

Title of report: Acceptance and implementation of Solar PV for schools project

Decision maker: Cabinet member environment and economy

Decision date: 26th August 2021

Report by: Principal Sustainability and Climate Change Officer

Classification

Open

Decision type

Key

This is a key decision because it is likely to result in the council incurring expenditure which is, or the making of savings which are, significant having regard to the council's budget for the service or function concerned. A threshold of £500,000 is regarded as significant.

Notice has been served in accordance with Part 3, Section 10 (General Exception) of the Local Authorities (Executive Arrangements) (Meetings and Access to Information) Regulations 2012

Wards affected

(All Wards);

Purpose

This report seeks approval for the Council to undertake an invest to save programme to install solar photovoltaic panels (PV) on maintained schools in Herefordshire.

The proposal is to develop power purchase agreements (PPA) with schools so that there is no upfront cost for schools for the solar PV systems. Here schools would share the financial benefit through discounted costs for the renewable energy and the income from the sale of the energy would be used to repay the capital investment and further reduce the council's energy bill.

This project will contribute towards the council's commitment to achieve carbon neutrality by 2030/31, will help to improve local energy security and will generate financial savings for both schools and the council.

Recommendation(s)

That:

- a) **The council invests £1,130,000 in solar PV across the 27 identified schools as detailed in appendix 1; and**
- b) **The Assistant Director for Regulatory, Environment and Waste Services in consultation with the S151 officer be authorised to take all operational decisions necessary to implement the project.**

Alternative options

1. Not to invest in Solar PV across the schools estate.

This is not recommended as the council will not be able to support schools to reduce their energy costs and carbon footprint, this will negatively impact the council's ability to deliver the County Plan objective to become carbon neutral and will not result in significant financial savings to the council.

Key considerations

2. To date the council has successfully invested in 21 solar PV systems across council buildings. This has helped to reduce 112 tCO₂ per annum and helped to save approximately £63,000, per year.
3. Included in this are a number of solar PV systems installed on council owned business units that are tenanted by local businesses. Through a PPA with the council these tenants share the benefit of the solar PV as they receive discounted energy costs, reduced carbon emissions through the use of renewable energy and the council receives the energy recharges to recoup the costs of the capital investment.
4. The council has installed solar PV panels across a number of sites to date using various funding streams in order to generate savings with this type of technology. To date the council has invested £571k in solar PV across a number of sites and has a remaining allocation of £1.2m in the capital programme.

Whilst a previous proposal was made in 2014 to replicate this model across schools in order to support them to reduce energy costs and minimise carbon emissions, unfortunately this was not possible. This was due to a significant risk that if the schools became academies then the solar PV asset would transfer to the school and the council would be left to repay the capital costs without the income to do so.

5. Legal advice has changed since 2014 and it was confirmed in 2020 that the use of Power Purchase Agreements can be used with the maintained school estate even if they transfer to academy trusts. This point is confirmed in paragraph 28. The council will utilise an existing power purchase agreement model (PPA) with schools where the council owns

the panels and sell the energy generated at a discounted rate to the schools. A PPA mitigates against this risk.

6. The solar PV investment across the corporate estate received authorisation to invest funds on 23 May 2014 and subsequent to that in 2015. Since those decisions, the Feed in Tariff was removed (31st March 2019) and currently a small export tariff is offered. The export tariff has not been considered in the income figures as this will have to be negotiated with the supplier at the time of install.
7. The council has installed solar PV panels across a number of sites to date using various funding streams in order to generate savings with this type of technology. To date the council has invested £571k in solar PV across a number of sites and has a remaining allocation of £1.2m in the capital programme.
8. Investment in solar PV offers a 20 year income stream, enabling cost and carbon saving projects. The PV will be sized accordingly to minimise export of the energy. This project is estimated to generate a net benefit of approximately £509,695 over 20 years after legal, PMO and external consultant costs. However this figure will change as yearly review of costs are carried out to ensure costs are competitive. All figures have been calculated using an in house solar PV tool where electricity generated is sold to the school at a discounted rate of 10% below market rates. The tool also accounts for degradation of the panels and replacement of inverters after 10 years.
9. The council will review costs of energy charged to schools through the PPA on an annual basis to ensure costs are competitive and follow the current electricity market trends.
10. In 2019 the council declared a Climate Emergency and committed to accelerated carbon reduction targets aspiring for both organisational and countywide carbon neutrality by 2030. This project has the potential to save schools collectively over 190 tonnes of CO₂ a year and a total of 3,800 tonnes of CO₂ over the expected 20 years lifetime of the installations.
11. Payback using the PPA agreement would result in an average payback of around 18.5 years. The table in the resource implication section uses a worst case scenario of £6,480 additional costs as outlined above per school. It is anticipated that total additional costs amount to £5,480 per school that would result in a reduced payback of 18 years. If we were able to secure lower additional costs £4,480 per school this would result in a 17.4 year payback. All of the above assume a conservative average install cost of £1,000 per kWp. The payback would improve if we are able to secure a lower installed cost per kWp whilst still offering the same discounted energy rate through the PPA. It is envisaged our procurement offer will ensure best value for money.
12. The school sites have been identified based on the financial feasibility of a solar installation on the site and by school type (Appendix 1). Before each installation takes place a technical assessment will be carried out, which will also include structural survey (where a structural survey is necessary).
13. The Sustainability and Climate Change Team will also promote to schools the opportunity to install solar PV themselves utilising a loan from the schools finance team.

14. The project will be delivered over the next 36 months. The proposed procurement will ask for a 'Turnkey Install' and the value for money will evaluate £ per kWp of solar generation. The approach for this is as follows:
 - Pilot Scheme: Turnkey installations will be procured for three pilot HC maintained schools. The estimated £150,000 value contract will be procured via an open competition procedure undertaken between August and September 2021. Contract term will allow for completion of delivery and installation works, with a requirement that warranty covers the equipment and install thereafter.
 - Subsequent rounds of procurement will be carried out as and when schools express an interest to engage with the project. Depending on the interest a subsequent round could have various lots (with two to three schools grouped together) to allow suppliers to bid. This will be via an open competition procedure.
15. The Sustainability and Climate Change Team already recharge for electricity generated from solar PV across a number of commercial sites utilising PPAs.
16. The £1,130,000 capital will be used to install solar PV across twenty seven maintained schools which have been identified as potential sites for installs.
17. Early discussions with the Diocese has ruled faith schools as ineligible for the project.

Community impact

18. This project will contribute towards the following local and regional strategic priorities, targets and legislation:
 - Herefordshire Delivery Plan 2020-2022: Respecting our past and respecting our Future
 - Herefordshire Council County Plan (2020-24)
Environment - Protect and enhance our environment and keep Herefordshire a great place to live
 - Executive Response to the Climate Emergency
 - Air Quality Strategy for Herefordshire and Worcestershire
19. The PV installs will be used as an educational resource for schools through understanding of renewables. A generic individual factsheet for all school installs will be produced by the Sustainability and Climate Change Team including online access to generation data.
20. The installs aims to support schools where they do not wish to pursue a loan but have the Council install, maintain and own the panels delivering progress towards carbon neutrality by 2030.

Environmental Impact

21. The council provides and purchases a wide range of services for the people of Herefordshire. Together with partner organisations in the private, public and voluntary sectors we share a strong commitment to improving our environmental sustainability, achieving carbon neutrality and to protect and enhance Herefordshire's outstanding natural environment.

22. This proposal seeks to deliver the council's environmental policy commitments and aligns to the following success measures in the County Plan and Delivery Plan:
- Invest in low carbon projects
 - Reduce the council's carbon emissions
 - Work in partnership with others to reduce county carbon emissions
23. The environmental impact of this proposal has been considered through the service specification and includes appropriate requirements on the contractor/delivery partner to minimise waste, reduce energy and carbon emissions and to consider opportunities to enhance biodiversity. This will be managed and reported through the ongoing contract management. The commissioning will aspire to utilise local suppliers, improve local air quality and reduce energy usage.
24. The development of this project has sought to minimise any adverse environmental impact and will actively seek opportunities to improve and enhance environmental performance.

Equality duty

25. Under section 149 of the Equality Act 2010, the 'general duty' on public authorities is set out as follows:
- A public authority must, in the exercise of its functions, have due regard to the need to
- eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under this Act;
 - advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it;
 - foster good relations between persons who share a relevant protected characteristic and persons who do not share it.
26. The public sector equality duty (specific duty) requires us to consider how we can positively contribute to the advancement of equality and good relations, and demonstrate that we are paying 'due regard' in our decision making in the design of policies and in the delivery of services. Our providers will be made aware of their contractual requirements in regards to equality legislation.

Resource implications

27. Resource implications to the council will be met through existing officer time and are outlined below.

Capital cost of project	2021/22 £000	2022/23 £000	2023/24 £000	Total £000
Capital measures funding for project to be paid to procured installers**	147.0	557.5	277.5	982.0
Legal costs*	10.5	15.0	15.0	40.5
PMO Support *	10.0	20.0	10.0	40.0
External consultants**	17.5	25.0	25.0	67.5

TOTAL	185.0	617.5	327.5	1,130.0
--------------	--------------	--------------	--------------	----------------

* Legal costs based on £1500/school based 27 schools. PMO support costed at £1,480/school; **External consultants based on £2,500 per school and costed using the following installs: Yr 1 – 7; Yr 2 – 10; Yr 3 - 10; ** Installed cost will be a turnkey solution and includes all costs.

Funding streams (indicate whether base budget / external / grant / capital borrowing)	2021/22 £000	2022/23 £000	2023/24 £000	Total £000
Solar PV Capital Budget	185.0	617.5	327.5	1,130.0
TOTAL	185.0	617.5	327.5	1,130.0

28. The following table shows the revenue implications of the project as a whole displaying net benefit after all costs including borrowing costs and also includes inverter replacement in year 10. This is based on the worst case scenario of additional costs of £6,480 per school. The profile delivery will differ. The larger installs offer the greatest benefit.

29. The final profile of the funding will look different depending upon the school involved, whether they decide to take up the offer and when the install happens over the 3 year period.

Primary School	Sum of Discount Net Benefit YR 1	Sum of Discount Net Benefit YR 5	Sum of Discount Net Benefit YR 10	Sum of Discount Net Benefit YR 20	Sum of Discount Energy Income YR 1	Sum of Discount Energy Income YR 10	Sum of Discount Energy Income YR 20
Ashfield Park Primary School	-£579.41	-£332.73	£18.99	£1,312.97	£2,637.22	£2,703.43	£2,896.10
Aylestone Business and Enterprise College (NP), Hereford	£124.98	£1,650.28	£3,882.59	£12,052.18	£19,806.60	£20,303.91	£21,750.94
Blackmarston School, Hereford	-£574.43	-£403.45	-£163.06	£677.21	£1,620.79	£1,661.49	£1,779.90
Broadlands Primary School	-£591.43	-£322.24	£62.57	£1,501.98	£2,939.40	£3,013.20	£3,227.95
Clifford Primary School	-£584.98	-£418.08	-£183.71	£642.84	£1,565.85	£1,605.16	£1,719.56
Earl Mortimer, Leominster	-£476.59	£93.33	£920.46	£4,027.84	£6,977.64	£7,152.83	£7,662.61
Ewyas Harold Primary School	-£60.79	£8.77	£111.08	£584.21	£934.01	£957.47	£1,025.70
Fairfield High School (P), Peterchurch*	-£647.93	-£427.84	-£115.24	£1,089.60	£2,280.09	£2,337.34	£2,503.92
Gorsley Goffs Endowed Primary School	-£636.21	-£516.37	-£351.21	£247.64	£934.01	£957.47	£1,025.70
Hampton Dene Primary School, Hereford	-£428.66	£12.37	£649.94	£2,945.33	£5,246.96	£5,378.71	£5,762.04
Kington Primary School	-£634.58	-£502.47	-£319.25	£350.74	£1,098.84	£1,126.43	£1,206.71
Ledbury Primary School	-£444.83	-£239.06	£52.47	£969.32	£2,087.80	£2,140.22	£2,292.75
Longtown Community Primary School	-£657.29	-£545.63	-£392.51	£178.91	£824.13	£844.82	£905.03
Luston Primary School	-£620.40	-£494.42	-£320.23	£299.19	£1,016.43	£1,041.95	£1,116.21

Madley Primary School	-£647.93	-£427.84	-£115.24	£1,089.60	£2,280.09	£2,337.34	£2,503.92
Marlbrook Primary School, Hereford	-£301.17	£309.67	£1,196.98	£4,371.50	£7,527.06	£7,716.05	£8,265.96
Riverside Primary School, Hereford	-£346.63	£487.20	£1,702.48	£6,244.42	£10,521.40	£10,785.57	£11,554.24
Shobdon Primary School	-£584.98	-£418.08	-£183.71	£642.84	£1,565.85	£1,605.16	£1,719.56
St. David's Pupil Referral Unit (NP), Hereford	-£592.42	-£443.93	-£236.65	£488.20	£1,318.61	£1,351.72	£1,448.05
St. Martin's Primary School, Hereford	-£532.27	-£344.91	-£80.46	£814.67	£1,840.56	£1,886.77	£2,021.24
Stoke Prior Primary School	-£634.58	-£502.47	-£319.25	£350.74	£1,098.84	£1,126.43	£1,206.71
The Brookfield School and Specialist College, Hereford	-£421.67	-£78.84	£414.30	£2,120.56	£3,928.36	£4,026.99	£4,313.99
The John Masefield High School, Ledbury*	-£302.40	£261.38	£1,079.48	£3,976.30	£6,895.22	£7,068.35	£7,572.10
Trinity Primary School, Hereford	-£621.57	-£391.26	-£63.62	£1,175.51	£2,417.45	£2,478.15	£2,654.76
Weobley High School (P)	-£1,066.94	-£726.15	-£236.02	£2,103.38	£3,900.88	£3,998.83	£4,283.82
Weobley Primary School	-£233.47	£737.43	£2,154.31	£7,395.66	£12,361.96	£12,672.34	£13,575.48
Westfield School, Leominster	-£647.93	-£427.84	-£115.24	£1,089.60	£2,280.09	£2,337.34	£2,503.92
Grand Total	£13,746.48	£4,403.18	£9,050.24	£58,742.95	£107,906.15	£110,615.48	£118,498.88

*Academies subject to inclusion

30. The project will be delivered over the next 36 months. The proposed procurement will ask for a 'Turnkey Install' and the value for money will evaluate £ per kWp of solar generation. The approach for this is as follows:

- Pilot Scheme: Turnkey installations will be procured for three pilot HC maintained schools. The estimated £150,000 value contract will be procured via an open competition procedure undertaken between August and September 2021. Contract term will allow for completion of delivery and installation works, with a requirement that warranty covers the equipment and install thereafter.
- Subsequent rounds of procurement will be carried out as and when schools express an interest to engage with the project. Depending on the interest a subsequent round could have various lots (with two to three schools grouped together) to allow suppliers to bid. This will be via an open competition procedure.

31. The Sustainability and Climate Change Team already recharge for electricity generated from solar PV across a number of commercial sites utilising PPAs.

32. The £1,130,000 capital will be used to install solar PV across twenty seven maintained schools which have been identified as potential sites for installs.

Legal implications

33. The installation of the solar PV panels at schools will require the council and the school to enter into a lease of the roof space for the solar PV panels and as well as a PPA. This arrangement will ensure that the ownership of the solar PV panels remains with the council and mitigates against the investment risk that would arise if the school were to become an academy.

34. The council has the power to enter into these arrangements under s1 of the Localism Act 2011.
35. Although the PPAs offered to the schools will be standardised each lease will need to be tailored to the individual school and legal services will advise on the lease on a case by case basis.
36. Procurement of the panels and their installation will be in accordance with the Public Contract Regulations 2015 and the council's Contract Procedure Rules.

Risk management

37. Investing in solar PV for schools will provide a renewable source of energy for the school, an educational tool for the children (via the factsheet produced for each install and access to online generation) as well as reducing carbon emissions. This could have a wide variety of benefits to the schools such as reduced electricity bills, as well as showing leadership from both Herefordshire council in this area.
38. If investment in solar PV for schools is not accepted then the Sustainability and Climate Change Team will continue to explore opportunities for low carbon related activity and measures.

Risk / opportunity	Mitigation
Not enough schools want to install solar PV	Appropriate promotion of the project and the Council loan as options to install
Pilot project in place in time for install in 2021	Procurement will take place on open tender basis to maximise the value for money and £/kWp installed.
Identification of suitable properties	The Sustainability and Climate Team have identified 27 maintained schools as potential sites for installs. Opening the project wider to include Academies may identify further schools
Use of PPA extended to include academies	Legal work is ongoing to understand if academies can be part of the project
More schools identified through project than available funding	Additional external funding may become available which could be used to fund identified sites

39. These risks will be managed at service level and reviewed via monthly project meetings

Consultees

40. This proposal has been developed in conjunction with Sustainability and Climate Change Team, Legal Services, Property Services and the Education team.

41. Cabinet Member for Commissioning, Procurement and Assets.
42. Political Group Consultation has taken place and those that responded were supportive of the proposals.

Appendices

- Appendix 1 – List of maintained schools identified for measures

Background papers

- None Identified

Please include a glossary of terms, abbreviations and acronyms used in this report

- Power Purchase Agreement (PPA) – A Power Purchase Agreement (PPA) is a long-term contract under which a business agrees to purchase electricity directly from a renewable energy generator.