

The Highland Council

Agenda Item	6.
Report No	CCC/16/23

Committee: Climate Change

Date: 5 October 2023

Report Title: Energy Benchmarking of Property Estate

Report By: Interim Depute Chief Executive

1. Purpose/Executive Summary

- 1.1 The purpose of this paper is to provide an update to Members of the work undertaken to date in relation to energy performance benchmarking of the Council's non-domestic estate.
- 1.2 The paper specifically relates to the development and delivery of an interactive webpage interface (the "Energy Benchmarking Tool") that permits the performance of all non-domestic properties to be individually assessed in terms of energy efficiency, utility cost and carbon emissions.

2. Recommendations

- 2.1 Members are asked to:
 - i. **Note** the delivered Energy Benchmarking Tool; and
 - ii. **Note** that the tool will initially be available internally to allow officers to test it fully prior to it being made available on the public-facing Council website.

3. Implications

- 3.1 Resource – there are no ongoing resource implications, delivery of future work will be met from existing resources. Whilst benchmarking does not directly reduce energy consumption, it does provide an informed basis for justification of either behaviour change or investment in remedial works to realise savings in carbon, cost, and energy.
- 3.2 Legal - there are no legal implications arising from this report.
- 3.3 Community (Equality, Poverty, Rural and Island) – There are no direct implications arising from this report.
- 3.4 Climate Change / Carbon Clever – the project deliverables directly support and inform decisions with regard to achieving net zero, investment in buildings (to improve Energy/Net Zero performance) and asset rationalisation considerations.

- 3.5 Risk – There is no risk directly relating to this paper.
- 3.6 Health and Safety (risks arising from changes to plant, equipment, process, or people) – There are no implications arising from this project.
- 3.7 Gaelic – There are no Gaelic implications arising from this project.

4. Background

- 4.1 Benchmarking energy performance is a process that either compares the energy use of a building with other similar structures or looks at how energy use varies from a baseline. It informs organisations about how and where they use energy and what factors drive their energy use. Benchmarking enables energy, building and asset managers to determine the key metrics for assessing performance, to establish baselines, and to set performance goals. It helps to identify building upgrade opportunities that can reduce expenditure by lowering energy and operating costs. It also facilitates continuous improvement by providing diagnostic measures to evaluate performance over time, e.g., effectiveness of implemented projects.
- 4.2 It should be noted that benchmarking does not directly reduce energy consumption but rather provides the informed basis for justification of either behaviour change or investment in remedial works to realise savings in carbon, cost, and energy.
- 4.3 An initial energy benchmarking analysis utilising the Scottish Public Sector Energy Benchmarking Tool was undertaken and presented to Committee in March 2023, based upon 2021-22 data. This highlighted key aspects that merited further development and recommended the continuation of the workstream, which the Committee approved. An update based upon utility invoices for the most up-to-date complete financial year (2022-23) was subsequently progressed.

5. Energy Benchmarking Tool Concept

- 5.1 An analysis of the data and property-related information highlighted that, given the large scale and complexity of the THC non-domestic estate, a more transparent and automated approach for reporting individual site performance assessments would be beneficial. Microsoft Power-BI software has been utilised as the primary data access and reporting method.
- 5.2 The Tool has been designed to provide meaningful analysis and information concerning the non-domestic property estate's energy consumptions, costs and relative performance efficiencies.
- 5.3 To direct design and ongoing refinement, the following aspects were identified as critical properties that the resultant tool should incorporate.
 - Understandable
 - For both technical and non-technical users
 - Terminology to be non-technical wherever possible
 - Information in useful formats, both graphical and numerical
 - Ability to compare to peers
 - Ease of Use
 - Accessible for both technical and non-technical users

- Intuitive navigation and ability to quickly return to starting point
- Ability to zone into aspects/areas of interest
- Performance for any individual building to require a maximum of 3 “clicks”

6. User Interaction - Navigation and Functionality

- 6.1 With over 1,000 properties, there is a large volume of data to display. Functionality has been designed to allow users to view or group properties by type, ward, and via an interactive map to make it more relatable to their needs.
- 6.2 A "report card" is available for each site, allowing all relevant information for individual sites to be collated and viewed simultaneously.
- 6.3 To undertake meaningful analysis, data must be complete and accurate concerning site information, consumption data, function, and floor area. All essential information has been validated where possible to safeguard against the inclusion of erroneous data or information. Some sites were discounted due to their function (no suitable benchmark available) or the need for appropriate key information.
- 6.4 For some building function types, although relative performance was not able to be undertaken - i.e., by floor area - reporting of absolute values has been included for reference purposes.

7. Commentary and Next Steps

- 7.1 The Energy Performance Benchmarking Tool directly supports the Council's Net Zero Strategy, which targets zero emissions from Council operations by 2045. For 2021/22, total emissions amounted to 32,946 tonnesCO₂e, of which over 70% is attributed to non-domestic properties, such as our schools, offices and depots.
- 7.2 It is intended that the tool will enable members of the public, Elected Members and Council staff to understand from where our property-related carbon emissions arise and aid informed decision-making concerning energy expenditure and net-zero obligations. Further, it supports the Council's aspiration towards greater openness and transparency for our data.
- 7.3 There are numerous factors which impact the energy performance of an individual building and, as such, the performances detailed within should not be viewed in isolation but should be considered within a broader context, e.g., whether a school undertakes catering or not, or a depot has shorter or longer operating hours.
- 7.4 Data currently within the tool is based on the financial year 2022/23. Additional functionality in subsequent years would provide options for multi-year comparisons, assisting the Council's long-term journey to Net Zero. Development work in this respect will be subject to proposal submission and approval.

Designation: Interim Depute Chief Executive

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