

**REPORT TO: PORTCHESTER CREMATORIUM JOINT COMMITTEE -
17 JUNE 2013**

REPORT BY: THE ENGINEER AND SURVEYOR

ENERGY GENERATION

1.0 Purpose of this Report

1.1 To update the Committee on measures being undertaken to investigate the possibility of solar-generated electricity at the Crematorium.

2.0 Introduction

2.1 At the meeting of the Joint Committee held in December 2011, I presented a report on my preliminary observations on the practicality of generating "alternative energy" at the Crematorium. It was agreed that of the various options presented, the option for solar generated electricity should be further investigated and it was agreed that a specialist consultant be appointed to provide initial guidance. Pope Consulting Ltd was engaged and has produced a feasibility report on the possible use of photovoltaic panels.

3.0 Consultant's Report

3.1 The consultant has stated that it is possible to achieve a good rate of return but has identified various issues for further consideration. These are identified in section 4 of this report.

3.2 In my initial report I indicated reservations about photovoltaic panels detracting from the visual aspect of the buildings and Pope are not recommending mounting panels on the sloping feature copper roofs. They consider that the large area of flat roofs provide an opportunity to produce an economically viable scheme. Appendix A indicates the roofs suggested, together with their simple initial rate of return figure.

3.3 The Pope report suggests possible panel configurations and in order to reduce visual impact suggest that a mounting angle in the order of ten degrees to the horizontal would be appropriate.

4.0 Issues for possible further consideration

(i) Maintenance. The Pope report acknowledges that there are significant issues associated to be considered with mounting panels on the flat roofs. These include checking the structural integrity of the structures for the additional loading; ensuring that the waterproofing of the roof structures is not compromised; access for ongoing roof maintenance, safe access for routine inspection and maintenance of the photovoltaic panels.

(ii) Visual Amenity. Visual appearance is a matter of subjective judgement and careful consideration needs to be given to this aspect in order not to detract from the

overall appearance of the Crematorium. Not only does the appearance of the photovoltaic panels need to be considered but also the associated ancillary fittings and any necessary equipment required to ensure adequate means for safe maintenance working.

(iii) Other Options. As an alternative to energy generation, consideration could be given to energy recovery by utilising the heat exchangers installed as part of the mercury abatement plant. This option is considered further in a separate report.

5.0 Cost of works

5.1 The report indicates the cost of installing the photovoltaic panels and ancillary equipment to be in the order of £64,000. The report does not identify the ongoing maintenance costs or other issues which would need to be considered in a further more detailed evaluation. They estimate that the income benefit is in the order of £5,000.

6.0 Equipment life

6.1 The report states that the performance of solar cells degrades over time and panels can be provided with a performance warranty to ensure a predicted performance after ten and twenty years. It states that the panels become uneconomic after a period of twenty-five years. The associated control gear has a typical life of ten to fifteen years.

6.2 The equipment has a manufacturing warranty of ten years for the panels and five for the control gear.

7.0 Summary

7.1 The consultant's preliminary report into photovoltaic power generation provides a useful insight into the costs involved and identifies the issues that need to be considered in further detail should the Joint Committee wish to pursue this option. I am of the view that before any decision is taken that consideration should be given to the feasibility of utilising the existing heat exchangers, installed as part of the mercury abatement plant, as part of the overall building heating systems.

8.0 Recommendation

That, until consideration has been given by the Joint Committee to the possible use of the existing heat exchangers, the report be noted.

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Engineer and Surveyor

*Background List of Documents –
Section 100D of the Local Government Act 1972 - None*