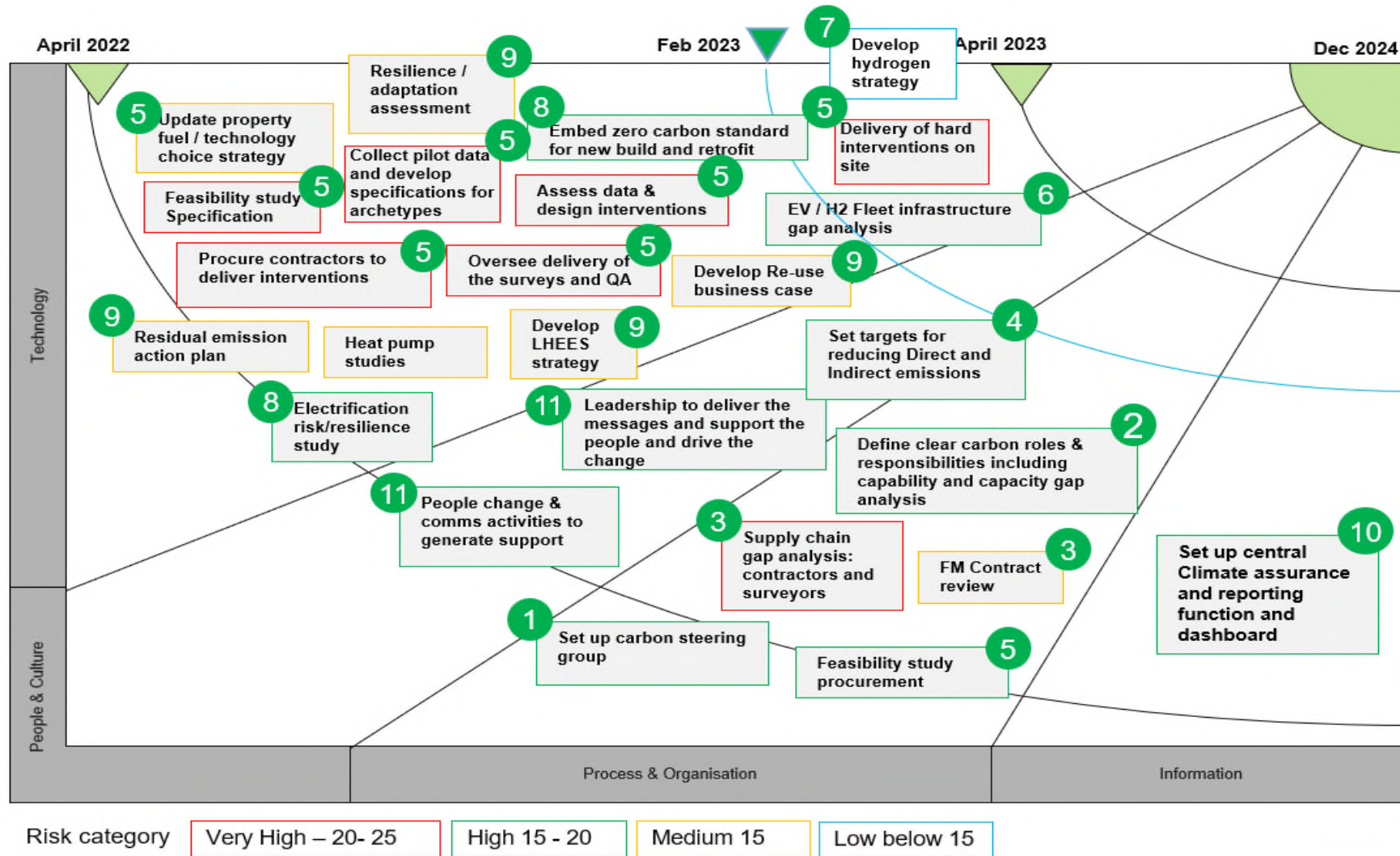
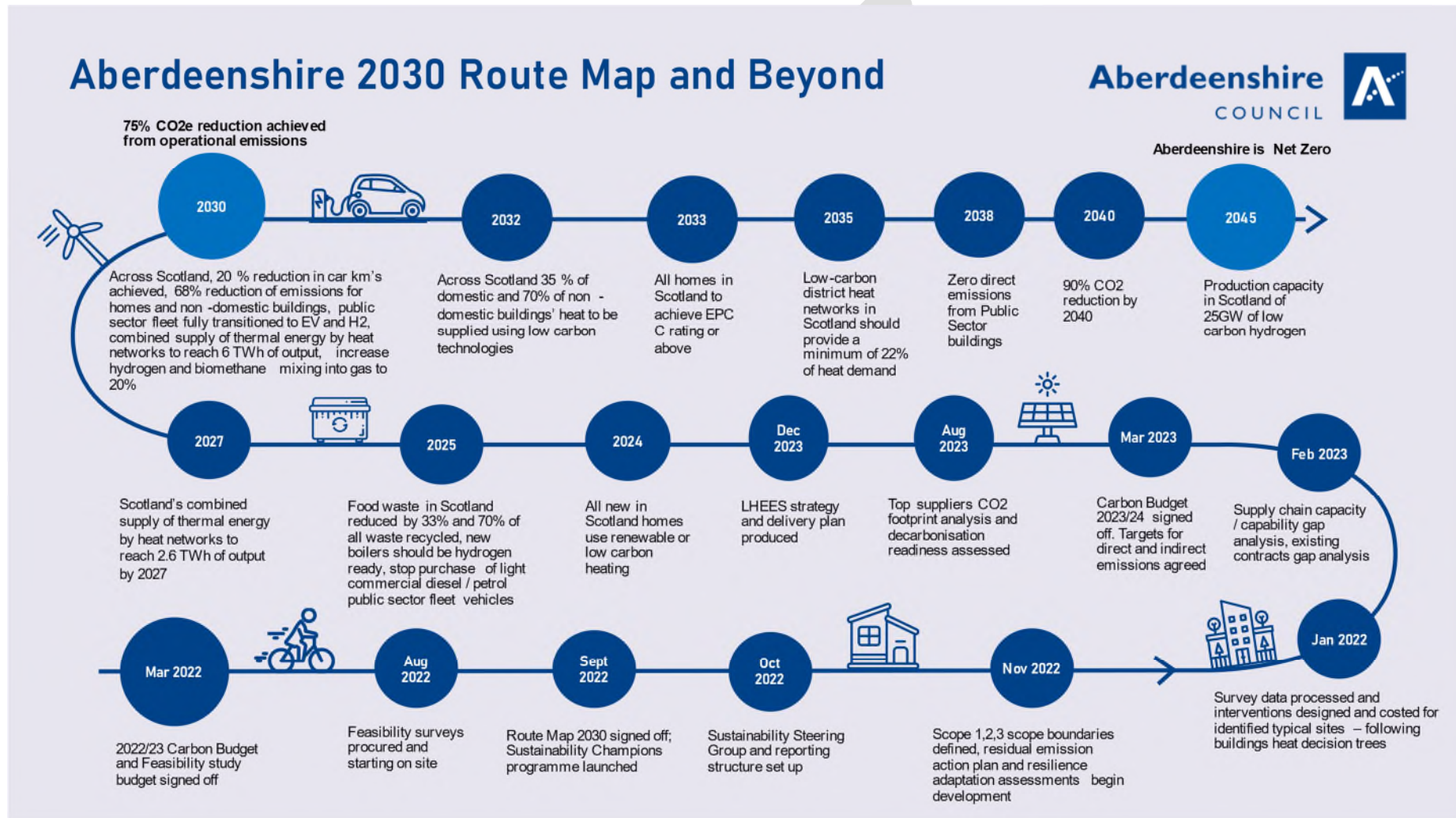


Figure 2: Aberdeenshire Route Map 2030 and Beyond



3 Future Carbon Budgets

3.1 Introduction

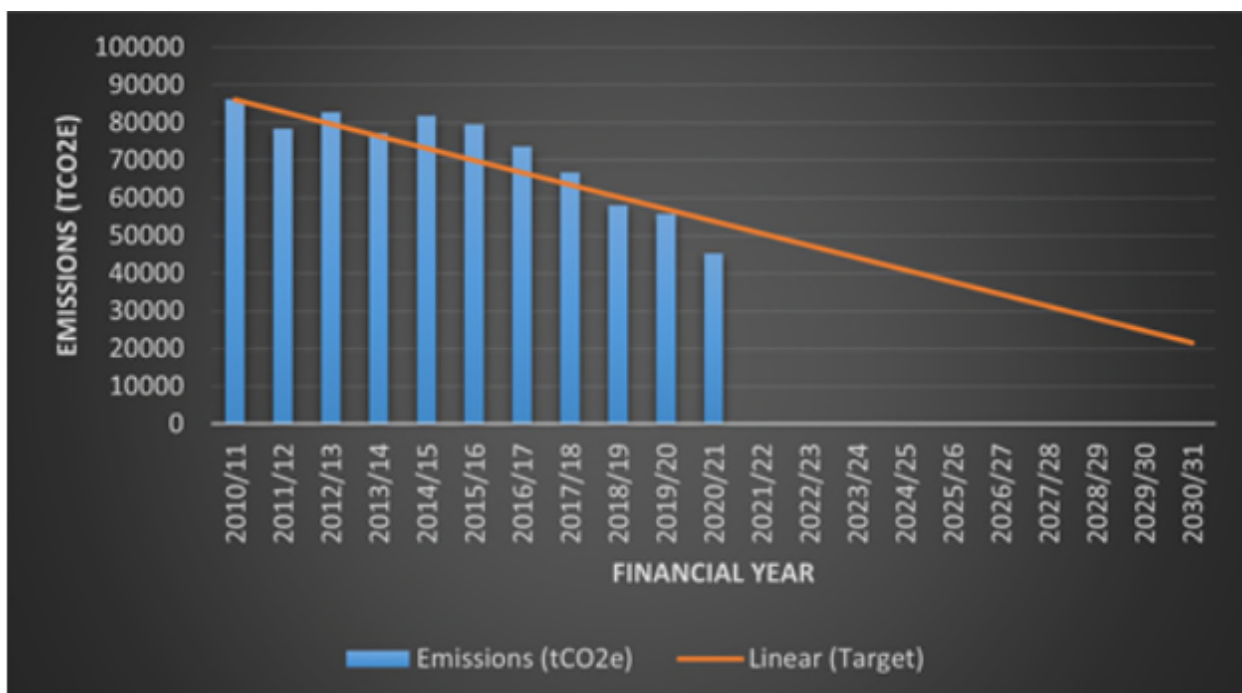
The formal adoption of the Carbon Budget process in 2017 marked one of the most significant shifts and since then there has been reasonable progress. As an organisation, Aberdeenshire Council have taken positive steps such as the establishment of the Carbon Budget process, establishing the Sustainability Committee as a full Committee in 2017 and development of this Route Map and a Carbon Budget Toolkit to support teams to build up their respective future Carbon Budgets.

The annual Carbon Budget figure is set each year to keep the Council on track for its commitment to reduce emissions by 75% by 2030 and be Net Zero by 2045 using 2010/11 as a baseline year. Management of the necessary annual reduction in emissions is the responsibility of the Strategic Leadership Team with support from key services and the Sustainability and Climate Change Team.

The Carbon Budget is set in February/March each year at the same time as the Council's Revenue and Capital budgets and is monitored throughout the year by the Sustainability Committee and other relevant Policy Committees.

The table and visuals below (figures 3 and 4) demonstrate the level of direct influence of respective Directorates to support the delivery of the decarbonisation target of 21,539 tonnes Carbon Dioxide Equivalent (tCO₂e) to meet the 75% reduction target by 2030/31.

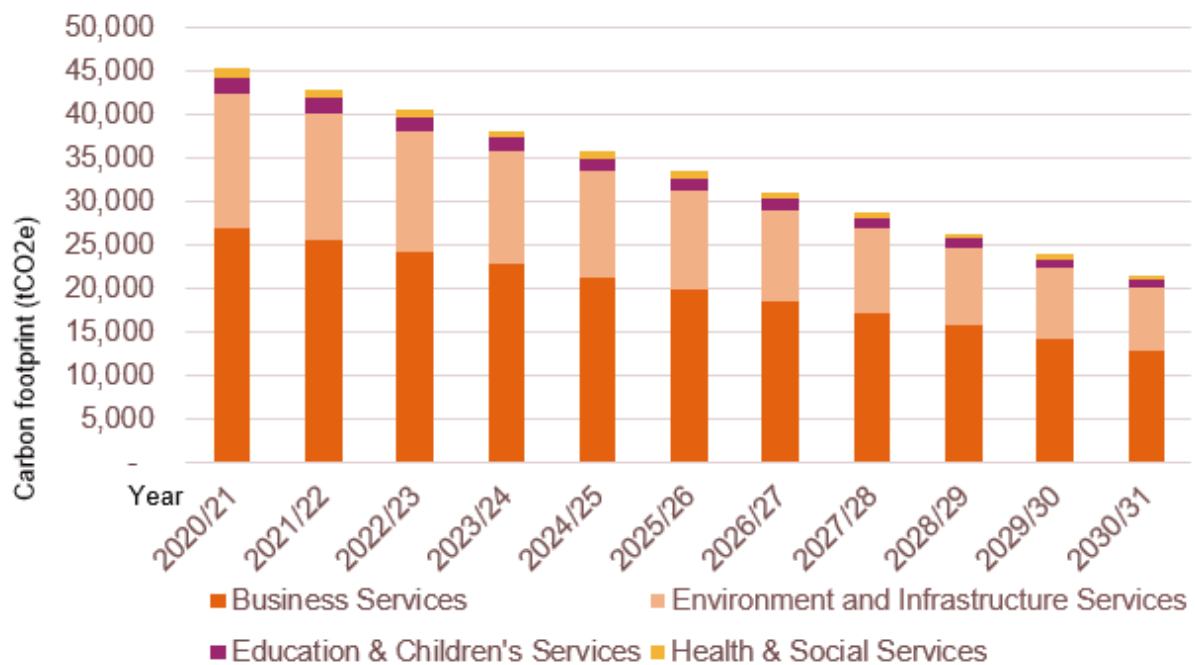
Figure 3 Aberdeenshire Council 2030/31 Target Trajectory Graph



The Directorates are provided with annual CO₂e reduction targets to support the identification and cost interventions needed to decarbonise their services to form the Authority’s Carbon Budget. These targets are presented by the new Carbon Budget tool and take into consideration and are reduced by the appropriate estimate of grid decarbonisation (tCO₂e) in that year.

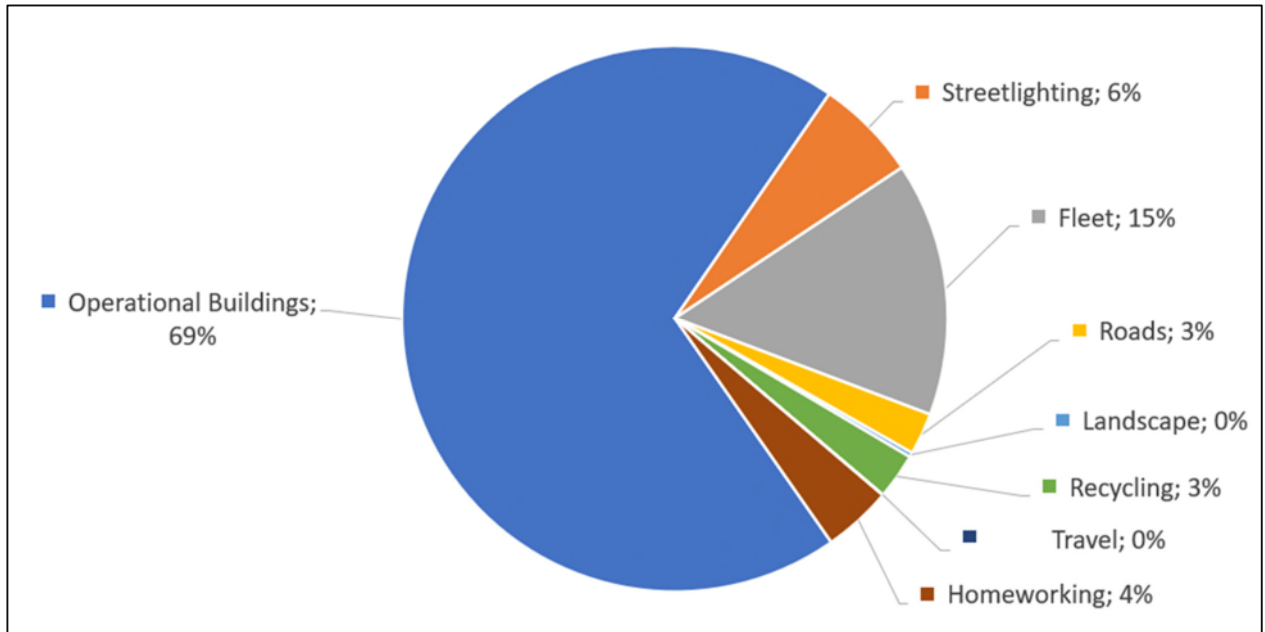
The direct level of influence the respective Directorates must support to deliver on the Council’s decarbonisation targets in 2030 and beyond differs as presented by the visual. Appropriate budgets, resources and support from key services are key to support them to plan, design, procure and deliver the hard interventions on the ground working closely with the user community. The emissions data below (figure 4) was sourced from the 2015/16 Aether report.

Figure 4: Annual Proportion of tCO₂e contribution by Directorate



In 2020-21 the Council’s footprint was 45,282 tCO₂e which was split up as per the visual overleaf (figure 5). Operational buildings, street lighting and fleet represent 90% of the Authority’s carbon footprint as presented by figure 5. This clearly demonstrates the key for the Property Management team who influence over 65% of the total footprint. Part of this is making sure that the user communities are clear and are taking the necessary steps to change how stakeholders use and operate the buildings to minimise energy and contribute to reduce the carbon footprint. The new Carbon Budget Toolkit was used to calculate the indicative future Carbon Budget required for each of these key teams to deliver on the vision as presented below.

Figure 5: Proportion of tCO2e contribution by Service



3.2 Operational Non Domestic Buildings

Overleaf, a future Carbon Budget for Property & Facilities Management (Table 1) has been provided to implement retrofit interventions to Council owned non domestic buildings with a view to improve efficiency and deliver the targeted of 75% carbon reduction.

The proposed retrofit work includes a balanced set of measures to save energy, decarbonise heat and generate and store energy with a view to reduce to net or near net zero emissions.

The future budget is generated using the new Carbon Budget Toolkit. The numbers in Table 1 are based on an example programme of interventions on a range of typical sites in line with the heat decarbonisation decision tree in figure 6 below. It should be noted that the actual approach to selection and delivery of interventions will probably be different which will impact the indicative numbers presented.

Figure 6: Property Service heat decarbonisation decision tree to implement decarbonisation interventions

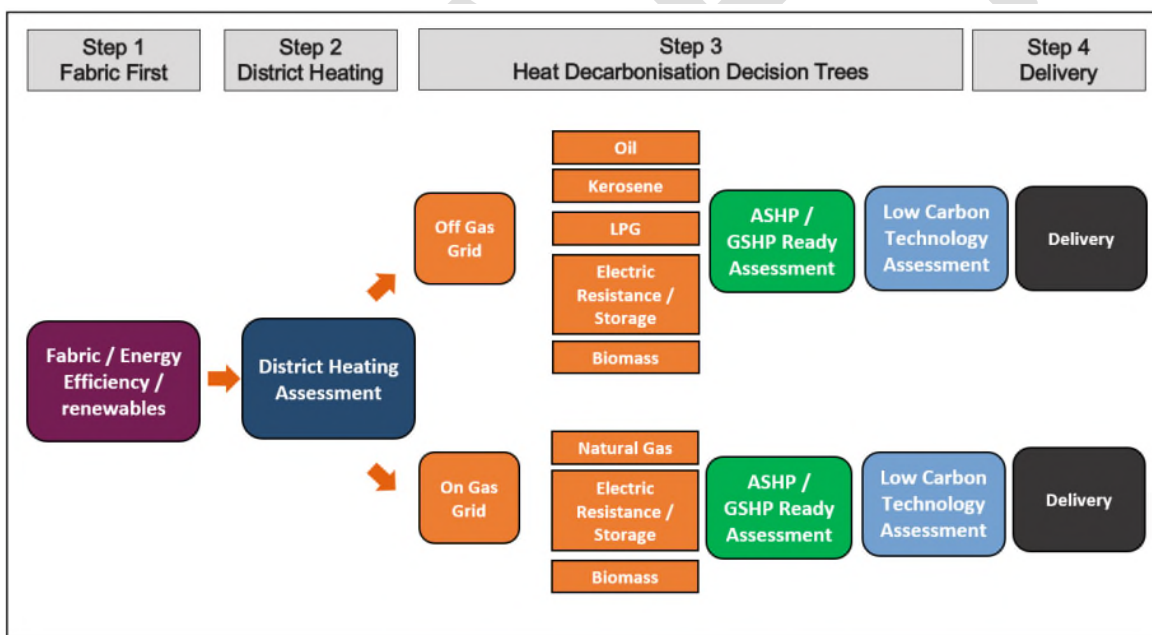


Table 1: Property annual targets (tCO₂e) and related capital expenditure (£)

Year	Reduction target (tCO ₂ e)	Capital Expenditure (£)
2023/24	868	£9,361,326
2024/25	868	£9,361,326
2025/26	868	£9,361,326
2026/27	868	£9,361,326
2027/28	868	£9,361,326
2028/29	868	£9,361,326
2029/30	868	£9,361,326
2030/31	868	£9,361,326
Total	6,947	£74,890,610
Total Including Grid Decarbonisation	14,517	£74,890,608

We have included an extract of the Route Map 2030 Marginal Abatement Cost Curve (MACC) for the Property Management team (figure 7).

This figure presents the cost of proposed emission reductions in £/tCO₂e on the y-axis, alongside emission reduction potential in tCO₂e per annum on the horizontal x-axis. In this context, 'abatement' means 'reducing'.

For the benefit of this report, we included a small sample of the proposed retrofit interventions to the buildings required to reach the 2030/31 targets. A full and interactive version is available in the Carbon Budget Toolkit to support the Council's

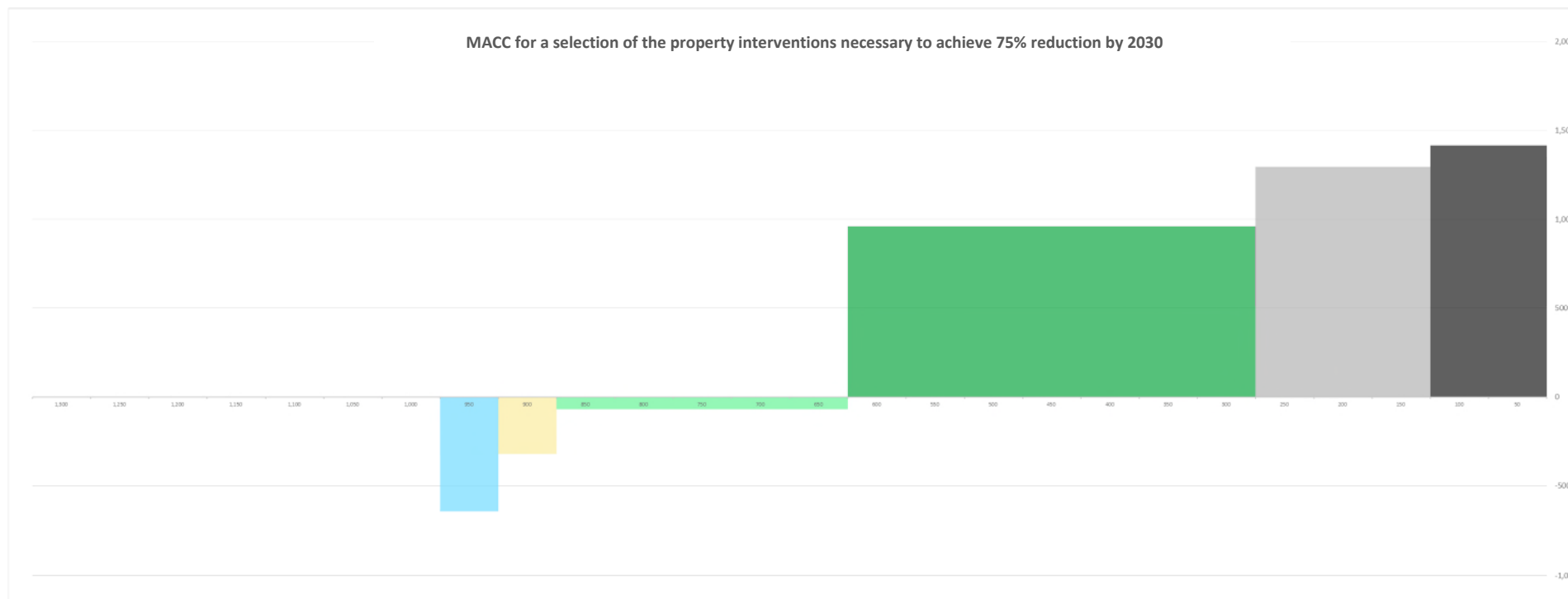
teams in identifying interventions with the highest savings to build an annual programme and future Carbon Budgets.

The MACC visual supports teams to compare financial costs and/or cost reductions as a result of a vast range of possible retrofit interventions to existing public sector buildings which are presented as coloured vertical columns.

This visual presents the cost and carbon impact of these retrofit measures for a wide range of typical Aberdeenshire sites including primary schools, academies, leisure centres, care homes, depots, and offices. The estimated costs and impact of the interventions in the MACC are calculated by the new Council's Carbon Budget Toolkit using a large set of benchmark data of similar buildings throughout the UK.

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Figure 7: Extract from Property's 2030 Route Map Marginal Abatement Cost Curve (MACC)



Example Primary School Air Source Heat Pump (realising 600 tCO2e reduction at a cost of 961 £/tCO2e)

Example Primary School Double Glazing (realising 100 tCO2e reduction at a cost of 1416 £/tCO2e)

Example Academy LED replacement programme (realising 200 tCO2e reduction at a cost of 1295 £/tCO2e)

Example Swimming Pool LED replacement programme (realising 950 tCO2e reduction at a saving of 643 £/tCO2e)

Example Swimming Pool LED replacement programme (realising 900 tCO2e reduction at a saving of 320 £/tCO2e)

Example Swimming Pool Double Glazing (realising 850 tCO2e reduction at a saving 70 £/tCO2e)

3.3 Fleet

This paragraph presents the costs of decarbonisation of Aberdeenshire Council's commercial fleet. The data excludes the cost of installation of necessary charging and refuelling infrastructure. Due to the limited availability of hydrogen fuel cell vehicles, this analysis focusses on the transition into a fleet of electric vehicles. It would still be the strategic intent to adopt hydrogen alongside EV in the period to 2030.

Current analysis demonstrates that the maximum fleet decarbonisation from the current carbon footprint of 6536 CO₂e is approximately 55%. This is based on current Government's 'Environmental reporting guidelines' which state electric vehicles available in today's market cannot yet be considered net zero due to the electricity supplied to the grid not being carbon neutral.

Table 2 and Table 3 have been presented overleaf for fleet replacement up to 2030/31 (target year for 75% reduction and focus for this Route Map report) and the second table presents the cost for full electrification of the commercial fleet. It is anticipated that the fleet's footprint by 2030/31 will have reduced by an estimated 45% and from 2032/33 by an estimated 55% respectively from the current carbon footprint.

Due to given constraints in the vehicle market, the Council is over the next 2 years replacing like-for-like (diesel with diesel vehicles) and will continue decarbonisation of its fleet from 2025/26.

The tables overleaf present the impact of electrification of the fleet as

- Anticipated carbon footprint of the commercial fleet in tCO₂e
- Estimated increase of the cost of ownership of the fleet

The planned transformation is based on the currently planned programme of vehicle replacements year by year as presented in Cenex report 'Zero Emission Fleet and Infrastructure Review' which was issued to Aberdeenshire Council in October 2021.

Table 22: Planned fleet electrification trajectory and carbon reduction (tCO2e) versus additional cost of ownership (£) per annum to 2030/31

Year	Planned reduction - realised by fleet electrification (tCO2e)	Increased cost of ownership as a result (£)
2025/26	560	£1,455,692
2026/27	897	£3,882,912
2027/28	465	£5,459,129
2028/29	219	£6,081,665
2029/30	425	£7,402,341
2030/31	522	£8,413,674
Total	3,088	£32,695,413

Table 33: Full fleet electrification trajectory and carbon reduction (tCO2e) versus additional cost of ownership (£) per annum

Year	Planned reduction - realised by fleet electrification (tCO2e)	Increased cost of ownership as a result (£)
2025/26	560	£1,455,692
2026/27	897	£3,882,912
2027/28	465	£5,459,129
2028/29	219	£6,081,665
2029/30	425	£7,402,341
2030/31	522	£8,413,674
2031/32	379	£9,222,870
2032/33	268	£9,794,830
Total	3,735	£51,713,112

3.4 Streetlighting

The programme of streetlight replacements to date has successfully exceeded annual decarbonisation targets year-on-year. The cost and decarbonisation impact of the planned remaining interventions next year are presented below (Table 4).

Table 44: Street lighting annual targets (tCO₂e) and related capital expenditure (£)

Year	Reduction Target (tCO ₂ e)	Planned reduction - realised by the interventions (tCO ₂ e)	Capital Expenditure (£)
2023/24	352	322	£510,000

3.5 Aberdeenshire future indicative carbon budget

To meet the target of 75% decarbonisation against the baseline of a footprint of 86,155 tCO₂e in 2010/11, Aberdeenshire Council requires to decarbonise to 21,539 tCO₂e by 2030/31 (Table 5).

Table 55: Aberdeenshire carbon baseline and targets (tCO₂e) to achieve 75% reduction

Year	Annual emissions (tCO ₂ e)	Annual reductions (tCO ₂ e)
2010/11	86,155	3,231 (linear)
2020/21	45,281	2,374 (based on 2021 footprint)
2030/31	21,539	

Property, Streetlighting and Fleet account for over 90% over the current footprint. On that basis, we have calculated Aberdeenshire’s indicative future Carbon Budget as the sum of the capital expenditure of these 3 Services to deliver a 75% carbon reduction plus an additional 10% to account for projects by other teams including Waste, Roads and Infrastructure, Landscape Services, Business Travel and Homeworking (Table 6).

The cumulative Carbon Budget investment required by Property, Streetlighting and Fleet to deliver the target is £108,096,023. We have allowed an estimated 10% or £10,809,600 (or £1,351,200 per annum) to design, procure and deliver projects of other services. However, it should be highlighted that this is an estimation of cost based on current thinking, the further studies will provide more detailed and robust whole life costings.

A total Carbon Budget investment of around £118,905,621 to deliver on Aberdeenshire’s vision and meet Scottish Government national targets set for 2030/31.

Table 66: Aberdeenshire indicative future carbon budget required to deliver 75% by 2030/31*

Year	Total Capital Expenditure (£)	Property	Fleet	Street lighting	Other Services (10% contribution)
2023/24	£9,871,326	£9,361,326	0	£510,000	£1,351,200
2024/25	£9,361,326	£9,361,326	0		£1,351,200
2025/26	£10,817,019	£9,361,326	£1,455,692		£1,351,200
2026/27	£13,244,238	£9,361,326	£3,882,912		£1,351,200
2027/28	£14,820,455	£9,361,326	£5,459,129		£1,351,200
2028/29	£15,442,991	£9,361,326	£6,081,665		£1,351,200
2029/30	£16,763,667	£9,361,326	£7,402,341		£1,351,200
2030/31	£17,775,000	£9,361,326	£8,413,674		£1,351,200
Total	£118,905,621	£74,890,608	£32,695,413	£510,000	£10,809,600

**Please note that currently all text and cost data in this Route Map 2030 report and benchmark data in the Carbon Budget is going through a final review - which may lead to further updates and cost variations*

Appendix A - Summary of key targets outlined by policy

Table 77: Summary of key targets outlined by policy

Topic	Target	Implementation Date	Legislation, policy or guidance (plus reference)
Legislation			
Key Targets	Scottish target to reach Net Zero by 2045.	<ul style="list-style-type: none"> 75% reduction by 2030 90% reduction by 2040 Net zero by 2045 	Climate Change (Scotland) Act 2009 - <i>The 2050 and interim targets</i> Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 (asp 15) ,
	Consult in 2022 on a series of phased targets and new funding to support all publicly owned buildings meeting net zero heating requirements.	<ul style="list-style-type: none"> By 2038 	Heat Networks Delivery Plan - Page 23 Heat Buildings Strategy Page 74
	20% reduction in car kms driven. Phasing out of all petrol and diesel cars from public sector fleets - removing need for new petrol or diesel light commercial vehicles by 2025, and to phase out need for all new petrol and diesel vehicles in Scotland's public sector fleet by 2030.	<ul style="list-style-type: none"> 2025 2030 	National Transport Strategy (NTS2) Delivery Plan: Page 19
	The Scottish Government is committed to all buildings achieving net zero emissions by 2045.	<ul style="list-style-type: none"> 2045 	Net Zero Public Sector Buildings Standard – page 2 Scottish Futures Trust Net Zero Public Sector Buildings Standard

Food waste reduced by 33% from the 2013 baseline by 2025.	• 2025	Climate Change Plan 2018 – 2032 Securing a Green Recovery on a Path to Net Zero- Page 159
70% of all waste recycled by 2025.		Aberdeenshire Climate Change Policy
Landfilling of biodegradable municipal waste has ended by 2025.		Aberdeenshire Council Resources and Circular Economy Commitment
Reduce use of energy, water, and natural resources in support of circular economy principles and zero waste.		
All new homes shall use renewable or low carbon heating - it is imperative that new homes consented from 2024 use zero direct emissions heating and cooling, + feature high levels of fabric energy efficiency to reduce overall heat demand.	• From 2024	New Build Zero Emissions from Heat Standard – page 2
35% of domestic and 70% of non-domestic buildings' heat to be supplied using low carbon technologies.	• 2032	Climate Change Plan 2018–2032 page 19

Policy and Guidance

Energy Efficiency	All homes to achieve equivalent to EPC C by 2033, where technically and legally feasible and cost-effective.	• 2033	Scottish Government Energy efficiency policy – page 1 Energy Efficiency Standard for Social Housing (ESSH2)
	68% reduction of emissions for homes and non-domestic buildings.	• 2030	Protecting Scotland's Future: The Government's Programme for Scotland 2019-2020

All rented non-domestic buildings will be EPC Band B.

District Heating

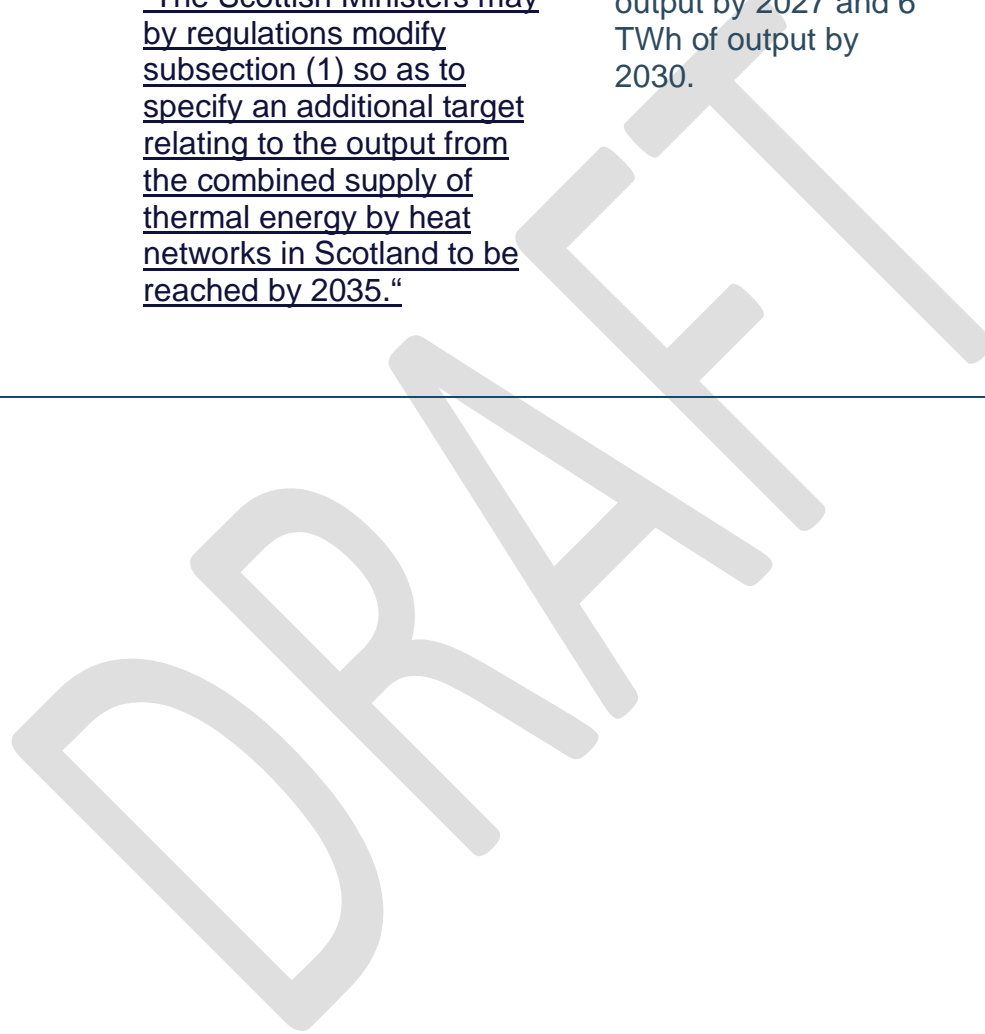
Low-carbon district heat networks should provide a significant share of public and commercial heat demand.

“The Scottish Ministers may by regulations modify subsection (1) so as to specify an additional target relating to the output from the combined supply of thermal energy by heat networks in Scotland to be reached by 2035.”

- 22% by 2035
- 42% by 2050
- Combined supply of thermal energy by heat networks to reach 2.6 TWh of output by 2027 and 6 TWh of output by 2030.

The Heat Networks (Scotland) Bill 2021

Heat Networks Strategy [page 25](#)



Technology	Target	Key Date	Legislation, policy or guidance
Heat pumps	The zero-emissions heat transition will involve changing the type of heating used in homes and non-domestic buildings, moving from high emissions heating systems, reliant on fossil fuels, to low and zero emissions systems such as heat pumps, heat networks and potentially hydrogen.	<ul style="list-style-type: none"> 2 million homes and 100,000 non-domestic buildings by 2045 	Climate Change Plan 2018–2032 page 92
Hydrogen	Boilers should be hydrogen ready.	<ul style="list-style-type: none"> 2025 	Climate Change Plan 2018–2032 page 219
	Increase hydrogen mixing into the gas system to be at least 20% green gas Production capacity of 5GW of low carbon hydrogen 100% hydrogen to become available	<ul style="list-style-type: none"> 2030 	Climate Change Plan 2018–2032 page 146 Heat Buildings Strategy page 57
	Production capacity of 25GW of low carbon hydrogen.	<ul style="list-style-type: none"> 2045 	Hydrogen Policy Statement – page 7
Bioenergy Review Scottish Heat and buildings strategy	Increase of biomethane injection into the gas system to be at least 20% green gas.	<ul style="list-style-type: none"> 2030 	Heat Buildings Strategy page 17
	Combined supply of thermal energy by heat networks to reach 2.6 TWh of output by 2027 and 6 TWh of output by 2030 - 3% and 8% respectively of current heat demand.	<ul style="list-style-type: none"> 2030 	Heat Networks Strategy page 25

Appendix 2 Feedback from Area Committees Meetings

AREA COMMITTEES:

23 August 2022

Formartine

- Where does School Transport fit into this as we have no control over this.
- How many computer monitors were left on in schools over the summer holidays, as this would be something easily resolved.
- In terms of making the fleet electrical, we are not currently including the figures if we move towards garden waste, and so the figures are likely to increase.
- How are we measuring our output of CO2? Figure 5 on page 417 of the papers shows a pie chart and how widely does this consider our usage?
- At paragraph 4.3.2 of the report, it is mentioned that works are still required – we need to note that the figures are large and financial assistance will be required from other sources.

Kincardine & Mearns

- A list of actions which will be budget friendly - list of quick wins - projects which will save money would be good to support Members when considering future budget setting.
- Report does not cover Public Transport.
- Does the Council currently consider emissions from the external services/contracts we procure?

30 August

Banff & Buchan

- Note governmental directives to local authorities and hope financial assistance is available to enable achievement of aspirations
- Agree future reports to Area Committees on progress.

Marr

- Challenges around moving to electric heating sources as energy prices increase and grid capacity (especially in more rural areas) becomes more strained.
- Battery storage technology options need time to become better tested and established.
- Battery make-up and waste: The mining of precious metals to make these batteries we are moving too is damaging the environment and recycling of these batteries is currently very limited. What is being done to address this issue?

- Under the current economic and energy crisis how will affordability to make homes more efficient be possible for many who will struggle to make it to the end of the month on the income they currently have.

6 September

Buchan - Verbal update to be provided on 14 September 2022.

Garioch - Verbal update to be provided on 14 September 2022.

Aberdeenshire Council

Integrated Impact Assessment

Aberdeenshire Council Route Map 2030 and Beyond

Assessment ID	IIA-000686
Lead Author	Claudia Cowie
Additional Authors	Joel Evans
Service Reviewers	Ewan Wallace
Subject Matter Experts	Claudia Cowie, Kakuen Mo, Christine McLennan
Approved By	Ewan Wallace
Approved On	Tuesday May 31, 2022
Publication Date	Tuesday May 31, 2022

1. Overview

This document has been generated from information entered into the Integrated Impact Assessment system.

This report contains the draft of Aberdeenshire Council's Route Map 2030 and Beyond which has been developed by consultants with the support of Aberdeenshire Council officers. The project looked at what the requirement will be across the Council to reach its own 75% reduction in emissions by 2030 target and Net Zero by 2045. Carbon Dioxide Equivalent (CO₂e) emissions and financial estimates have been made for projects identified. A part of this work included the development of a toolkit to identify a complete view of decarbonisation progress against planned CO₂e reduction. This includes a view of the capital/revenue impact and cost effectiveness (£/tCO₂e) of each reduction project so that the Council can analyse the impact on the overall budget and prioritise project selection.

During screening 7 of 10 questions indicated that detailed assessments were required, the screening questions and their answers are listed in the next section. This led to 3 out of 5 detailed impact assessments being completed. The assessments required are:

- Children's Rights and Wellbeing
- Equalities and Fairer Scotland Duty
- Sustainability and Climate Change

In total there are 30 positive impacts as part of this activity. There are 0 negative impacts, all impacts have been mitigated.

A detailed action plan with 0 points has been provided.

This assessment has been approved by ewan.wallace@aberdeenshire.gov.uk.

The remainder of this document sets out the details of all completed impact assessments.

2. Screening

Could your activity / proposal / policy cause an impact in one (or more) of the identified town centres?	No
Would this activity / proposal / policy have consequences for the health and wellbeing of the population in the affected communities?	No
Does the activity / proposal / policy have the potential to affect greenhouse gas emissions (CO2e) in the Council or community and / or the procurement, use or disposal of physical resources?	Yes
Does the activity / proposal / policy have the potential to affect the resilience to extreme weather events and/or a changing climate of Aberdeenshire Council or community?	Yes
Does the activity / proposal / policy have the potential to affect the environment, wildlife or biodiversity?	Yes
Does the activity / proposal / policy have an impact on people and / or groups with protected characteristics?	Yes
Is this activity / proposal / policy of strategic importance for the council?	Yes
Does this activity / proposal / policy reduce inequality of outcome?	No
Does this activity / proposal / policy have an impact on children / young people's rights?	Yes
Does this activity / proposal / policy have an impact on children / young people's wellbeing?	Yes

3. Impact Assessments

Children's Rights and Wellbeing	No Negative Impacts Identified
Climate Change and Sustainability	No Negative Impacts Identified
Equalities and Fairer Scotland Duty	No Negative Impacts Identified
Health Inequalities	Not Required
Town Centre's First	Not Required

4. Childrens' Rights and Wellbeing Impact Assessment

4.1. Wellbeing Indicators

Indicator	Positive	Neutral	Negative	Unknown
Safe		Yes		
Healthy		Yes		
Achieving	Yes			
Nurtured		Yes		
Active		Yes		
Respected	Yes			
Responsible	Yes			
Included	Yes			

4.2. Rights Indicators

UNCRC Indicators upheld by this activity / proposal / policy	Article 3 - Best interests of the child
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4.3. Positive Impacts

Impact Area	Impact
Achieving	Pupils within schools which are signed up to one of the initiatives in this years Carbon Budget called Energy Sparks will become knowledgeable in energy saving opportunities and be able to share these at home and in the wider community. Pupils will learn new skills and can have an opportunity to lead on different energy saving initiatives as well as work collaboratively across the school and with other schools on the programme. They can feel empowered to make a difference to emissions and therefore their impact on climate change. There is curriculum linked energy education and saving activities and energy related lesson plans and downloadable resources. There are exciting activities for eco-teams to follow and opportunities for schools to compete with other local schools to see who can save the most energy. While working on annual carbon budgets the Council will continue to seek opportunities where driving down the Council's emissions can engage with children and young people. This work will also be supported by the Education and Children's Service own Sustainability and Climate Change Strategy.

Impact Area	Impact
Included	<p>Pupils within schools which are signed up to one of the initiatives in this years Carbon Budget called Energy Sparks will become knowledgeable in energy saving opportunities and be able to share these at home and in the wider community. Pupils will learn new skills and can have an opportunity to lead on different energy saving initiatives as well as work collaboratively across the school and with other schools on the programme. They can feel empowered to make a difference to emissions and therefore their impact on climate change. There is curriculum linked energy education and saving activities and energy related lesson plans and downloadable resources. There are exciting activities for eco-teams to follow and opportunities for schools to compete with other local schools to see who can save the most energy. While working on annual carbon budgets the Council will continue to seek opportunities where driving down the Council's emissions can engage with children and young people. This work will also be supported by the Education and Children's Service own Sustainability and Climate Change Strategy.</p>
Responsible	<p>Pupils within schools which are signed up to one of the initiatives in this years Carbon Budget called Energy Sparks will become knowledgeable in energy saving opportunities and be able to share these at home and in the wider community. Pupils will learn new skills and can have an opportunity to lead on different energy saving initiatives as well as work collaboratively across the school and with other schools on the programme. They can feel empowered to make a difference to emissions and therefore their impact on climate change. There is curriculum linked energy education and saving activities and energy related lesson plans and downloadable resources. There are exciting activities for eco-teams to follow and opportunities for schools to compete with other local schools to see who can save the most energy. While working on annual carbon budgets the Council will continue to seek opportunities where driving down the Council's emissions can engage with children and young people. This work will also be supported by the Education and Children's Service own Sustainability and Climate Change Strategy.</p>

Impact Area	Impact
Respected	Pupils within schools which are signed up to one of the initiatives in this years Carbon Budget called Energy Sparks will become knowledgeable in energy saving opportunities and be able to share these at home and in the wider community. Pupils will learn new skills and can have an opportunity to lead on different energy saving initiatives as well as work collaboratively across the school and with other schools on the programme. They can feel empowered to make a difference to emissions and therefore their impact on climate change. There is curriculum linked energy education and saving activities and energy related lesson plans and downloadable resources. There are exciting activities for eco-teams to follow and opportunities for schools to compete with other local schools to see who can save the most energy. While working on annual carbon budgets the Council will continue to seek opportunities where driving down the Council's emissions can engage with children and young people. This work will also be supported by the Education and Children's Service own Sustainability and Climate Change Strategy.

4.4. Evidence

Type	Source	It says?	It Means?
Other Evidence	https://energysparks.uk/	Energy Sparks is an online, school-specific energy analysis tool & energy education programme that helps schools become more energy efficient and fight climate change.	Schools can save money and the children can become more aware of the ways that they can help to reduce energy use.
External Consultation	https://www.childrensparliament.org.uk/wp-content/uploads/Childrens-Parliament_Climate_Assembly_2021.pdf	This report explains how children have been involved in Scotland's Climate Assembly, and what children across Scotland think needs to happen in Scotland to tackle the climate emergency.	The climate emergency is a human rights issue. Any plan, solution or action to tackle climate emergency in Scotland must respond to the needs, and rights, of everyone living here, and this means listening to the diversity of views and lived experiences of Scotland's citizens. This includes children.
Internal Consultation	Officers across different services	A number of different services within Business, Environment and Infrastructure, Education and Children, and the Health and Social Care Partnership have provided data and information for this report.	Gathered many lists of project ideas and also planned future work some of which have been included as actions for 2022/23 Carbon Budget but also in the Route Map to 2030 for future Carbon Budget years.

Type	Source	It says?	It Means?
Internal Data	Data from across different services on on consumption of energy and waste.	Internal energy, transport and waste consumption data has been used to determine the carbon emissions of the Council. Data has come from Property and Facilities, Transportation, Roads, Landscape, Waste, HR&OD Services.	The data has been used to determine the Council's total annual emissions up to 2020/21.

4.5. Information Gaps

Climate Change information and data changes frequently as the science and research improves. There are likely gaps but we use all the information provided to us by the Scottish Government alongside all other Public Sector bodies.

4.6. Measures to fill Information Gaps

Measure	Timescale
We will continue to consult on documents put forward by the Scottish Government on the expectations of the Public Sector.	Ongoing

4.7. Accounting for the Views of Children and Young People

The report produced by the Children's Parliament and Scotland's Climate Assembly (2020-21) was considered when pulling together the Route map 2030 and Beyond.

4.8. Promoting the Wellbeing of Children and Young People

Reducing emissions from actions within the Council will support a cleaner, safer environment for children / young people and therefore improve their wellbeing. For example, reducing emissions will positively impact air quality, improve biodiversity and supports a future where climate change may not be as impactful as predicted if we do not contribute to reducing global emissions. In addition, children / young people who engage in ways to reduce emissions may find a new interest and therefore could impact their wellbeing by providing exciting opportunities for future development, employment, learning opportunities etc.

4.9. Upholding Children and Young People's Rights

Climate Change is a human rights issue. Any plan, solution or action to tackle climate change in Scotland must respond to the needs, and rights, of everyone living here. Actions in the Route map 2030 and Beyond will also benefit the children the Council look after through its different services. Many of the actions will do this including the energy efficiency measures which will be completed in schools, the Energy Sparks programme and future engagement within the Council's Education and Children Services new Sustainability and Climate Change Strategy.

4.10. Overall Outcome

No Negative Impacts Identified.

Reducing emissions from actions within the Council will support a cleaner, safer environment for children / young people as well as provide exciting opportunities for development and learning.

5. Equalities and Fairer Scotland Duty Impact Assessment

5.1. Protected Groups

Indicator	Positive	Neutral	Negative	Unknown
Age (Younger)		Yes		
Age (Older)		Yes		
Disability		Yes		
Race		Yes		
Religion or Belief		Yes		
Sex		Yes		
Pregnancy and Maternity		Yes		
Sexual Orientation		Yes		
Gender Reassignment		Yes		
Marriage or Civil Partnership		Yes		

5.2. Socio-economic Groups

Indicator	Positive	Neutral	Negative	Unknown
Low income		Yes		
Low wealth		Yes		
Material deprivation		Yes		
Area deprivation	Yes			
Socioeconomic background		Yes		

5.3. Positive Impacts

Impact Area	Impact
Area deprivation	Improving the Council's operational non-domestic building stock to make it more energy efficient can improve the quality of the building and therefore improve the conditions that people who come into contact with our buildings face (internally and externally). This includes the Council's schools, offices, leisure centres etc. Future proofing the Council's estate will therefore support improving area deprivation. In addition to this, the Council's contribution to reducing emissions will also support other social and environmental impacts on area deprivation such as improving air quality and biodiversity.

5.4. Evidence

Type	Source	It says?	It Means?
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Type	Source	It says?	It Means?
External Consultation	https://www.gov.scot/publications/transition-commission-national-mission-fairer-greener-scotland/documents/	The report sets out the view of The Just Transition Commission on key opportunities and challenges for Scotland and recommends practical steps to achieving a just transition.	Fairness and climate ambition must go hand in hand. The pathway to net-zero emissions may be ambitious, but it can be a unique opportunity to build a Scotland that is healthier, fairer and greener.
External Consultation	https://www.climateassembly.scot/full-report	Scotland's Climate Assembly is made up of over 100 citizens from all walks of life tasked with examining expert evidence and agreeing recommendations for tackling the climate emergency in a fair and effective way. This report lays out Scotland's Climate Assembly's recommendations for Scottish society to tackle the climate emergency. It begins with a Statement of Ambition, calling for radical and decisive action, then details 16 goals and 81 recommendations.	It means that Scotland's Public Sector and therefore Aberdeenshire Council have a duty to consider the recommendations put forward by the Assembly and determine ways in which it can support those of which it has direct influence over via the Council's Carbon Budget process.
Internal Consultation	Officers across different services	A number of different services within Business, Environment and Infrastructure, Education and Children, and the Health and Social Care Partnership have provided data and information for this report.	Gathered many lists of project ideas and also planned future work some of which have been included as actions for 2022/23 Carbon Budget but also in the Route Map to 2030 for future Carbon Budget years.
Internal Data	Data from across different services on on consumption of energy and waste.	Internal energy, transport and waste consumption data has been used to determine the carbon emissions of the Council. Data has come from Property and Facilities, Transportation, Roads, Landscape and Waste Services, HR&OD.	The data has been used to determine the Council's total annual emissions up to 2020/21.

5.5. Information Gaps

Climate Change information and data changes frequently as the science and research improves. There are likely gaps but we use all the information provided to us by the Scottish Government alongside all other Public Sector bodies.

5.6. Measures to fill Information Gaps

Measure	Timescale
We will continue to consult on documents put forward by the Scottish Government on the expectations of the Public Sector.	Ongoing

5.7. Engagement with affected groups

Consultation for the production of Route Map 2030 and Beyond has been to review Scotland's Climate Assembly and Children's Parliament reports. These reports represent a range of people who are broadly representative of a population.

5.8. Ensuring engagement with protected groups

There are no impacts identified on those with protected characteristics.

5.9. Evidence of engagement

There has not been engagement to evidence other than the consultation of the documents mentioned above.

5.10. Overall Outcome

No Negative Impacts Identified.

Action to address and improve climate change mitigation and adaptation performance will benefit all staff and residents of Aberdeenshire.

5.11. Improving Relations

Continuous communication across services within Aberdeenshire Council and Aberdeenshire communities will be required to ensure any impacts are identified, considered and mitigated if feasible as early as possible.

5.12. Opportunities of Equality

It is well understood that Climate Change impacts are likely to affect people disproportionately. Any transition through climate change mitigation and adaptation must always be considered just and socially fair so that everyone can benefit from the opportunities and no one is left suffering the consequences worse than others.

6. Sustainability and Climate Change Impact Assessment

6.1. Emissions and Resources

Indicator	Positive	Neutral	Negative	Unknown
Consumption of energy	Yes			
Energy efficiency	Yes			
Energy source	Yes			
Low carbon transition	Yes			
Consumption of physical resources	Yes			
Waste and circularity	Yes			
Circular economy transition	Yes			
Economic and social transition	Yes			

6.2. Biodiversity and Resilience

Indicator	Positive	Neutral	Negative	Unknown
Quality of environment	Yes			
Quantity of environment	Yes			
Wildlife and biodiversity	Yes			
Infrastructure resilience	Yes			
Council resilience	Yes			
Community resilience	Yes			
Adaptation	Yes			

6.3. Positive Impacts

Impact Area	Impact
Adaptation	The Route Map 2030 and Beyond highlights the need for adaptation to be examined in more detail to identify opportunities and actions across the Council. This work will align with mitigation work so that both are being targeted at the same time with action.
Council resilience	By improving energy efficiency and installing renewables such as the solar PVs the Council is already improving its own resilience for future climate change events such as extreme weather events.

Impact Area	Impact
Council resilience	By improving energy efficiency and installing renewables such as the solar PVs the Council is already improving its own resilience for future climate change events such as extreme weather events. The Route Map 2030 and Beyond highlights the need for adaptation and resilience to be examined in more detail to identify opportunities and actions across the Council. Included in this will be the need for infrastructure resilience to be examined in more detail as the Council moves towards electrifying its heat in buildings as it moves away from fossil fuels in line with the targets set for the Public Sector by Scottish Government - zero direct emissions from buildings by 2038.
Infrastructure resilience	By improving energy efficiency and installing renewables such as the solar PVs the Council is already improving its own infrastructure resilience for future climate change events such as extreme weather events.
Infrastructure resilience	The Route Map 2030 and Beyond highlights the need for adaptation and resilience to be examined in more detail to identify opportunities and actions across the Council. Included in this will be the need for infrastructure resilience to be examined in more detail as the Council moves towards electrifying its heat in buildings as it moves away from fossil fuels in line with the targets set for the Public Sector by Scottish Government - zero direct emissions from buildings by 2038.
Quality of environment	By reducing emissions the Council is supporting other benefits for the environment such as improving air quality in the region.
Quality of environment	By reducing emissions the Council is supporting other benefits for the environment such as improving air quality in the region.
Quantity of environment	As mentioned in the Route Map 2030 and Beyond, there is a need for a residual emissions plan to be developed. Part of this work will look at Council land currently available for biodiversity improvement and also insetting opportunities. This will improve the quantity of the environment in the region as the Council moves towards its Net Zero by 2045 target.
Community resilience	The Route Map 2030 and Beyond highlights the need for adaptation and resilience to be examined in more detail to identify opportunities and actions across the Council. Included in this will be the need for infrastructure resilience to be examined in more detail as the Council moves towards electrifying its heat in buildings as it moves away from fossil fuels in line with the targets set for the Public Sector by Scottish Government - zero direct emissions from buildings by 2038. Lessons from this work will feed into Climate Ready Aberdeenshire to ensure opportunities for community resilience is also being considered and supported.

Impact Area	Impact
Wildlife and biodiversity	As mentioned in the Route Map 2030 and Beyond, there is a need for a residual emissions plan to be developed. Part of this work will look at Council land currently available for biodiversity improvement and also insetting opportunities. This work will improve the quantity and quality of the environment in the region enhancing opportunities for wildlife and biodiversity as the Council moves towards its Net Zero by 2045 target.
Consumption of energy	The Carbon Budget report contains a number of projects which will support reducing energy consumption by the organisation. This is through energy efficiency projects as well as projects reducing waste and also reducing energy consumption by the Roads service.
Consumption of energy	The report contains a number of projects which will support reducing energy consumption by the organisation. This is through energy efficiency projects, decarbonising heat in Council buildings, decarbonising the fleet as well as projects reducing waste.
Circular economy transition	The development of a reuse opportunities business case for items coming into the Council's household recycling centres is also a needed outcome within the Route Map. This will include looking at CE potential within the region - considering supply chain and skills development opportunities.
Energy efficiency	The Carbon Budget report contains a number of projects which will support reducing energy consumption by the organisation. This is through energy efficiency projects as well as projects reducing waste and also reducing energy consumption by the Roads service. Many projects are focused on energy efficiency improvements to the some of the operational non domestic building stock.
Energy efficiency	The report contains a number of projects which will support reducing energy usage by the organisation. This is through energy efficiency projects across the operational building stock, decarbonising the fleet, LED streetlighting programme as well as projects reducing waste.
Energy source	The carbon budget includes the addition of solar PVs to some of the Council's non-domestic operational buildings will generate renewable energy.
Energy source	The Route map to 2030 includes the addition of solar PVs to some of the Council's non-domestic operational buildings to generate renewable energy. Other opportunities for renewable energy generation also form part of the Council's Route Map 2030 and Beyond.
Economic and social transition	The Council is demonstrating leadership in reducing emissions through its carbon budget process and therefore is supporting the low carbon transition in the region. Part of the feasibility work as mentioned in the report will also look at local supply chains and skills gaps for energy efficiency and heat decarbonisation in the region. The Council can then look at opportunities to support the growth of these needs in the region.

Impact Area	Impact
Economic and social transition	The Council is demonstrating leadership in reducing emissions through its Route Map 2030 and Beyond development and therefore is supporting the low carbon transition in the region. Part of the feasibility work as mentioned in the report will also look at local supply chains and skills gaps for energy efficiency and heat decarbonisation in the region. The Council can then look at opportunities to support the growth of these needs in the region.
Low carbon transition	The Council is demonstrating leadership in reducing emissions through its carbon budget process and therefore is supporting the low carbon transition in the region.
Low carbon transition	The Council is demonstrating leadership in reducing emissions through Route map 2030 and Beyond development and therefore is supporting the low carbon transition in the region.
Consumption of physical resources	The continued membership to the Warplt reuse online platform means the Council can reduce its consumption of physical resources by ensuring items no longer required in one service can be reused in another part of the Council. The platform links the Council to external organisations also so sharing can happen across the region. In addition energy efficiency projects will reduce the Council's consumption of other resources such as fossil fuel.
Consumption of physical resources	The continued membership to the Warplt reuse online platform means the Council can reduce its consumption of physical resources by ensuring items no longer required in one service can be reused in another part of the Council. The platform links the Council to external organisations also so sharing can happen across the region. In addition, energy efficiency projects will reduce the Council's consumption of other resources such as fossil fuel. The development of a reuse opportunities business case for items coming into the Council's household recycling centres is also a needed outcome of the Route Map.
Waste and circularity	The continued membership to the Warplt reuse online platform means the Council can reduce its consumption of physical resources by ensuring items no longer required in one service can be reused in another part of the Council. The platform links the Council to external organisations also so sharing can happen across the region. Improving food waste recycling in some of the Council's schools will also reduce waste to landfill and will supply circularity through the contract with Keenans which converts the food waste into soil improver for the region.

Impact Area	Impact
Waste and circularity	The continued membership to the Warplt reuse online platform means the Council can reduce its consumption of physical resources by ensuring items no longer required in one service can be reused in another part of the Council. The platform links the Council to external organisations also so sharing can happen across the region. Improving food waste recycling in some of the Council's schools will also reduce waste to landfill and will supply circularity through the contract with Keenan's which converts the food waste into soil improver for the region. The development of a reuse opportunities business case for items coming into the Council's household recycling centres is also a needed outcome of the Route Map.

6.4. Evidence

Type	Source	It says?	It Means?
Internal Consultation	Officers across different services	A number of different services within Business, Environment and Infrastructure, Education and Children, and the Health and Social Care Partnership have provided data and information for this report.	Gathered many lists of project ideas and also planned future work some of which have been included as actions for 2022/23 Carbon Budget but also in the Route Map to 2030 for future Carbon Budget years.
Internal Data	Data from across different services on on consumption of energy and waste.	Internal energy, transport and waste consumption data has been used to determine the carbon emissions of the Council. Data has come from Property and Facilities, Transportation, Roads, Landscape, Waste, HR&OD Services.	The data has been used to determine the Council's total annual emissions up to 2020/21.
External Consultation	https://www.gov.scot/publications/transition-commission-national-mission-fairer-greener-scotland/documents/	The report sets out the view of the The Just Transition Commission on key opportunities and challenges for Scotland and recommends practical steps to achieving a just transition.	Fairness and climate ambition must go hand in hand. The pathway to net-zero emissions may be ambitious, but it can be a unique opportunity to build a Scotland that is healthier, fairer and greener.

Type	Source	It says?	It Means?
External Consultation	https://www.climateassembly.scot/full-report	Scotland's Climate Assembly is made up of over 100 citizens from all walks of life tasked with examining expert evidence and agreeing recommendations for tackling the climate emergency in a fair and effective way. This report lays out Scotland's Climate Assembly's recommendations for Scottish society to tackle the climate emergency. It begins with a Statement of Ambition, calling for radical and decisive action, then details 16 goals and 81 recommendations.	It means that Scotland's Public Sector and therefore Aberdeenshire Council have a duty to consider the recommendations put forward by the Assembly and determine ways in which it can support those of which it has direct influence over via the Council's Carbon Budget process.
Other Evidence	Public Sector Leadership on the Global Climate Emergency	The guidance is in part to support the Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Amendment Order 2020 which set out additional requirements and expectations for Public Body response to the Climate Emergency.	The document lays out consideration for Public Sector Bodies to embed climate change action across the organisation in order to reduce emissions in line with the National targets. Aberdeenshire Council's Carbon Budget process supports some of these expectations and the Route Map 2030 and Beyond addresses the current gaps.

6.5. Information Gaps

Climate Change information and data changes frequently as the science and research improves. There are likely gaps but we use all the information provided to us by the Scottish Government alongside all other Public Sector bodies.

6.6. Measures to fill Information Gaps

Measure	Timescale
We will continue to consult on documents put forward by the Scottish Government on the expectations of the Public Sector.	Ongoing

6.7. Overall Outcome

No Negative Impacts Identified.

The Route Map 2030 and Beyond identifies many opportunities which will support a reduction in the Council's own emissions demonstrating a positive impact towards supporting action on climate change mitigation and adaptation.