Brighton & Hove City Council

Policy & Resources Committee

Agenda Item 140

Subject: **Carbon Neutral 2030 Programme – Carbon Neutral Fund update**

Date of meeting: **16 March 2023**

Report of: **Executive Director, Economy Environment & Culture**

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Ward(s) affected: **All**

For general release

1. Purpose of the report and policy context

1.1. The Policy & Resources Committee on 6 October 2022 received a report setting out the proposed allocation of the Carbon Neutral Fund in 2022-23 and 2023-24 and the criteria used to select the projects. Funding allocations for 29 climate action and biodiversity projects were approved at committee. It was also agreed that officers report back to Policy & Resources Committee outlining the projected measurable carbon savings to be made by each project "to allow the committee to scrutinise and ensure that funds are being spent in such a way as to measurably maximise carbon reduction in pursuit of carbon neutrality by 2030."

1.2. This report provides an update on the Carbon Neutral Fund 2022, with an estimate of the greenhouse gas (GHG) savings due from the 23 projects approved under the Carbon Reduction priority and one project approved under the Climate Change Adaptation priority in October 2022. It is forecast that these 24 projects will save the city more than 9836.5 tonnes CO_2e (carbon dioxide equivalent).

2. Recommendations

2.1. That Committee notes the three priorities of the Carbon Neutral Fund as set out in the high level 22-23 and 23-24 work programme included in the July 2022 P&R Committee report, namely carbon reduction, biodiversity enhancement and climate change adaptation.

2.2. That Committee notes the 9836.5 tonnes carbon dioxide equivalent (CO_2e) forecast GHG savings reported in Appendix 1 for the 23 carbon-reduction projects, plus one climate change adaptation project, in receipt of funding from the 2022-24 Carbon Neutral Fund.

3. Context and background information

3.1. The Carbon Neutral Fund (CNF) supports the delivery of the 2030 Carbon Neutral Programme which was approved by this Committee in March 2021. The programme is the city council's main response to the climate and biodiversity emergency and supports the delivery of climate action projects (both carbon reduction and climate change adaptation) and biodiversity projects.

3.2. £14.000m capital funding was approved at Budget Council in February 2022 to support climate action and biodiversity projects in 2022-23 and 2023-24. A reallocation of £1.100m, agreed at Budget Council on 23 February 2023, has reduced this total to £12.900m. This reallocation does not impact upon the 29 Carbon Neutral Fund projects agreed at the October 2022 meeting of the Policy & Resources Committee.

3.3. The allocation of £7,808,990 from the Carbon Neutral Fund to 29 council-led Carbon Neutral Fund projects was agreed at the October 2022 meeting of the Policy & Resources Committee to accelerate climate and biodiversity action in line with our ambitions for the next 18 months, as set out in the high level 22-23 and 23-24 work programme included in the July 2022 P&R Committee report.

3.4. It was also agreed at the October 2022 meeting that officers report back to Policy & Resources Committee outlining the projected measurable carbon savings to be made by each project "to allow the committee to scrutinise and ensure that funds are being spent in such a way as to measurably maximise carbon reduction in pursuit of carbon neutrality by 2030."

3.5. In terms of *measurable* savings, the contribution of Carbon Neutral projects to reducing GHG emissions within the council's control is significant. The measurable savings are forecast to amount to more than 9836.5 tonnes CO_2e, around 1% of the total annual city carbon emissions. We anticipate that the final outcome will be higher than this, as some CNF projects, including

renewable energy projects, are still at a relatively early design stage and were not able to submit full calculations.

3.6. The CNF complements other internal budgets for carbon reduction, climate change adaptation and biodiversity enhancement, such as those financing flood risk reduction projects, fleet decarbonisation, council housing retrofit, and Local Transport Plan delivery. The CNF has helped to accelerate some areas of existing work (e.g. fleet decarbonisation) whilst also enabling the piloting of new, innovative projects (e.g. Wilding Waterhall).

3.7. The GHG savings from measurable 2022-24 CNF projects, as reported in Appendix 1, represent the best estimates of officers. Professional judgement has been used to assess many sources of data for these complex and varied projects. Additional external expertise was sought from a consultant to review the officer assessments.

3.8. In 2023, the council is commissioning a decarbonisation pathways study which will outline scenarios and prioritise projects to cut carbon emissions towards the Carbon Neutral target. The Carbon Neutral Fund projects represent additional or accelerated action towards the city's target. The results of these assessments of CNF projects will inform the decarbonisation pathways study. In turn, the decarbonisation pathways study may help to set priorities for any future CNF rounds of funding.

BHCC's approach to forecasting greenhouse gas savings

3.9. Of the 29 projects approved at Policy & Resources Committee in October 2022, five were not assessed for GHG savings as their objective was to address climate change adaptation or to enhance biodiversity. One climate change adaptation project was evaluated, however, given the innovative use of biochar in tree pits, with the aim of assessing the carbon dioxide sequestration potential of similar projects at scale.

3.10. Of the 23 projects specifically aimed at carbon reduction, it was not possible to carry out assessments of three projects, as they are awaiting detailed design information, and one project that has been withdrawn. A further two projects were not assessed as they are 'enabling' projects that allow the future delivery of carbon-reduction initiatives, e.g. improving electrical infrastructure to enable the future installation of solar PV systems. A full list can be found in Appendix 1.

3.11. Where possible, whole life carbon accounting was attempted. This required the estimation of embodied carbon, as well as forecasting of future GHG savings across the asset's lifetime (e.g., 25-year life of solar panels). This approach requires assumptions to be made regarding future trends, such as the rate of water and electricity decarbonisation.

3.12. The GHG savings reported in Appendix 1 vary largely based on the scale and nature of each project. Equally, savings vary by asset lifetime. For example, although the Traffic Signal Carbon Reduction Programme will save GHG emissions daily, the LED lights will need replacing after a relatively short period due to heavy usage. By comparison, the City Park Diesel Reduction Programme will only yield savings during public events, but the infrastructure needed to switch from diesel generators to low-carbon electricity is expected to last 25 years. As such, savings for the latter project are calculated across 25 years – equal to the lifetime of the capital investment.

3.13. For many projects, the total carbon impact will exceed the forecast carbon impact. For example, the infrastructure needed to install LED Traffic Signals will last much longer than the 10-year life of the LED lights themselves (the time period for which savings are forecast). The indirect savings that will inevitably be delivered beyond the initial investment period are excluded from the forecasting models. This quantitative modelling limitation impacts some projects more than others. As such, savings per pound investment should not be compared across projects.

3.14. To forecast GHG savings, we had to make assumptions about the future (e.g. decarbonisation rate of water and electricity supply). This introduced a great deal of uncertainty, especially for projects with long-life assets. To communicate this inherent uncertainty, an indication of “confidence level” is reported next to each estimate of GHG savings in Appendix 1.

3.15. To reduce the risk of over-estimating GHG savings, we made conservative assumptions that deflate our final estimates (e.g., we assumed Southern Water reaches its net zero target by 2030, deflating estimated GHG savings from BHCC water efficiency projects). As such, future savings are much more likely to be underestimated than overestimated.

3.16. By comparison, retrospective reporting of actual GHG savings yields more certain estimates as well as being less resource intensive. A shift from prospective to retrospective GHG reporting would allow a greater proportion of officer time to be focused on project delivery and minimise the cost of consultancy support.

4. Analysis and consideration of alternative options

4.1. The appointed consultancy advised forgoing the estimation of GHG savings from biodiversity, climate change adaptation and waste projects, as they are highly susceptible to estimation error. Savings from these types of projects are mostly indirect, meaning data collection lies far outside project boundaries. Savings are also highly context specific, meaning, where there are gaps in data, findings from similar projects delivered elsewhere cannot be

applied.

4.2. Effort was made to forecast GHG savings from waste projects. The main benefit of this exercise was improved awareness of required data collection during project delivery, as well as improved awareness of the many sources of estimation error and limitations in accurately reporting GHG savings for this kind of project which relies heavily on user behaviour.

4.3. GHG savings were not estimated for biodiversity and climate change adaptation projects, as carbon reduction is not the main aim of these projects. GHG savings are expected from these projects nonetheless. For example, flood prevention projects reduce the need to process overspill flood water, prevent property damage, protect natural carbon stores otherwise degraded by stormwater discharge, and help aquifers to remain fuller during drier summers, potentially saving additional reservoir construction and associated pumping costs. Taken together, the GHG savings from these secondary impacts are significant, but it is not possible to attribute these to individual, council-led projects.

4.4. From improving soil health to providing quality amenity green space, the ecosystem service benefits of the biodiversity projects in receipt of 2022-24 CN funding are critical and wide-ranging. To reduce the impact of these projects to an estimate of CO2 sequestration would diminish the full value of these projects in tackling the climate and biodiversity emergency.

4.5. From protecting clean water supply to reducing flood risk, the economic and environmental benefits of climate change adaptation projects in receipt of 2022-24 CN funding must also be recognised. Improving the city's resilience to the present and future impacts of climate change is a major theme of the Carbon Neutral Programme, and thus the CNF.

5. Community engagement and consultation

5.1. The cross-party 2030 Carbon Neutral Member Working Group reviewed the projected GHG savings for the 2022-24 CNF projects at its meeting on 15 February 2023. The Carbon Neutral Fund (CNF) is a key internal funding source to support the delivery of the 2030 Carbon Neutral Programme, the criteria for which were reviewed by the Carbon Neutral Members Working Group and set out in a report to this Committee on 6 October 2022.

6. Conclusion

6.1. It is forecast that the projects awarded 2022 Carbon Neutral Fund funding will save the city more than 9836.5 tonnes CO_2e (carbon dioxide equivalent).

6.2. Forecast savings reported in Appendix 1 do not perfectly reflect the full carbon-reduction potential of each project, as explained in paragraphs 3.12 and 3.13. This limitation of quantitative forecasting, as well as others covered in this report, indicate that a qualitative approach is still needed to assess and prioritise future projects.

6.3. This forecasting exercise has strengthened knowledge and expertise within the council to qualitatively assess the relative carbon-reduction potential of future projects

6.4. This forecasting exercise has also strengthened knowledge and expertise within the council to retrospectively quantify actual GHG savings. A shift from prospective to retrospective GHG reporting would yield more accurate estimates, allow a greater proportion of officer time to be focused on project delivery, and minimise the cost of consultancy support.

6.5. The Carbon Neutral Fund is critically important in the pursuit of carbon neutrality by 2030, increasing the city's resilience to climate change, and protecting and enhancing biodiversity in Brighton & Hove.

7. Financial implications

7.1. There are no further direct financial implications associate with this report. The funding allocations detailed in Appendix 1 have been incorporated into the Council's Capital Investment Programme 2022/23 and 2023/24 following reports to P&R Committee in July 2022 and October 2022. The Carbon Neutral Schemes are monitored and reported in line with the Council's TBM process.

Name of finance officer consulted: Rob Allen Date consulted: 17/2/23

8. Legal implications

8.1. There are no legal implications arising directly from this report which is for noting. There may be implications in relation to some of the projects the funding is supporting, which will be considered on a project by project basis.

Name of lawyer consulted: Alice Rowland Date consulted: 21/2/23

9. Equalities implications

9.1. The Carbon Neutral Fund programme includes projects which will benefit all the residents of Brighton & Hove, and in particular those who are more vulnerable. For example, some projects aim to increase the number of electric vehicles in the city, and in the council's fleet, thus reducing carbon and nitrous oxide emissions and helping to improve air quality. Other projects will

enhance biodiverse habitats in the city's parks for the enjoyment of all residents as well as supporting wildlife.

10. Sustainability implications

10.1. The 2030 Carbon Neutral Programme is the council's main response to the climate and biodiversity emergencies and there are sustainability implications throughout. The Carbon Neutral Fund helps support delivery of the climate and biodiversity action projects included in the programme, many of which have wider co-benefits such as improvements to air quality, energy security and public health.

11. Public health implications

11.1. The programme has many co-benefits relating to public health. For example, tree planting and enhancing green spaces in the city has a beneficial impact on mental and physical health and wellbeing; and reducing emissions from transport assists in improving air quality and therefore people's health.

Supporting Documentation

1. Appendices

1. Forecast greenhouse gas savings of 2022-24 CNF projects