Corporate Policy and Resources Committee

8th of July 2024

Title	Implementation of a Solar Canopies over the 'Eclipse' Leisure Centre Carpark
Purpose of the report	To make a decision
Report Author	Timothy Snook, Sustainability and Flood Risk Officer
Ward(s) Affected	Staines
Exempt	Report and Appendix D – No *Appendices A-C - Yes*
Exemption Reason	*Appendices A-C contain exempt information within the meaning of Part 1 of Schedule 12A to the Local Government Act 1972, as amended by the Local Government (Access to Information) Act 1985 and by the Local Government (Access to Information) (Variation) Order 2006 Paragraph 3 – Information relating to the financial or business affairs of any particular person (including the authority holding that information)*
Corporate Priority	Resilience Environment Services
Recommendations	**Committee is asked to:** 1. To support progressing a solar canopies scheme 2. To confirm whether the preference is for steel or glulam structure. 3. To authorise proceeding with the procurement of a solar canopy scheme and to authorise the Group Head of assets to carry out the procurement in accordance with Contract Standing Orders. 4. To recommend to Council that the expenditure be funded by one of the options and if a capital expenditure option is preferred that a supplementary capital estimate of £1.4m to £1.8m (depending on option) be approved by Council. 5. Depending on 4 above authorise officers to progress application for Community Infrastructure Levy (CIL) funding and explore other potential funding routes, for example Capital borrowing or through a PPA as specified in section 4. 6. To authorise the Group Head of Assets to apply for planning permission in accordance with Regulation 3 of the Town and Country Planning General regulations 1992.

	7. To authorise the Group Head of Corporate Governance to enter into any necessary documentation in connection with the project.
Reason for Recommendation	The Solar Canopy will realise a potential carbon saving of 137 tCO2e/annum (tonnes of CO2 equivalent) and through either financing option selected will represent a considerable cost saving to the operation of the 'Eclipse' Leisure Centre over its lifetime. Additionally, it could form an avenue of revenue generation through the selling of electricity generated to the leisure centre operator.

1. Summary of the report

What is the situation	Why we want to do something
• The current leisure centre plans include a carpark of around 300 spaces. • There is the potential to construct an array of solar panels above this carpark, without losing spaces. • There is opportunity to create a complementary project to the Passivhaus leisure centre, that supports the sustainability credentials.	• This will enable the generation of clean, renewable, local energy to power the 'Eclipse' centre. • This will represent an electricity cost an annual saving of an estimated £5,520,000 over its lifetime and a carbon saving of 137 tonnes/annum. • It will be in keeping with the Council's commitment to tackling the climate emergency and would neatly complement the standards set by the Passivhaus development.
This is what we want to do about it	**These are the next steps**
• This is a high-level report detailing options on both design and finances that we are seeking committee approval to move to tender which will enable full detailed proposals to be provided. • To instruct an installer to develop a solar canopy over the proposed carpark to power the 'Eclipse' Leisure Centre, and potentially the Knowle Green Council offices. • The first priority is to fund this with strategic CIL (Community infrastructure levy)	• Initiate the project, seek funding and update committee in September on progress and with detailed timeline of implementation. • Procure a contractor to develop and install the Solar Canopy into the 'Eclipse' Leisure Centre carpark, within development Phase 2 timeline.

1.1 Below is a QR code that will link you to a video of a very similar project located in 5 rivers leisure centre, Salisbury operated by Wiltshire Council.

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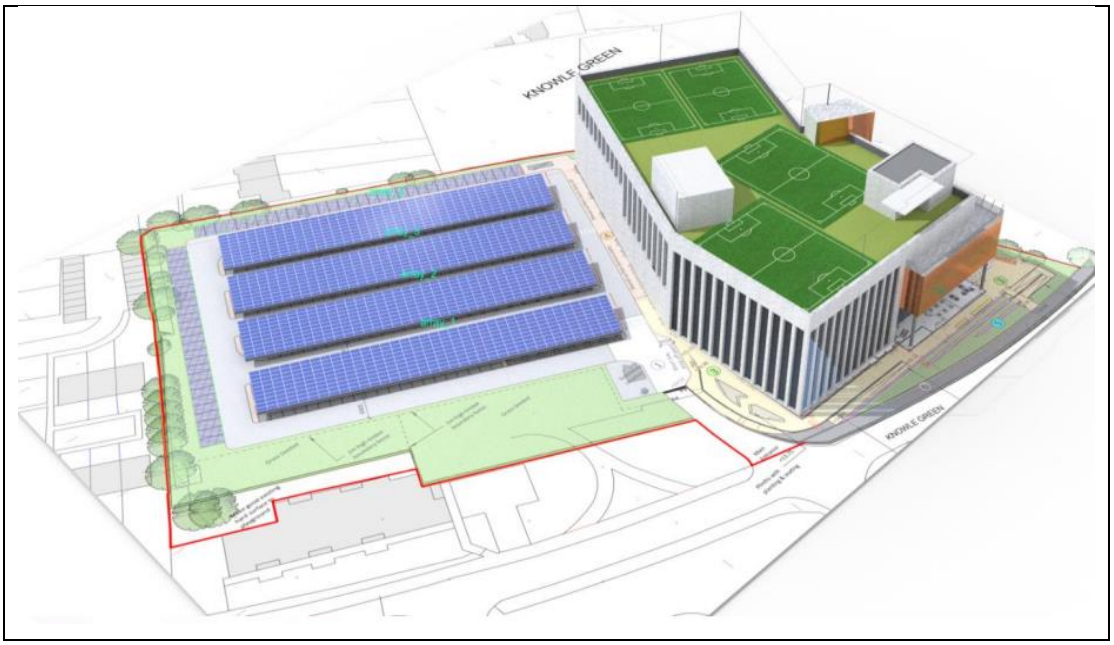
1.2 This report seeks a decision from Committee on the initiation of the project, progression, and tender for the installation of a solar carpark, fitted upon a canopy that will cover a large section of the proposed ‘Eclipse’ leisure centre carpark, seen in **Appendix A.** The solar canopy will produce renewable electricity to power the Leisure Centre and any associated electric vehicle charge points within the car park. This project will comply with all legal and regulatory requirements, including seeking planning permission. The Committee is asked to make three recommendations to Council, first on the project, the second on the variation of the Capital budget and the third on the funding of the project. The report and its figures are based upon those provided by the company 3ti, this is due to their proposal being the most comprehensive of the 3 indicative quotes received, and that they are representative of a middle ground option in terms of scope and cost.

1.3 Below is an image of a mock-up design of the solar canopy at the leisure centre.



2. Key issues

2.1 The current proposed designs for the 'Eclipse' car park do not include a solar canopy covering the carpark. Additionally, the proposed electricity supply for the 'Eclipse' Leisure Centre is to approach the electricity market and contract a supplier in the conventional manner.

2.2 The current plan to rely on the electricity market therefore leaves the Council at risk to external factors that may impact the market electricity price, such as that seen after the Russian invasion of Ukraine.

2.3 Development of a solar canopy will enable the generation of clean, zero carbon energy for the 'Eclipse' Leisure Centre. This acts in accordance with the climate emergency, declared by the Council in 2020 and will provide electricity at a reduced cost to the market. This project fits well with the ethos of the Passivhaus leisure centre.

3. Options analysis and proposal

3.1 Solar car park specialist installer, 3ti, were approached for an initial proposal and design assessment of the 'Eclipse' Leisure Centre site to provide ideas on feasibility and cost. Following this, a 36-page presentation and proposal was presented to officers on the 4th of April 2024 which has informed this report. This proposal can be read in full in **Appendix A**. In addition, two other suppliers were contacted and they provided initial proposals and costs that were in line with 3ti and therefore gave officers confidence that the 3ti proposal was in line with the industry average.

3.2 The solar canopies would be connected to the new electrical infrastructure, installed as part of the Eclipse development. In addition, the electricity generated by the solar canopies would be utilised by the Eclipse Leisure Centre, and potentially Knowle Green civic offices.

3.3 The solar car park would reduce the electricity costs associated with running the Eclipse Leisure Centre, whilst ensuring the electricity is sourced through locally generated renewable energy. The solar carpark will produce around 668,000 kWh per annum. The 'Eclipse' Leisure centre will use an estimated

1,200,362 kWh per annum. Therefore, the solar canopy will account for 55.64% of the required electricity.

3.4 The design of the frame which suspends the solar canopies can be made from a glulam timber frame (Wood) construction technique or a steel frame. The glulam timber frame is a more sustainable construction material with a lower embodied carbon value than steel. The development of the solar canopy using the glulam timber frame would further complement the Passivhaus design of the 'Eclipse' Leisure Centre and support the Council's commitment to addressing the climate emergency. However, this option includes a 30% increase in the capital cost of the project. This is the option that Officers believe to be the best value in terms of design, carbon saving and cost saving of the project.

3.5 Below is an image comparison between the two frame designs:

Glulam Timber Frame	Steel Frame
	

3.6 3ti offer a standard warranty of 25 years on the structures to align with terms of projects (PPA). However, this is dependent on the projects impacts via external factors (such as saltwater proximity etc). A maintenance schedule for any required sanding and protective wood finish treatment from 5-10 years will be included in Glulam projects as required for the lifetime of the contract under PPA. For Capex, this is estimated to be £9,000 per year in addition to cleaning the panels which is conducted typically once or twice a year costing around £5,000 per annum. Glulam wooden structures can have a lifespan of 50 plus years with the correct maintenance schedule. These warranties are estimated to be inline with industry standards.

3.7 Officers met with the Technical Lead Major Energy Projects at Wiltshire Council, as Wiltshire Council are finalising the installation of their own leisure centre solar carpark with 3ti. This can be seen through the QR code in paragraph 1.1. They spoke of their project and experience with high regard and recommended that this is a good way to power a leisure centre sustainably.

3.8 **Option 1:** Agree to progress with the process of the installation of a solar canopy through going out to tender. It is proposed that the Council seeks strategic Community Infrastructure (CIL) funding. The annual bidding deadline

is 30th June, so an initial application has been progressed, ahead of this committee. However, if the Committee is not supportive of the proposal the CIL bid can be withdrawn.

If not funded through CIL, what is the preferential funding option:

A. Funded through capital borrowing- Committee is reminded that the Council is seeking to minimise and reduce borrowing going forwards

B. Funded through utilising a Power Purchase Agreement (PPA)

What is the preferential design option:

A. Glulam Timber design (preferred)

B. Steel frame design

3.9 **Option 2:** Do nothing

4. Financial management comments

4.1 Below is a high-level breakdown, providing indicative financial information on the four options to seek the Committee's approval to move on to the tender stage. The complete high-level financial analysis and breakdown has been produced; this is available as an excel document in **Appendix C**.

4.2 This project will be considered as a strategic CIL (Community infrastructure levy) fund application. Therefore, there is the potential for the project to be funded in part or as a whole through the CIL. If this is successful, then the project will present no financial risk to the Council. The CIL funding balance is high enough to cover the cost of the Glulam recommended option.

4.3 The options available to the Council around funding if the CIL application is not successful include that of capital borrowing and the use of a power purchase agreement (PPA).

4.4 Under capital borrowing, the project will represent a pure saving of £5,520,000 revenue over 27 years. This is not inclusive of any profit that can be made through the contractual arrangement with the new 'Eclipse' leisure centre operator, rather just a representative saving against that of a corporate tariff of the 'do nothing option' as detailed in the table below.

4.5 Under a PPA, the council will not have any upfront costs, and instead will be within a contract with the owner of the solar canopy to purchase the electricity generated at a fixed rate for the PPA term, in the example this was 27 years. This represented a saving of £3,840,000 against that of a corporate tariff of the 'do nothing option' as detailed in the table below.

4.6 The highlighted figures can be broken down by the 3 options over a period of 27 years, these figures are based on rounded indicative costings provided by 3ti, these figures are indicative and could change as a result of the outcome of the proposed procurement exercise:

Options	Initial Capital Cost	Undiscounted Cashflow	Discounted Cashflow *

Do nothing	0	-£13,648,320	-£6,887,305
Capital Project	-£1,357,181	£5,520,056	£2,113,255
PPA route	0	£3,838,211	£1,936,863
Capital Project (Wooden)	-£1,764,335	£5,112,902	£1,706,101

(*) The discounted cashflow accounts for assumptions around the cost of financing. A 5% discount factor has been used.

4.7 A 10% contingency has been included in the high-level financial evaluations of each option to account for potential maintenance, warranty and cleaning agreements.

4.8 Solar panels have a minimum lifespan of 25 years and will comfortably work for 35 years. The structures on design either option are designed to be retained when panels need replacing. Glulam Timber can last for over 50 years with proper treatment, as can steel. Warranties from manufacturers such as 3ti have been quoted at 25 or 30 years initially which will increase expenditure, which has been captured within the 10% contingency. These can be negotiated through contracts and tenders to be extended. A rough estimate places this cost at around £9,000/annum.

4.9 If the project is to be funded through capital borrowing, the Council will need to consider a supplementary estimate for the Capital Programme for 2024/25 of £1.4m to £1.8m (depending on whether the preference is for steel or wooden structure). All other options will not require additional variations.

5. Risk management comments.

5.1 There are a number of potential risk scenarios associated with the development and management of a solar car park. The risks are centred around the themes of legal, procurement, technological, financial, accessibility, anti-social behaviour and weather. These are addressed and mitigated, seen in **Appendix D**.

6. Procurement comments

6.1 The solar panel installation has a good supply base. The variety and maturity of the supplier market will stir competition and ensure the council, through a competitive tender appoint a provider that will offer best value. Given recent progress in technologies, it is suggested any procurement design- service takes into consideration the whole life costing, from design, installation, maintenance and the cost of decommissioning the service. Additionally, due consideration should be given to the ability of the preferred supplier to adapt their technology as we evolve, to ensure ethe installation can be flexi and adaptable to meet future needs. This will ensure that the installation is not dispute before its lifespan.

6.2 Procurement will work with the service area to identify associated risk and use the appropriate procurement route to let the contract. As such, this report is supported and recommended for approval.

6.3 The Council is under a statutory duty to deliver best value pursuant to the Local Government Act 1999. The Council's Contract Standing Orders require

the Council to competitively tender the procurement from a minimum of 3 providers (paragraph 22 of part 4(e) of the Constitution).

7. Legal comments

7.1 Part of the Eclipse leisure Centre car park falls within title number MX433568. The land is held by SBC for the purposes of the Public Health Act 1875 and the Physical Training and Recreation Act 1937. Middlesex County Council ('MCC') contributed one-third of the expense of acquiring land in this title in 1961. Surrey County Council ('SCC') is MCC's statutory successor. There is a Contribution Agreement dated 8 December 1961 which affects land within this title number and places restrictions on how the land may be used.

7.2 Contribution Agreement the Council covenanted with MCC (now SCC) can be found in **Appendix D**.

1.1 On the 10th of May 2024, the Council received correspondence from the Principal Estates Surveyor at SCC, which stated that SCC has indicated that it would provide consent to the solar development on the condition that SCC's surveyor and legal fees were paid for by Spelthorne Borough Council to address the historic Middlesex agreement.

7.3 The Legal Services (g.legal@spelthorne.gov.uk) will provide advice and assistance on the negotiation of the contractual documentation and will obtain specialist external advice where necessary.

8. Other considerations

8.1 There are none.

9. Equality and Diversity

9.1 The provision of disabled parking spaces will be included and enforced within the design. Implementing green technologies encourages job creation within the green economy. By provisioning locally sourced renewable power we can ensure greater security for the local area, at a reduced cost.

10. Sustainability/Climate Change Implications

10.1 The Council declared a climate change emergency in 2020 and adopted a subsequent climate change strategy in 2022. This project aligns with the commitments made in the strategy, to deliver clean, renewable energy on Council sites where viable.

10.2 This project would create CO2 savings of 137 tCO2e/annum thus contributing to the Council's net zero target of 2030. This is equivalent to 11.47% of the Council's entire scope 1 and 2 carbon footprint (2019). The scope 1 carbon footprint refers to all combustion related activities that occur onsite, whilst scope 2 refers only to carbon emissions associated with grid electricity generation for electricity used onsite.

10.3 This project supports the Council's EV infrastructure strategy adopted in 2023, by creating EV charging facilities on site at the car park, also powered by solar generation.

11. Timetable for implementation.

11.1 Upon decision, a planning application will be conducted concurrently with the procurement process so as to award the tender to a supplier before January 2025. From here, it will be possible to slot the development of the solar

canopy in line with the proposed works of the demolition of the old leisure centre and construction of the new carpark. Further indicative timetables can be found in **Appendix A**. An initial estimate could be that the solar carpark could be operational by July 2025.

11.2 A CIL application has been made for the strategic CIL funding round which ended at the end of June 2024. If the committee decides to go ahead with the project, this application will continue and will be determined by December 2024 by the Environment and Sustainability Committee. If the committee decides not to go ahead, this application will be withdrawn.

12. Contact

12.1 Tim Snook, Sustainability and Flood Risk Officer

12.2 T.snook@spelthorne.gov.uk

Background papers: There are none.

Appendices:

Appendix A (Part 2) – Presentation and Proposal by 3ti on solar canopy installation and financial breakdown of the capex model, provided by 3ti.
Appendix B (Part 2) – Quotes from other suppliers of solar canopy installation.
Appendix C (Part 2) – Financial breakdown and analysis of both models by SBC finance team
Appendix D – Additional Information