

REPORT TITLE: Solar Photovoltaics installation at maintained schools in Gloucestershire.

Cabinet Date	24 th July 2024
Cabinet Member	Cllr Lynden Stowe, Deputy Leader and Cabinet Member for Finance and Change
Key Decision	Yes
Purpose of Report	To seek delegated authority to conduct a competitive procurement exercise in respect of a contract or (as appropriate) contracts for the purchase and installation of solar photovoltaic (PV) panels at selected maintained schools in Gloucestershire.
Recommendations	<p>That Cabinet:</p> <ol style="list-style-type: none"> 1. Approves the release of up to £2m from the budget approved at Full Council in February 2024 as part of 2024/25 budget to provide solar PV on selected maintained schools' premises through the purchase and installation of the solar photovoltaic panels and associated equipment/infrastructure described in Recommendation 2 below; 2. Delegates authority to the Assistant Director of Asset Management & Property Services, in consultation with the Cabinet Member for Finance and Change, to: <ol style="list-style-type: none"> a) Conduct, subject to the financial restrictions set out in the Resourcing Implications section of this report below, a competitive procurement process under the CCS (Crown Commercial Service) RM6313 Demand Management & Renewables dynamic purchasing system (DPS) for such number of contracts as may be deemed necessary for the purpose of purchasing and installing solar photovoltaic panels at all maintained schools in Gloucestershire that have applied for and been selected by the council to receive such panels and associated equipment/infrastructure. b) Award such contract(s) to the preferred tenderer(s).

Reasons for Recommendations	Based on the Council's 'Building Back Better Strategy', which pledges to reduce its carbon footprint and aims to reach net zero by 2030, Cabinet has signalled a commitment to installing solar PV panels on the roofs of GCC (Gloucestershire County Council) maintained schools to meet the climate change action plan set out in 'Fourth Annual update to the Climate Change Plan' (see background documents link within this report).
Resource Implications	<p>The proposed contract(s) for the purchase and installation of solar PV panels will be managed by the council's Asset Management & Property Services (AMPS) team. A dedicated contracts manager (Lead Engineer) will be responsible for overseeing these contracts.</p> <p>The proposed procurement process will be carried out using existing in-house resources, using a Crown Commercial Service Dynamic Purchasing system.</p> <p>The combined aggregate value of the contract(s) described in Recommendation 2 above shall not exceed £2m.</p> <p>In the event of any underspend resulting from not all schools being suitable or in the unlikely event of insufficient interest from schools, the council shall re-apportion the funds to install additional solar PV on schools with solar PV already in place. We will also look at the installation of battery storage systems should residual funding prevail.</p>
Background Documents	<p>County Council (21/02/2024): Policy and Budget Framework - Medium Term Financial Strategy</p> <p>Cabinet Decision (31/01/2024): Fourth annual update to the climate change action plan</p> <p>Gloucestershire County Council Strategy 2022 - 2026 – "Building Back Better"</p>
Statutory Authority	N/A
Divisional Councillor(s)	ALL
Officer	<p>Name: Rob Barnes</p> <p>Tel. no: 01452 328803</p>

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Timeline	<p>Timeline:</p> <table> <tr> <td>Cabinet Approval</td> <td>July 2024</td> </tr> <tr> <td>Develop communications plan</td> <td>July 2024</td> </tr> <tr> <td>Develop Specification/procurement</td> <td>May - August 2024</td> </tr> <tr> <td>Soft Launch of Solar PV's in Schools</td> <td>September 2024</td> </tr> <tr> <td>Competitive Tender process</td> <td>September 2024</td> </tr> <tr> <td>Award(s)/Implementation</td> <td>October 2024 – March 2027</td> </tr> <tr> <td>Ongoing contract management/monitor energy saving</td> <td>Sept/March 2027</td> </tr> </table>	Cabinet Approval	July 2024	Develop communications plan	July 2024	Develop Specification/procurement	May - August 2024	Soft Launch of Solar PV's in Schools	September 2024	Competitive Tender process	September 2024	Award(s)/Implementation	October 2024 – March 2027	Ongoing contract management/monitor energy saving	Sept/March 2027
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Background

1. Gloucestershire County Council has committed to the vision of creating a carbon neutral county by 2045, as well as reducing emissions by 80% from the 2005 baseline by 2030. To do this, it is necessary for this council to not only focus on its own estate but also to support others in their journey. Investment in low carbon technology such as solar PV helps to highlight the benefits to the wider county and aligns with the principal of leading by example.
2. In the 2024/25 budget, the Council agreed an investment of £2m to supply, install and commission solar photovoltaics at suitable maintained schools in the county with a view to decreasing carbon emissions and reducing school energy bills. This programme of work for GCC maintained schools has the potential to reduce over 500 tonnes of CO₂ each year 12% of our scope 2 emissions (indirect emissions generated from purchased energy). It is anticipated that most maintained schools in Gloucestershire will benefit, subject to satisfactory loading, engineering, and structural surveys. This project may be delivered in tandem with other projects for efficiency purposes.
3. GCC maintained schools face higher fuel costs due to the rise in wholesale fuel costs. Therefore, savings made on energy will mitigate this additional pressure on schools' budgets.
4. Investment in low carbon technology, such as solar photovoltaics, aligns with the Council's aims for carbon reduction and the Government's target to achieve carbon neutrality by 2050.
5. A pilot scheme is currently in progress involving 6 of GCC's maintained schools, one in each district: Nailsworth CofE Primary, Harewood Junior, St Johns Cheltenham, Ashchurch Primary, Stow on the Wold Primary and Woolaston Primary. Five of the six installations are already completed. This pilot will establish the costs for installation and will result in lessons learned that will inform the main body of works of installation of solar PV to GCC maintained schools. A simple and compliant procurement exercise has been carried out by the council to deliver 20kWp solar arrays on the said six schools. The tender prices returned under this process have confirmed that the available £2m in funding will cover the costs for installation of 20kWp solar arrays on GCC maintained schools. The pilot scheme will also enable us to learn and then put in place measures that will ensure an efficient roll out of the installation project at other selected maintained schools.
6. Each of GCC's maintained schools will be assessed by the council to determine its suitability for receiving solar PV under the scheme. When selecting such schools, the council shall consider the following selection criteria: The relevant school's desire for solar PV to be fitted and maintained at its premises, each school's Energy Performance Certificate (EPC/DEC) rating; the electrical energy it consumes; and the structural condition / load bearing capacity of the selected

school roof. In addition, the surrounding electricity network will be checked to ensure that it can accept a solar PV grid connection.

7. Schools will be selected by the council for inclusion in the solar PV programme of works. Dialogue with the school will commence upon selection with full engagement on the process to be undertaken. It is expected that the roll out of the programme will be in tranches to effectively manage the process.
8. The size of the PV systems will vary depending upon the size of the school, the condition of the roofs and other factors including available grid capacity and the geographical complexities of Gloucestershire. Schools have been very receptive to the proposals and are keen to engage in the roll out.
9. UK energy price fluctuation has created additional budget pressure across all services. Installation of solar PV will help to reduce future exposure to price changes and will result in utilities cost reduction going forward – with the panels expected to last over 20 years – subject to their ongoing maintenance.
10. Installation of onsite generation in terms of Solar PV will generate a total average annual savings of £4,360 per school. The ambition is to achieve installation to all maintained schools across Gloucestershire, subject to them satisfying loading, engineering, and structural requirements. We estimate this will allow us to achieve installation to 85% of maintained schools. It is estimated this will generate average annual income and savings in the region of £348,800, calculated using an industry calculation tool, using current GCC's contracted energy rate.
11. Calculations used to support these recommendations were based on industry calculation tools, for a given 20kWp array at each school. It also assumes a southwest facing roof and weather conditions typical for the country.
12. In the long-term, installation of solar PV will help to reduce the council's carbon footprint, in line with its earlier mentioned goals. It will also support the future installations of low carbon heating.
13. A desktop audit of maintained schools, considering their EPC rating and energy use, was undertaken. The audit also considered each school's enthusiasm for solar photovoltaics.
14. We anticipate that approx. 85 maintained schools (out of 100 maintained schools) in the county are expected to meet the council's required selection criteria for solar PV installation this is based upon each school's energy use, their Display Energy Certificate (DECs provide an energy rating of the building from A to G, where A is very efficient and G is the least efficient) rating and the school's own desire for solar PV. The structure of the school's roof in which the panels are installed will be surveyed to confirm that it is able to support the weight of the solar panels. The electricity network will also be verified (through engaging with National Grid as the District Network Operator (DNO) to ensure that a 20kWp solar PV array can be electrically connected to feed back into the grid.

15. The proposed solar panel installation work at each selected school will include an obligation to ensure that the structure of each school building roof is capable of withstanding the weight of the solar array - as evidenced by a structural report. Responsibility for producing the structural report will be borne by the contractor appointed by the council under the RM6313 Demand Management & Renewables dynamic purchasing system to install solar PV at schools. The council's AMPS team will be responsible for verifying such reports. The solar PV contractor will also be responsible for providing notifications to the DNO for connecting the solar PV to the electricity grid. The solar PV contractor will also be responsible for the supply, installation, and commissioning of the solar PVs on the roofs of the schools.
16. Once solar PVs have been installed at the selected school sites and are generating power, a handover to the school will be undertaken by the installer and the relevant AMPS officers, following which the school will assume ownership of the panels and bear responsibility for cleaning them annually and replacing defective component parts. The council will provide support to help each school set up a monitoring agreement between the manufacturer of the solar PV and the school. This will be in the form of an application or online link.

Options

17. Option 1 Do nothing.

18. Option 2 Using GCC funding, procure and deliver a 20kWp solar PV system to each of the council's 85 maintained schools who have applied for and been selected by the council (according to the criteria set out in paragraph 6 above) to receive such panels. This will confirm GCC's commitment to renewable energy and also be an encouragement to Gloucestershire residents to perhaps follow suit and install PV on their homes and businesses. The decision to conduct a procurement process under the CCS RM6313 Demand Management and Renewable DPS was informed by a review of the options available including other frameworks and using an open procurement procedure.

The CCS RM6313 Demand Management and Renewable DPS has been used by other councils to deliver solar infrastructure and has proved successful. The benefits of using this DPS includes it is a cost effective and procurement law compliant method for procuring goods and services that can limit the need for complex tender processes and benefit both supplier and tendering organisations; there are established terms and conditions relevant for the purchase and installation of solar panels and as it is a DPS, GCC can encourage local Small and Medium sized Enterprises (SMEs) to join the DPS and have the opportunity to tender for the works.

19. Option 3 Do more, i.e., install a larger than 20kWp solar PV system at such schools and complement this with the addition of batteries to enable each school to store electricity and use it when solar production is low or at night.

20. Option 1 is not recommended on the basis that the 'Building Back Better Strategy' pledges to reduce the council's carbon footprint. This programme of work will be leading by example – and showing our commitment to reducing the carbon footprint in Gloucestershire.

21. Option 3 is not recommended on the basis this may exceed the available budget. The current budget plan estimates the provision of 20kWp of solar PV to be in the region of £25K per school, with the expected uptake of 85 schools across a £2M budget. If during the scheme savings are made and there is a predicated underspend we will revisit the potential for batteries.

22. The recommended option is Option 2:

To undertake a legally compliant procurement process to appoint a supplier that will deliver the solar PV programme. This will result in financial and environmental savings by providing participating schools with renewable electrical energy which will in turn reduce their energy bills given that they will be less reliant on the national grid. This project will provide an efficient opportunity to upskill the council's workforce through their use of modern methods and technologies.

Based on the calculations stated in paragraph 10 above, installation of onsite generation in terms of solar PV will generate a total average annual income & savings of £4,360 per school.

Risks

23. Costs of installation increase due to unforeseen issues – i.e. roof condition, electrical connection or required upgrades. This additional cost will be met by reappportioning the fund, or alternative sites chosen and funding reallocated where the school does not align to the building requirements for solar to be installed.

24. Responses to ITT (invitation to tender) exceeds budget. Pilot project will provide reassurances. The size of each PV system will be in keeping with the budget available.

25. Inadequate resourcing/skills. The pilot project will initiate learning, development and opportunities for in house teams to develop, learn and grow from the exercise.

26. Priority status for delivery and potential complaints from schools. This risk will be mitigated by regular communications on why each school has been chosen during the course of the project with reassurances around us fulfilling our obligation to each GCC maintained school. Should additional works be required as part of the programme, alternative capital funding streams which have budget provision in place, will complement the delivery of this programme.

Financial implications

27. The Department for Energy Security and Net Zero (Formally BEIS - Business, Energy & Industrial Strategy (DBEIS)) publishes [historical energy prices covering years 2004-2021](#).

From analysing this data, we can see:

- A **260%** increase in electricity prices, 2004-2021
- An **84%** increase in gas prices, 2004-2021

Over the 17-year data period, this equates to an average annual increase of **8%** for electricity rates and **3.6%** for gas rates.

Following this level of increase, we would see a £1 kWh price by 2043 – which equates to a 5 times increase in prices from 2020.

The proposed installation of the solar PV would offset the cost of electricity for each school which has it installed.

28. Installation of onsite generation in terms of solar PV will generate a total average annual income & savings of £4,360 per school. Once all the expected 85% of schools solar PV is installed an average annual income and savings will be in the region of £348,800, calculated using an industry calculation tool, using current GCC's contracted energy rate.

29. Currently the Smart Export Guarantee (SEG) provides an income for excess energy generated on site, that is then imported back to the grid. (It has replaced the previous FiT). We do not have to use our current supplier to sign up for SEG.

30. There is a financial implication that should the school convert to academy status, thus the academy trust would benefit from a GCC funded project. However, this risk is deemed to be acceptable given the contribution the programme will make towards achieving the council's carbon reduction ambitions.

The council's expenditure on purchasing and installing PV systems at selected maintained schools pursuant to Recommendation 2 above shall not exceed £2,000,000.

Climate Change and Ecological implications

31. Has the Climate Impact Assessment Tool (CIAT) been completed? Yes

32. A CIAT has been completed and positive areas towards climate change have been identified. This includes reduction in greenhouse gases, energy use and improvements in air quality and health & wellbeing from this project. Sustainable material use is a potential area for improvement; however, it should be noted technology to sustainably source all solar PV components is not available at this time.

Has an Ecological Impact Assessment (EclA) been produced, or will one be undertaken at a later stage Yes – This will be undertaken by exception as the project rolls out.

Equality implications

33. Has an Equalities Impact Assessment (EqIA) been completed? Yes

Cabinet Members should read and consider the Equalities Impact Assessment to satisfy themselves as decision makers that due regard has been given.

Data Protection Impact Assessment (DPIA) implications

34. A DPIA decision checklist has been completed and, as no personal data is required for this project, a DPIA is not a requirement.

Social value implications

35. Social value - Any contract awarded under the framework, will contain a requirement for the provider to demonstrate social value in line with Gloucestershire's procurement policies and processes.

Consultation feedback

36. Pilot project and professional working relationships with Education will provide opportunities for consultation. Thus far initial consultation and feedback has been positive.

Officer recommendations

37. It is recommended that Cabinet:

- a) Approves the release of up to £2m from the budget approved in February 2024 as part of 2024/25 budget to provide solar PV on selected maintained schools' premises through the purchase and installation of the solar photovoltaic panels described below;
- b) Delegates authority to the Assistant Director of Asset Management & Property Services, in consultation with the Cabinet Member for Finance and Change, to:
 - I) Conduct, subject to the financial restrictions set out in the Resourcing Implications section of this report , a competitive procurement process under the CCS RM6313 Demand Management & Renewables dynamic purchasing system (DPS) in respect of such number of contracts as may be deemed necessary for the purpose of purchasing and installing solar photovoltaic panels at all maintained schools in Gloucestershire that have applied for and been selected by the council to receive such panels and associated equipment/infrastructure (based upon the schools energy use, DEC rating and the schools desire for solar PV) and
 - II) Award such contract(s) to the preferred tenderer(s).

Performance management/follow-up

38. The project will follow the GCC recommended project management methodology, with governance provided by a project board, chaired by the project sponsor/s, who will meet on a monthly basis. The dedicated project team will be derived primarily from current staff fulfilling the roles of subject matter experts, with back-filling for their substantive roles as appropriate.

The supplier will be managed through an on-going contract management process whereby regular review meetings will be held with key stakeholders across the organisation to ensure the supplier and buyer deliver on their respective responsibilities under the terms of the agreement.

The project will be managed by Asset Management and Property Services, in collaboration with Education.