

South Ayrshire Council

**Report by Assistant Director – Place
to Leadership Panel
of 15 June 2021**

Subject: Net Zero Carbon Retrofit

1. Purpose

- 1.1 The purpose of this report is to present findings on the carbon retrofit work completed to date as the Council progresses its net zero ambition and to set out details of the Council's next steps in developing a Net Zero Policy.

2. Recommendation

2.1 It is recommended that the Panel:

- 2.1.1 notes that pilot surveys have been undertaken and agrees that a phased approach with regard to a carbon retrofit and net zero work schedule is to be undertaken; and**
- 2.1.2 notes that the Council will require to appoint suitably experienced consultants to assist with developing proposals and costs together with a delivery methodology for the strategy and implementation plan.**

3. Background

- 3.1 The Scottish Government has set targets to reduce greenhouse gas emissions to net zero by 2045. The Council have recently agreed to align with these national targets of a 75% reduction in emissions by 2030 and net zero emissions by 2045.
- 3.2 The Council's operational estate currently accounts for a significant proportion of our annual carbon emissions and as such this is a key area for the Council to target for emission reduction. This paper sets out the work that has been completed to date, particularly around retrofitting, which will help inform the development of a net zero policy for our buildings that considers existing buildings, buildings or renovations in progress and future buildings.
- 3.3 This work has focused on undertaking pilot net zero carbon surveys to identify building energy efficiency improvement recommendations for our existing estate.
- 3.4 In March 2020, a consultant, Avison Young, was appointed to undertake net zero carbon studies of six Council buildings, namely Dundonald Primary School, Dundonald Activity Centre, Troon Swimming Pool, 8 Wellington Square, 10 Wellington Square, Girvan Academy and Invergarven school.

The pilot sites have been selected to help inform and establish a broad knowledge base of recommendations across buildings with varying usage, construction type and age.

- 3.5 A key element of this work was to identify opportunities for optimising the current operation of the building and to propose a future strategy for achieving maximum energy efficiency and minimising carbon emissions.
- 3.6 The recommended measures for the pilots were grouped into mechanical and electrical measures and building fabric measures. The measures were assessed for the reduction to the building's energy use intensity. Measures recommended include improving heating controls, upgrading insulation to pipework and roof space, upgrading ventilation systems, converting gas heating to electric heating i.e. heat pumps and installing photovoltaics.
- 3.7 It should be noted that Dundonald Primary School and Dundonald Activity Centre share the same building footprint i.e. these are not two separate buildings. These buildings share building services with the electric supply entering the activity centre with this supply also serving the primary school. The main gas supply enters the boiler house in the primary school and this boiler plant serves the school and the activity centre. These buildings would therefore have to be retrofitted as a single project.
- 3.8 The pilot reports also consider the potential phasing of upgrade works and the path the Council might take to net zero in 2045. Proposed works are grouped into time periods of 2020-2025, 2025-2040 and 2040-2045. It is proposed to gradually increase the operational efficiency of our buildings over the next 25 years towards the net zero carbon target.
- 3.9 The brief also requested Avison Young provide an evidence based approach to define the scope and desired outputs to achieving the targets detailed in para 3.1.

4. Proposals

- 4.1 To achieve net zero carbon in buildings the Council must first optimise the energy efficiency of a building. This is achieved by minimising the demand and maximising the efficiency of the installations. The progression to net zero also includes a requirement to remove fossil fuels from heat generation and replace with equipment which utilises electrical energy from the decarbonised grid. A Primary school may cost in the region of £1million dependant on its size, age and condition and the technology options available to achieve a net carbon zero building. Details of technology currently available and the wider content Net Carbon zero are highlighted in [Appendix 1](#).
- 4.2 It is proposed that the Council notes the progress that has been completed to date as the Council progresses its net zero ambition. This work on undertaking pilot net zero carbon surveys and the wider report on the Council's operational estate will enable the Council to develop a phased implementation of works that considers existing buildings, buildings or renovations in progress and future buildings. It is recommended that the Council now appoint consultants to assist with developing proposals and costs together with a delivery methodology for the strategy and implementation plan for low carbon. The approximate costs for this subject to tender are £50,000 subject to tender.

5. Legal and Procurement Implications

5.1 There are no legal implications arising from this report.

5.2 The Council would require to procure the services of a consultant to develop a phased approach for our buildings as detailed in paragraph 4.1.

6. Financial Implications

6.1 A budget for the appointment of consultants in the sum for £50,000 will require to be identified to undertake this work. A resource demand was approved by the Leadership Panel in March 2021 to undertake retrofit surveys and this budget will be used to carry out this work.

7. Human Resources Implications

7.1 Not applicable.

8. Risk

8.1 *Risk Implications of Adopting the Recommendations*

8.1.1 There are no risks associated with adopting the recommendations.

8.2 *Risk Implications of Rejecting the Recommendations*

8.2.1 The Council would fail to meet its net zero targets should appropriate action not be taken to retrofit our operational buildings. Also, potential savings to utilities revenue budgets would not be achieved.

9. Equalities

9.1 The proposals in this report have been assessed through the Equality Impact Assessment Scoping process. There are no significant potential positive or negative equality impacts of agreeing the recommendations and therefore an Equalities Impact Assessment is not required. A copy of the Equalities Scoping Assessment is attached as [Appendix 2](#).

10. Sustainable Development Implications

10.1 ***Considering Strategic Environmental Assessment (SEA)*** - This report does not propose or seek approval for a plan, policy, programme or strategy or document otherwise described which could be considered to constitute a plan, programme, policy or strategy.

11. Options Appraisal

11.1 An options appraisal has not been carried out in relation to the subject matter of this report.

12. Link to Council Plan

12.1 The matters referred to in this report contribute to Commitment 6 of the Council Plan: A Better Place to Live/ Enhanced environment through social, cultural and economic activities.

13. Results of Consultation

- 13.1 There has been no public consultation on the contents of this report.
- 13.2 Consultation has taken place with Councillor Brian McGinley, Portfolio Holder for Resources and Performance, and Councillor Ian Cochrane, Portfolio Holder for Environment, and the contents of this report reflect any feedback provided.

14. Next Steps for Decision Tracking Purposes

- 14.1 If the recommendations above are approved by Members, the Assistant Director – Place will ensure that all necessary steps are taken to ensure full implementation of the decision within the following timescales, with the completion status reported to the Leadership Panel in the ‘Council and Leadership Panel Decision Log’ at each of its meetings until such time as the decision is fully implemented:

<i>Implementation</i>	<i>Due date</i>	<i>Managed by</i>
Appoint consultants to assist with development of low carbon strategy and plan	1 August 2021	Service Lead – Asset Management and Community Asset Transfer
Further report to Panel with details of strategy and plan	23 November 2021	Service Lead – Asset Management and Community Asset Transfer

Background Papers **None**

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Date: 9 June 2021

Net zero retrofit survey methodology

The report considers that the current technology options for decarbonised heat are:

- Direct electric, for example panel heaters
- Ground/Air Source Heat Pumps
- Variable Refrigerant Flow/Volume (VRF), which provide heating and cooling

Consideration has also been given to the following criteria for each of the buildings:

- Total heat demand for domestic hot water and space heating at present
- Potential reduction to heat demand from fabric improvements
- Frequency/duration of occupancy
- Building location and adjacencies

The inclusion of renewables has also been considered as it is anticipated that a proportion of the building consumption will require offset by on site photovoltaic panels. Where orientation is not optimal, or the building is not suitable for photovoltaics it is assumed that the area of photovoltaics may be installed offsite in a dedicated solar farm for example.

In addition to the above, consideration has been given to upgrading of the building fabric. This work would supplement the mechanical and electrical items above in order to achieve the maximum reduction, but on their own, they would not have the same level of impact as the mechanical and electrical works. This has included improving the thermal insulation of the property and replacement of windows.

Wider context summary

The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 sets out Scotland's emissions reduction targets. The revisions within this act have required local authorities to make a step change from trying to achieve relatively modest annual reduction targets to the now far more ambitious targets. There is now sharing of best practice on this net zero workstream within support networks such as the Sustainable Scotland Network (SSN) and the Scottish Energy Officers Network (SEON). Anecdotal evidence suggests that local authorities are either still developing or have only recently updated strategies and plans to meet the net zero targets.

The Council is due to construct a new office and welfare facility at Bridge Street Depot in Girvan which will be our first ever carbon neutral building. The design has incorporated Passivhaus design principles and the learnings from this project could in turn be used in the design and construction of future council buildings. Careful

consideration has been given to the building fabric, air tightness and the building will have a large solar PV system. The approximate carbon dioxide emissions will be -2.9kgCO₂ per year which technically means the building will be carbon negative.

West Dunbartonshire Council have recently launched a new Climate Change Strategy which sets out a route map for 2021-22 and beyond. It is an overarching Strategy that has set a foundation for a plan of action and response to Scotland's Climate Emergency and 2045 net zero carbon reduction target. The strategy aims to achieve an annual 3.5% reduction in emissions through measures such as energy improvements, waste reductions and reduced vehicle emissions. It should be noted that West Dunbartonshire Council have also set a net zero target date of 2045, but at present it doesn't appear they have allocated specific funding to help with the delivery of their carbon reduction targets.

At a national level Scottish Futures Trust are leading some work around a Net Zero Public Buildings Standard. The new Standard will support public bodies to meet their net zero commitments for their new build and major refurbishment infrastructure projects. It will help define, deliver and verify net zero greenhouse gas outcomes of public sector new build and major refurbishment projects. The Standard is still in development but is expected to be published in summer 2021. Once published this to be reviewed by the Council.

South Ayrshire Council Equality Impact Assessment Scoping Template

Equality Impact Assessment is a legal requirement under the Public Sector Duty to promote equality of the Equality Act 2010. Separate guidance has been developed on Equality Impact Assessment's which will guide you through the process and is available to view here: <https://www.south-ayrshire.gov.uk/equalities/impact-assessment.aspx>

Further guidance is available here: <https://www.equalityhumanrights.com/en/publication-download/assessing-impact-and-public-sector-equality-duty-guide-public-authorities/>

The Fairer Scotland Duty ('the Duty'), Part 1 of the Equality Act 2010, came into force in Scotland from 1 April 2018. It places a legal responsibility on Councils to actively consider ('pay due regard to') how we can reduce inequalities of outcome caused by socio-economic disadvantage, when making strategic decisions. See information here: [Interim Guidance for Public Bodies](#) in respect of the Duty, was published by the Scottish Government in March 2018.

1. Policy details

Policy Title	Net Zero Retrofit Surveys
Lead Officer (Name/Position/Email)	Tom Burns, Service Lead – Asset Management and Community Asset Transfer – tom.burns@south-ayrshire.gov.uk

2. Which communities, groups of people, employees or thematic groups do you think will be, or potentially could be, impacted upon by the implementation of this policy? Please indicate whether these would be positive or negative impacts

Community or Groups of People	Negative Impacts	Positive impacts
Age – men and women, girls & boys	-	-
Disability	-	-
Gender Reassignment (Trans/Transgender Identity)	-	-
Marriage or Civil Partnership	-	-
Pregnancy and Maternity	-	-
Race – people from different racial groups, (BME) ethnic minorities and Gypsy/Travellers	-	-
Religion or Belief (including lack of belief)	-	-
Sex – gender identity (issues specific to women & men or girls & boys)	-	-
Sexual Orientation – person's sexual orientation i.e. LGBT+, lesbian, gay, bi-sexual, heterosexual/straight	-	-
Thematic Groups: Health, Human Rights & Children's Rights	-	-

3. What likely impact will this policy have on people experiencing different kinds of social disadvantage? (Fairer Scotland Duty). Consideration must be given particularly to children and families.

Socio-Economic Disadvantage	Negative Impacts	Positive impacts
Low Income/Income Poverty – cannot afford to maintain regular payments such as bills, food, clothing	-	-
Low and/or no wealth – enough money to meet Basic living costs and pay bills but have no savings to deal with any unexpected spends and no provision for the future	-	-
Material Deprivation – being unable to access basic goods and services i.e. financial products like life insurance, repair/replace broken electrical goods, warm home, leisure/hobbies	-	-
Area Deprivation – where you live (rural areas), where you work (accessibility of transport)	-	-
Socio-economic Background – social class i.e. parent’s education, employment and income	-	-

4. Do you have evidence or reason to believe that the policy will support the Council to:

General Duty and other Equality Themes Consider the ‘Three Key Needs’ of the Equality Duty	Level of Negative and/or Positive Impact (High, Medium or Low)
Eliminate unlawful discrimination, harassment and victimisation	Low
Advance equality of opportunity between people who share a protected characteristic and those who do not	Low
Foster good relations between people who share a protected characteristic and those who do not. (Does it tackle prejudice and promote a better understanding of equality issues?)	Low
Increase participation of particular communities or groups in public life	Low
Improve the health and wellbeing of particular communities or groups	Low
Promote the human rights of particular communities or groups	Low
Tackle deprivation faced by particular communities or groups	Low

5. Summary Assessment

<p>Is a full Equality Impact Assessment required? (A full Equality Impact Assessment must be carried out if impacts identified as Medium and/or High)</p>	<p>— YES</p> <p>NO</p>
<p>Rationale for decision:</p> <p>This report advises the Panel of 15 June 2021. Their decision on this has no specific equality implications</p>	
<p>Signed : Louise Reid Assistant Director</p> <p>Date: 11 May 2021</p>	