

Cabinet

Date of Meeting: 2nd February 2021

Report Title: Carbon Action Plan Capital Investment

Portfolio Holder: Cllr Nick Mannion – Portfolio Holder for Environment and Regeneration

Senior Officer: Frank Jordan – Executive Director for Place and Deputy Chief Executive

1. Report Summary

- 1.1. This report seeks approval to proceed with a solar photovoltaic array and tree planting project at Leighton Grange Crewe, as part of the Council's commitment to be carbon neutral by 2025.
- 1.2. In May 2019 Cheshire East Council committed to becoming carbon neutral for its own operations by 2025 and to influence Carbon reduction across the Borough. The Council has set out how it will achieve this in its Carbon Action Plan.
- 1.3. The plan focuses on reducing carbon emissions across the Council. It also contains an element of insetting¹ carbon though generating additional sustainable energy such as solar and using nature-based solutions to absorb carbon such as planting trees or peat moss restoration.
- 1.4. This project will provide 26% of the Council's Carbon energy inset target.
- 1.5. This paper seeks approval to undertake a procurement for the design, build and initial operation of a solar photovoltaic array of approximately 5MW. It

¹ Insetting is the practice of negating carbon emissions by creating or funding initiatives to capture additional carbon from the atmosphere or create additional low carbon energy or heat. We use the term 'insetting' rather than 'offsetting' to describe them, when these projects are within Cheshire East.

also seeks approval for the planting and future maintenance of up to seven hectares of natural assets to absorb carbon.

2. Recommendations

2.1. That Cabinet:

2.1.1. Agrees that Council land at Leighton Grange as described in figure 1 at the end of this paper be allocated for insetting purposes.

2.1.2. Delegates authority to the Executive Director-Place to take all necessary actions including without limitation contract award and the execution of all necessary agreements and ancillary documentation to implement the following carbon insetting projects:

2.1.2.1. The procurement, construction and operation of a solar photovoltaic array connected to the composting plant of approximately 5MW, subject to securing appropriate permissions and connections.

2.1.2.2. The planting of up to seven hectares of natural assets to absorb carbon.

3. Reasons for Recommendations

3.1. It will not be possible to achieve the council's net zero ambitions without making use of some council land assets to provide sequestration or energy generation projects.

3.2. Energy generation projects must be located within a short distance of a mains grid substation or a large private off taker in order to secure their financial viability. The site proposed for energy generation enables that.

4. Other Options Considered

4.1. There is an option to rely entirely on energy efficiency and behavioural change to reduce the carbon emissions of the council. This option will not achieve the council's commitment to net-zero by 2025.

4.2. There is an option to offset² residual emissions by investing in carbon offset projects already in existence. These projects are located almost entirely outside of Cheshire East and many are located outside of the United Kingdom. It is therefore not considered to be appropriate to focus on these offsets.

² Offsetting carbon emissions is a recognised and established practice of paying into projects to reduce carbon emissions, these are typically located away from the United Kingdom.

4.3. There is an option to not progress to carbon net-zero but this is a clear commitment of the Council.

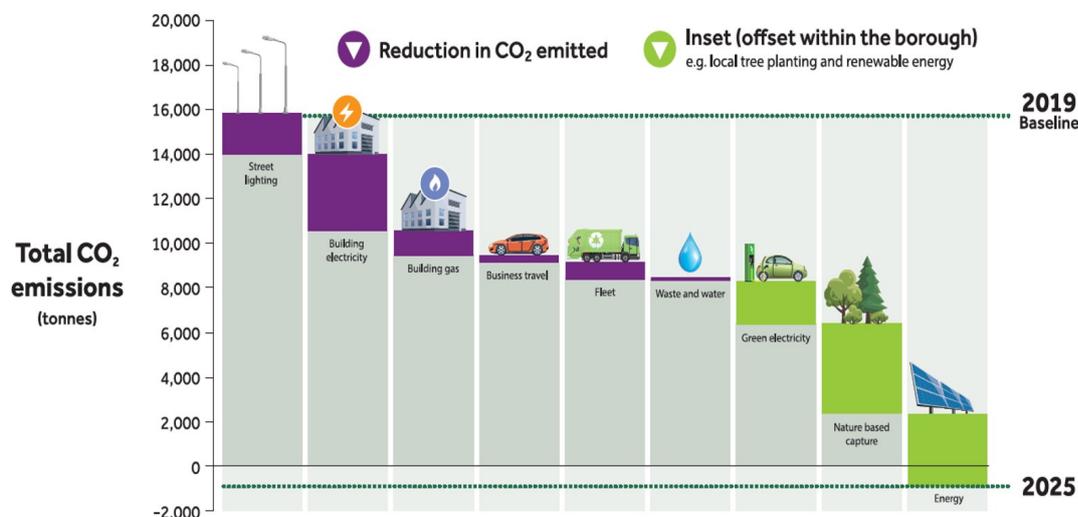
5. Background

5.1. On 5th May 2020 Cabinet approved the Council's Carbon Action Plan and delegated to the Head of Environmental Services the authority to take all necessary actions to implement the plan including:

5.1.1.1. Continuing to seek opportunities to develop sustainable energy production across the borough;

5.1.1.2. Focusing on environmental carbon offsetting within the borough through sequestration and reduction schemes, such as tree planting, with communities and partners from across the borough;

5.2. The diagram below outlines the relative contribution of all activity that will be required to achieve carbon neutrality by 2025, including a 10% contingency. The Council will also develop communication resources and toolkits to assist town and parish councils and communities in calculating, reducing and offsetting Carbon.



5.3. The land at Leighton Grange has various attributes to recommend it as a site for renewable energy generation and sequestration.

5.4. A privately owned photo-voltaic array is located within a short distance of the site. The Council owned composting plant is located within the site providing a potential off taker for an element of the generated power.

5.5. Cheshire East Council commissioned Ove Arup and Partners Ltd to complete a feasibility assessment of the options for a solar array connected to the composting plant. The outputs from this assessment have been used to inform a high-level business case.

- 5.6. The assessment indicates that an array of approximately 5MW provides the optimum solution allowing a direct connection to supply the composting plant with additional electricity to be supplied to the grid or other off takers.
- 5.7. The potential of adding battery storage to the solar array was also reviewed. This has been discounted currently due to economic considerations however it is noted that battery technology is developing quickly, and this provides a potential second phase to the project.
- 5.8. It is anticipated that the annual carbon savings from 5MW of solar PV would be an average of 1,023tCO₂e per annum until 2025 which could represent almost 26% of the inset energy target from the Carbon Action Plan; This represents the offset of approximately 38 Refuse Collection Vehicles.
- 5.9. Alongside the solar installation, it is expected that a further 7 hectares of biodiversity net gain could be implemented to act as screening and amenity enhancements, including an anticipated 5 hectares of carbon sequestration through tree planting, resulting in approximately 4% of the insetting expected from natural systems. (See Figure 1).
- 5.10. The scheme will be procured using one of the frameworks designed for this purpose or through an open tender process. A review of the available options will be undertaken by technical leads in collaboration with procurement specialists.
- 5.11. The procurement will be for the full design, build, operate and maintain to enable financial certainty and reduce the risk to the council.
- 5.12. The project would be managed as a Corporately Significant Project and will therefore be subject to frequent risk reviews.
- 5.13. The overall project will report to the Carbon Neutrality Work Stream Board as part of the Brighter Futures Programme.

6. Implications of the Recommendations

6.1. Legal Implications

6.1.1. The Council has taken external legal advice from Browne Jacobson who in turn have consulted with their associate firm Lux Nova Partners Limited (“LNP”) who are specialist energy lawyers. In summary:

6.1.1.1. having considered the treatment of the supplies of electricity under the Electricity Act 1989 (as amended); breach of which can be a criminal offence; the report outlines available exemptions that would allow the proposed installation and operation of solar photovoltaic array arrangement to proceed lawfully.

6.1.1.2. It also confirms the Council’s power to sell electricity from renewable sources including solar; and hence sanctions the proposed sale of energy to Biowise; though the precise details of that arrangement need to be finalised.

6.2. Finance Implications

6.2.1. There is a capital budget of £3.9m within the Medium Term Financial Strategy (MTFS) Capital Programme. The project will be funded through prudential borrowing with the project covering the cost of capital through income from electricity generated by the PV scheme. The proposed 5 MW solar PV scheme would cost in the region of £3.4m with a simple payback of 12 years and IRR of 6.9%. These figures are based on the assumption that the operator of the composting plant agrees on a private wire supply and the installation cost to be tendered at the target cost.

6.2.2. There are no additional revenue requirements on the MTFS currently anticipated as a result of this project. The business case currently indicates the project will cover its own costs from year one and generate a surplus over the second half of the 25 year lifecycle of the array. Any income through electricity sales net of the cost of capital will be used to reinvest in future schemes.

6.2.3. Land allocated by this decision is of agricultural value in land designated as open countryside.

6.2.4. This cost is based upon industry benchmarks given that the PV market is relatively mature and costs are stable, excluding exchange rates. The finance model for this project is reliant on the long term and sustained performance of equipment installed. The model includes debt repayment and an annual maintenance provision to ensure the equipment performs to its optimum. This is taken into account in the return for the scheme

6.2.5. The project will generate a business rate receipt which will be used to fund future carbon program projects.

6.3. Policy Implications

6.3.1. This project clearly supports the council's commitment to the environment and to be carbon neutral by 2025.

6.4. Equality Implications

6.4.1. An initial EIA screening has indicated that a full assessment is not required in this case.

6.5. Human Resources Implications

6.5.1. N/A

6.6. Risk Management Implications

6.6.1. Permissions will be required to take forward the project, including planning, Grid connection application and power purchase agreements with any potential off takers.

6.7. Rural Communities Implications

6.7.1. The recommendations in this report will lead to a small reduction in arable land at Leighton Grange Farm.

6.7.2. Land is currently partly agricultural production and partly scrub land; the land proposed for use is sloping to a flood risk area.

6.7.3. Investigation will be made into how the project can best contribute to farm operations. It may be possible to achieve under grazing of the solar array and the green sequestration elements will be focused on enhancing biodiversity.

6.8. Implications for Children & Young People/Cared for Children

6.8.1. There are no direct implications for children and young people.

6.9. Public Health Implications

6.9.1. There are no direct implications for public health.

6.10. Climate Change Implications

6.10.1. These recommendations will reduce the carbon emissions of Cheshire East Council by offsetting residual carbon through low carbon energy generation and sequestration. They will provide 26% of the Council Carbon energy inset target and approximately 5% of the nature based carbon capture.

7. Ward Members Affected

7.1. Cllr Byron Evans – Leighton Ward

8. Consultation & Engagement

8.1. Key stakeholders and carbon steering group have been consulted on this proposal.

9. Access to Information

9.1. The Council Environment Strategy and carbon action plan can be downloaded from the Councils web site at this web address:
<https://www.cheshireeast.gov.uk/environment/carbon-neutral-council/environment-strategy.aspx>

10. Contact Information

10.1. Any questions relating to this report should be directed to the following officer:

Name: Ralph Kemp

Job Title: Head of Environmental Services

Email: ralph.kemp@cheshireeast.gov.uk

Figure One

An initial outline of the scheme, which will be subject to detailed design.

