AGENDA ITEM NO. 5

SUSTAINABLE DEVELOPMENT ADVISORY PANEL - 7TH MARCH 2013

SUBJECT: CAERPHILLY SOLAR SCHOOLS PHASE 2

REPORT BY: CHIEF EXECUTIVE

1. PURPOSE OF REPORT

1.1 To provide the members of the Sustainable Development Advisory Panel with an update of the Caerphilly Solar Schools project.

1.2 To make Members of the Panel aware that £71,000 has been secured to undertake installations of solar photovoltaic systems on schools in the Heads of the Valley area, as part of phase 2 of the project. It is anticipated that funding will cover the cost of installations for up to nine of the ten remaining schools in the Heads of the Valley area.

2. SUMMARY

2.1 The Caerphilly Solar Schools Project supports CCBC's actions identified in the Carbon Reduction Strategy to reduce the authority's carbon emissions by 2019.

2.2 Phase 1 of the project involved securing £225,000 funding from United Welsh Housing Association to install solar photovoltaic panels on nine of the nineteen schools in the Heads of the Valley area of Caerphilly county borough. The nine schools to receive the solar PV installations have benefited from energy savings on their electricity bills, with CCBC owning the solar photovoltaic systems.

2.3 An additional £20,000 was secured to develop educational resources to support the delivery of renewable energy in the curriculum and as part of the Eco School programme.

2.4 Phase 2 of the project will involve rolling out the installation programme to some of the remaining schools in the Heads of the Valley area of the Caerphilly county borough using an additional £71,000 funding from United Welsh Housing Association.

2.5 It is anticipated that the £71,000 secured will fund the cost of installations for 9 schools, provided that there are no unexpected costs identified in the asbestos or structural surveys. Should this be the case, or should all 10 schools prove suitable for installations, a decision will need be made on how the funding will be allocated, or additional funding will need to be secured to complete the installations on all 10 schools.

2.6 OFGEM, the office of gas and electricity markets that manage the Renewables and CHP scheme on behalf of the Government have confirmed that neither CCBC or UWHA can claim the Feed In Tariff (FIT) payments for the solar school instillations for phase 1 or phase 2 as the installations are being funded using Welsh Government Heads of the Valley Regeneration funding.

3. LINKS TO STRATEGY

3.1 The Caerphilly Solar Schools project supports the following strategies and priorities:

- Caerphilly Community Strategy
- Carbon Reduction Strategy
- Sustainable Development Strategy, 2008
- Education for Sustainable Development & Global Citizenship Strategy, 2009
- CCBC Corporate Improvement Plan 2009 - 2012

4. THE REPORT

4.1 Background
In January 2009 the Sustainable Development Team and United Welsh Housing Association (UWHA) developed the concept and proposal for the Solar Schools project to take advantage of the Heads of the Valley funding at the end of the 2008/09 financial year. Solar Century was commissioned by United Welsh Housing Association as the lead partner to deliver this project.

4.1.2 Funding – Solar Schools Phase 1
UWHA secured £295,000 funding from the Heads of the Valley Regeneration fund as part of their sheltered homes renewable energy scheme to install solar photovoltaic systems on schools in the Heads of the Valley area. £225,000 funding was used in phase 1 to install solar photovoltaic panels on nine schools in the Caerphilly county borough plus an additional £20,000 to develop teaching materials.

4.1.3 The nine schools to receive solar photovoltaic panels as part of phase 1 were:

- Pontlottyn Primary School
- Heolddu Comprehensive School
- White Rose Primary School
- Rhymney Comprehensive School
- Lewis School Pengam
- Fochriw Primary School
- Ysgol Bro Sannon
- Bryn Awel Primary
- Markham Primary School

4.1.5 The solar panels installed as part of Phase 1 were 3.76KWh systems costing £23K each, with an estimated electricity generation of 3,196KWh per year and a CO_2 saving of 1.836 tonnes per school.

4.1.6 CCBC own the solar photovoltaic systems with the nine schools benefiting from savings on their electricity bills.

4.1.7 OFGEM, the office of gas and electricity markets that manage the Renewables and CHP scheme on behalf of the Government have confirmed that neither CCBC or UWHA can claim the FIT payments for the solar school instillations as the installations are being funded using Welsh Government Heads of the Valley Regeneration funding.

4.1.8 A Caerphilly Solar Schools Renewable Energy pack has been developed to support schools incorporating renewable energy and energy efficiency into the curriculum. The pack contains primary and secondary lesson plans, examples of audits and action plans and advice on energy efficiency. A copy of the pack has been given to every school in the borough, with extra resources being provided for the schools that have received installations as part of phase 1 of the project.

4.2 Solar Schools Project Phase 2

4.2.1 Funding – Phase 2
Following on from the phase 1 project, UWHA have confirmed they have approximately £71,000 funding remaining to install solar photovoltaic systems on the remaining schools in the Heads of the Valley area, subject to suitability.

4.2.2 The remaining schools in the Heads of the Valley area are:

- Deri Primary School
- Park Primary School
- St Gwladys Bargoed School
- Aberbargoed School
- Upper Rhymney Primary School
- Abertysswg Primary School
- Phillipstown Primary School
- Ysgol Gymreag Gilfach Bargoed
- Ysgol Y Lawnt
- Gilfach Fargoed Primary School

4.2.3 The suitability of each school for the installation will be subject to structural surveys and asbestos surveys at each site.

4.2.4 Account also needs to be taken of other issues, for example, Ysgol Y Lawnt is a listed building and Gilfach Fargoed Primary School is on the proposed schedule to have a new roof in 2014.

4.2.5 Assumptions for Phase 2
The system size will vary between school sites.

- Solar PV System size: between 1.5Kw and 4Kw.
- The system price is between £5,500 and £8,000 (This price includes a sum of £400 per school for a structural survey and £150 for Building Regulation fees).
- Estimated CO_2 savings per year: up to 1.836 tonnes for the 4Kw systems

4.2.6 The proposed system size for each school is:
1.5Kw: Gilfach Fargoed Primary School, YG Gilfach Fargoed
4Kw: Park Primary, St Gwladys Bargoed, Deri Primary, Upper Rhymney Primary, Ysgol Y Lawnt, Abertysswg Primary, Phillipstown Primary, Aberbargoed Primary

4.2.7 The main aim of the installations is educational, with the schools also benefiting from savings on their energy bills. Since we cannot claim the FiT payments the system size of the PV array isn't such an issue. We have looked at installing smaller systems on school roofs that might not be suitable for a large PV array, to try to include the school in the project and to keep the project costs down.

4.2.8 UWHA have contracted Gibson Specialist Technical Services to install the solar photovoltaic systems. As part of the work they will provide a presentation to the school children explaining how the solar photovoltaic system operates and provide educational tools for the teachers to use in class. They will also aim to install the panels in visible locations to support the educational benefits of the project and to ensure the school community are aware of the panels and can easily view them.

4.2.9 The expected cost of the ten installations is approximately £78,000 giving us a funding short fall of approximately £7,000. The cost of asbestos surveys or any work identified in the surveys is not included.

4.3 Maintenance

4.3.1 The solar photovoltaic panels have no moving parts, and are largely maintenance free and are guaranteed by the manufacturer for 10 years. The 10-year warranty is handed over to the school after the PV cells have been installed. The installation includes a 1-year warranty.

4.3.2 The only other major component of the system is the inverter, which is guaranteed for 10 years. If the inverter needs replacing in future years, the current cost of an inverter is £1,000, although this is expected to fall over time. The typical life of an inverter is approximately 15 years.

5. FINANCIAL IMPLICATIONS

5.1 The total funding secured is £71,000. This should cover the cost of installations for up to 9 schools, provided that there are no unexpected costs identified in the asbestos or structural surveys. Should this be the case, or should all 10 schools prove suitable for installations, a decision will need be made on how the funding will be allocated, or additional funding will need to be secured to complete the installations on all 10 schools.

6. PERSONNEL IMPLICATIONS

6.1 There are no personnel implications associated with this report.

7. CONSULTATIONS

7.1 See list below

8. RECOMMENDATIONS

8.1 It is recommended that Members of SDAP note the achievements of the phase 1 project and the proposal for phase 2 of the project.

8.2 It is recommended that the Members of SDAP note that £71,000 has been secured to undertake installations of solar photovoltaic systems on schools in the Heads of the Valley area, as part of phase 2 of the project.

9. REASONS FOR THE RECOMMENDATIONS

9.1 For the reasons set out in the report.

10. STATUTORY POWER

10.1 There are no statutory powers

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