

Proposed Solar Panel Installation

Overview

Our analysis of the potential return for placing a solar panel installation on the roof of the RE Wing to generate electricity shows merit, if we are able to secure a grant to cover approximately 25% of the installation cost. Grants at this level are periodically available from the state but require us to have an application at the ready, as they go very quickly (the last round was consumed in less than four hours). For all practical purposes this 'grant application' is a conditional installation commitment with a vendor, so we need to get all of our ducks in a row and be ready to commit if we are to have a chance at securing a grant.

As a capital improvement, we believe this would qualify for funding from the Meyer fund which will first require the congregation's approval to request funds for this use. If approved by the congregation, we will then proceed with final roof integrity analysis, vendor selection and final quotes and prepare the application to be ready for the next round of grants.

Background

We have had two firms look at the installation on the RE roof. Both suggested roughly the same level of return per square foot of space used for the panels. The summary below is based on the formal quote we received from GroSolar, a firm recommended by the Congregational Church in town.

System size: 981 SF (10.8 kW)
Est. annual production: 13,004 kWh
Est. % of current electric use: 25%
System life (panels): 25 years (based on warranty)
Total cost: \$65,058
Est. State grant: -16,200
Net cost: \$48,858

<u>Projected benefits</u>	<u>1st year</u>	<u>Life of System</u>
Electricity cost savings:	\$2,800	\$137,230 (assumes 6% growth in electric rates)
CO ² emission reduction:	18,465 lbs	515,611 lbs
NOX, SOX emission reduction:	7 lbs	178 lbs
Reduction in oil use:	29 barrels	737 barrels

Analysis and Recommendations

With the help of Rebecca Keller we completed a full, net present value model to compare this investment in solar panels with leaving the funds invested in the Meyer fund, including all projected maintenance and system degradation costs. Assuming a constant rate of return on the Meyer fund of 5% and a 6% annual growth in electric rates (note these rates have been growing by 8%), this system would break even in 18 years and show approximately a \$19,000 net positive cash return over its 25 year life. Based on this and the other positive environmental benefits listed above, we recommend proceeding with the project. This model and the full quote from GroSolar are available for any and all interested.