

CABINET

1 OCTOBER 2013

SOLAR PHOTOVOLTAIC ENERGY SYSTEMS

Portfolio Holder: Councillor Alan Jarrett, Finance

Report from: Perry Holmes, Assistant Director, Legal and Corporate Services

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Summary

It is proposed the Council invests in Solar PV systems for Gun Wharf and Medway Tunnel to generate electricity, reduce carbon emissions and achieve revenue savings.

1 Budget and Policy Framework

1.1 This scheme will require additional funding. Therefore this is a matter for Full Council, as it will require an addition to the Council's capital programme.

2 Background

2.1 Solar PV (Photovoltaic) energy generation is a proven technology, which converts energy from the sun into useable electrical energy.

2.2 Since 2010, the government has encouraged the installation of small-scale electricity generation through a subsidy known as the feed-in tariff. This guarantees a payment to small renewable installations, which reduce carbon emissions and pressure on the national grid by generating electricity. A payment of around 12p is made for each kilowatt hour (kWh) of electricity produced regardless of whether or not the electricity is used by the generator or exported to the grid.

2.3 It is proposed to install a 30kW peak power (kWp) scheme at the Medway tunnel and a 108kWp scheme at Gun Wharf. It is anticipated all the energy generated by both systems will be used on site and offset an element of current supply requirements and costs.

2.4 The annual costs of electricity at the two sites are £450,000 at Gun Wharf and £170,000 at Medway Tunnel. The arrays of solar panels at these key Council buildings will generate a total of around 130,000 kWh of electricity with a financial benefit to the Council of £27,500 per annum comprising of

energy savings and feed-in tariffs. The payback of the scheme is in the region of 10-years and the net saving over a 20-year period will be in the region of £350,000 based on current energy prices. The capital cost of the installations is estimated to be £230,000, which if approved will be funded through prudential borrowing.

3 Options

- 3.1 There may be other buildings within the Council's portfolio where Solar PV installations are a viable option, but these two sites have been chosen for a combination of reasons including: technical suitability; anticipated payback period; location; aesthetic impact and the quantity and consumption pattern of the electricity used on site.
- 3.2 At Medway Tunnel it is proposed only to install panels onto the south-facing roof of the control building.
- 3.3 The pitch and number of south facing roofs at Gun Wharf lend themselves to a relatively straightforward solar PV installation, which will be barely visible from the public highway and considered complementary to the style of the building.

4 Advice and analysis

- 4.1 The installation of Solar PV will reduce the Council's consumption of electricity from the grid and will also reduce carbon dioxide emissions by approximately 70 tonnes per annum.

5 Risk Management

Risk	Description	Action to avoid or mitigate risk	Risk rating
Change of feed-in tariff	Over recent years government has reduced the feed-in tariff. At first sharply, but recently by smaller increments	Keep abreast of changes to tariffs and seek contractual commitment as soon as practical.	D2
Energy performance of building	Buildings with poor energy ratings receive a lower feed-in tariff.	Ensure overall energy performance of building is improved and that the best rate of feed-in tariff is achievable.	D2
Planning	The proposal does not benefit from permitted development rights and an application for planning permission is refused	Early engagement with the development control team.	C2

6 Consultation

6.1 The relevant directorates have been consulted and no objections have been received.

7 Financial and legal implications

7.1 There is not a suitable existing budget available for the installation of Solar PV. Furthermore, the Salix energy loan company do not currently offer funding for solar projects because they do not take into account any income from the feed-in tariff. It is therefore proposed the scheme is funded through prudential borrowing.

7.2 The estimated income generation and savings are set out in the table below.

	Medway Tunnel	Gun Wharf	Totals
Estimated Capital Cost	£57,500	£172,500	£230,000
Output (kWp)	29.25	108	137.25
Estimated Annual Forecast (kWh)	28,667	103,000	131,667
Generation Tariff (feed-in tariff p/kWh)	12.57	11.1	
Generation Income	£3,603	£11,433	£15,036
Current Annual Daytime Consumption	730,000	2,000,000	2,730,000
Estimate of Consumption Saving (kWh)	28,667	103,000	131,667
Price (p/kWh)	9.5	10	
Value of Consumption Saving	£2,723	£9,785	£12,508
Total 1st year benefit	£6,326	£21,218	£27,544
Cost of borrowing (over 15 yrs)	£5,403	£16,209	£21,612
Estimated Annual Saving	£923	£5,009	£5,932
Net saving over 20 years*	£45,482	£181,221	£226,703

*Not allowing for additional savings due to electricity price rises

7.3 The Constitution provides at paragraph 3 of Chapter 4 that Cabinet may only take decisions that are in line with the budget and policy framework set by Full Council. As there is no existing budget for the purchase of the solar panels, the approval of Full Council will be needed before the procurement and installation of the panels can proceed.

8 Recommendations

8.1 Cabinet is recommended to:

8.1.1 Recommend that Full Council approve a funding envelope for the scheme by adding £230,000 to the capital programme.

8.1.2 Delegate authority to the Assistant Director of Legal & Corporate Services in consultation with the Finance Portfolio Holder to enter into the necessary feed-in tariff contractual arrangements and procure the installation of Solar PV systems at Gun Wharf and Medway Tunnel using prudential borrowing on the best terms reasonably obtainable, subject to Full Council first agreeing to amend the capital programme to fund the scheme as set out in paragraph 8.1.1 above.

9 Suggested reasons for decision(s)

9.1 The installation of Solar PV will not only generate energy and savings, but also reduce the Council's carbon footprint.

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Background papers

None