9. Solar Panels – Radstock House

Background

As part of Earley Town Council's focus on the environment and the climate emergency, officers have been looking at ways in which we can make our energy consumption more sustainable. The Council has a budget for environmental projects which could be used for such works.

Officers registered Radstock House, the council's office building, with Wokingham Borough Council's community solar panel scheme, Solar Together, to explore whether solar panels would be suitable for this site. A desk top survey and a site survey have now been carried out by the scheme's approved contractor, Home Smart Energy (MCS accredited) and a proposal has been received.

The proposal

Total number of solar panels: 14

2x arrays:

- 8x panels on the flat roof (above the Chamber), installed flat on weight disbursement blocks aligned to joists (non-penetrative mounts to preserve the integrity of the flat roof).
- 6x panels on the Radstock Lane facing roof, rosemary tile is replaced for rubber mounting tile.
- Inverter connecting the 2 arrays in the loft - Wire from inverter, externally mounted to feed into fuse board.
- No planning permission required due to limiter, location and positioning of panels.
- 25- 35yr life expectancy

A grid connected system- any excess goes to the grid and we can be paid an export tariff (feed in tariff). In winter or periods of less power generation we will still be using from the grid- just less than before.

The recommendation is for us **not to have a battery** to store excess power. It was deemed by the surveyor not worth the additional expense involved in view of the pattern of our usage (ie unlike a domestic property, we have no regular evening, nighttime or weekend usage. When the panels are generating but we are not using, ie weekends, the power will be exported to the grid).

To incorporate **optimisers**. These enable individual panels to generate independently in shade rather than reducing output of all to lowest level. The nature of the building means there are various features which could cause shade at various times of the day and year. Examples are chimney stacks and roof pitches.

The system will have a **3.68kw limiter** applied. This is standard for domestic schemes and restricts the amount of power that can be supplied back to the grid at any one moment (the grid infrastructure is such that it cannot cope with unlimited amounts of power being transferred to it). At peak production, our system could produce up to 5.6kw but this is likely to be during very sunny conditions when we will be working in the office and using power directly from the system.

We enquired about installing an EV charging point as part of the system but this was advised against as the power generated will not be sufficient (even with a large 14 panel system) and the vehicle battery would drain it instantly before tapping into grid. ETC does not currently have any EVs in its

fleet but there are plans to invest in these in the future. An EV charging point can be integrated at a later date, it was advised that the best solution would be to incorporate it into a special overnight slow charging tariff so the ETC fleet could be charged overnight.

Costs

In addition to the cost of the panels, inverter and installation, there will be additional costs involved. These include:

- Tile & Flat roof installation surcharge (for weight distribution panels and rubber tiles) £30 per panel- £420 total.
- Scaffolding £500 x 1 (one scaffold tower is included in the price but our system requires two because of the two separate areas identified as suitable for panels)
- Obstacle fee (construction of the building, porch at front and raised lip around flat roof, means tower cannot lean straight against building) £300 x 2.
- Optimisers (see above) £700 – these can take 3-4yrs to recoup but worth it over 25-35 yr life.

The total cost of the project will be £8,097 (inc VAT)

Benefits

At the time of writing, we are awaiting Home Smart Energy's final report, hopefully this will be received in time for the meeting, but their initial calculations indicate the project will save ETC approximately 33% on its electricity costs plus generating income through the export tariff. There will also be a reduction in ETC's carbon emissions of approximately 1,000kg.

Next steps

Once the final report is received, ETC will inform Home Smart Energy if it agrees to the quote for the system as detailed. A 20% deposit will then be payable, the balance is payable once installation has taken place. The installation itself will take 4 – 5 hours and it is expected to take place before the end of 2023.

ACTIONS

1. Councillors to discuss this report and, if agreeable, to **RESOLVE** that the work be commissioned.
2. Councillors to **RESOLVE** that funding for the project be taken from the Environmental Projects ear marked reserve (balance £30k)

If councillors are minded to approve the above Resolutions, then the following to also apply:

3. Councillors to **RESOLVE** that the requirement to obtain 3 quotes, Financial Regulations 10.3 and 11.1(h), be suspended, in accordance with Financial Regulation 11.1(d). The reason being that Wokingham Borough Council has carried out best value evaluations when awarding Home Smart Energy with the contract for this community Solar Together scheme.