

Policy and Resources Committee	
Meeting Date	16 October 2024
Report Title	Solar Panels – Swale House
SMT Lead	Emma Wiggins Director of Regeneration and Neighbourhoods
Head of Service	Joanne Johnson, Head of Place
Lead Officer	Deborah Hardy, Building Operations and Maintenance Manager
Classification	Open
Recommendations	<p>1) To agree to allow and delegate to the Director of Resources to use reserves up to £100,000 on an invest to save basis to provide solar panel coverage at Swale House with a payback of no longer than 5 years.</p> <p>2) To delegate to the Director of Regeneration and Neighbourhoods the preparation and award of a contract for the delivery of solar panels on Swale House subject to agreement of recommendation 1.</p>

1 Purpose of Report and Executive Summary

- 1.1 This report sets out the invest to save business case for the installation of solar panels on Swale House.
- 1.2 As part of the Climate Emergency Action Plan there is an action to investigate ways of decarbonising Swale House and this report sets out how this can be achieved.

2 Background

- 2.1 On 26 June 2019 Swale Borough Council declared a Climate and Ecological Emergency. The council set one of the most ambitious targets in the country to be carbon neutral by 2025 and achieve net zero borough wide by 2030.
- 2.2 The first priority in the top ten priorities in the action plan is to **Retro-fit Swale House to cut carbon emissions (e.g. extra insulation, triple glazing, heat pump, solar PV).**
- 2.3 Insulation and glazing works were successfully undertaken throughout 2022. Swale House's Display Energy Certificate Rating has since been regraded from C to B.
- 2.4 The council was offered the opportunity to have a piece of work undertaken at no cost to investigate whether there is a financially viable business case to install solar panels on Swale House on an invest to save basis.

- 2.5 The business case is set out in appendix 1 and sets out the scope for installation of 6 separate PV arrays laid out across various roofs on Swale House, with a combined nominal output of 124.1 kWp. This utilises all the accessible flat roof surfaces and takes into account shading from buildings, a flagpole and several antennae.
- 2.6 The council is undertaking other investigations to identify which other buildings could be suitable to house solar panels and has a well-developed tender specification.
- 2.7 The overall electricity self-consumption rate is estimated at 89.6%, i.e. of the total power generated by the PV array, we can expect 89.6% to be utilised on site at Swale House, displacing power that would otherwise need to be imported from the grid. At the prevailing day-time tariff rate of 29.105 p/kWh this would be expected to save £30,553 annually. On this basis the PV array would achieve a self-sufficiency rate of 50.0%, i.e. we would expect the PV array to supply around 50% of the total electricity consumed by Swale House (209,897 kWh, day and night). In addition, between April and August surplus PV generation (~12,153 kWh) would be exported back to the grid. At a day-time export tariff rate of 18 p/kWh (e.g. Octopus Flux) this could be worth an additional £2,153 pa. Therefore, the estimated total benefit from the PV array would be in the region of £32,740 annually.
- 2.8 The main items of equipment required for this project are
- 292 x PV panels,
 - 6 x inverters,
 - an export power manager,
 - roof mounting equipment,
 - ballast
 - electrical switchgear and sundries.
- 2.9 The price of this has been estimated at £47,000 (ex VAT). However, this cost excludes any supplier margin on equipment and a final price would need to be established through a tender procurement process as per our contract standing orders.
- 2.9 Estimated design, installation and commissioning costs for an array of this capacity are likely to be in the region of £20,000 (ex VAT). In practice suppliers will charge a margin over wholesale prices on equipment which could be more than 30%, depending upon how competitively the selected contractor is prepared to price for the project. Allowing for a 30% margin on the cost of equipment, the overall project cost could be in the region of £81,000 (ex VAT, subject to market testing). This does not include any project financing/opportunity costs or internal administration costs. It also does not include any costs for ongoing maintenance, albeit in practice these ought to be minimal (~£500 pa).
- 2.10 The recommendations in this report were considered and approved by

Environment & Climate Change Committee on 3rd October 2024

3 Proposals

- 3.1 To agree to allow and delegate to the Director of Resources to use reserves up to £100,000 on an invest to save basis to provide solar panel coverage at Swale House with a payback of no longer than 5 years.
- 3.2 To delegate to the Director of Regeneration and Neighbourhoods the preparation and award of contract for the delivery of solar panels on Swale House subject to agreement of recommendation 1.
- 3.3 .

4 Alternative Options

- 4.1 That the council does not proceed with solar panels on Swale House – this is not recommended as to do so would not meet our climate emergency commitment and would cost more in the longer term.

5 Consultation Undertaken or Proposed

- 5.1 This report was considered and approved by Environment & Climate Change Committee on 3rd October 2024.

6 Implications

Issue	Implications
Corporate Plan	This project is part of the Environment section of the corporate plan as forms part of the annual delivery plan 2024-25
Financial, Resource and Property	Based on savings (section 7 of the business case) and costs (section 8 of the business case), excluding any project financing costs, the simple undiscounted payback period is likely to be in the region of 2.5 years, depending upon the terms that can be negotiated with the preferred contractor. Based on these projected costs and revenues the project achieves an Internal Rate of Return (IRR) of 38.91% after 10 years. Increases in the cost of electricity which occur post installation will improve the rate of return on investment. Likewise, a fall in the cost of electricity would reduce the rate of return.
Legal, Statutory and Procurement	None identified at this stage.
Crime and Disorder	None identified at this stage.
Climate and Ecological Emergency	If we proceed with this project, it will assist us to meet the priorities set out in the Climate and Ecological Emergency Action plan declared in June 2019. It also helps us show an environmental stewardship role, encouraging other local

	businesses to follow suit.
Health and Wellbeing	None identified at this stage.
Risk Management and Health and Safety	None identified at this stage.
Equality and Diversity	None identified at this stage.
Privacy and Data Protection	None

7 Appendices

Appendix 1 – PV array – cost benefit analysis

8 Background Papers

The author of this report has not relied on any background papers that are not either attached to this report or are in the public domain,