

ENERGY EFFICIENCY SUMMARY

Westwood Church 16 Inglewood Crescent East Kilbride

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Prepared for: Mr. MacKenzie
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An independent energy consultant working for the Energy Saving Trust has prepared this report. The objective of the support is to investigate the energy usage of the establishment and to identify the main energy saving opportunities that can be made at the site. The result of implementing the identified actions will reduce your energy bills and will also make a significant contribution to the national targets for a reduction in carbon dioxide emissions.

This report has identified that Westwood Church could save:

Annual Savings	£1,120
Lifetime Savings *	£8,960

* assumes the measures have an average lifetime of 8 years

This report can also be used to support an application to the Energy Saving Scotland – small business loans scheme. The loan could be used to help finance the purchase and installation of the low-cost and capital-cost measures identified in the report.

Westwood Church could apply for an interest free loan of up to:

Energy efficiency measures only	£2,750
Renewable measures only or renewable and energy efficiency measures combined	Full cost (up to £100k)

The Energy Saving Scotland smaller business service is funded by the
Scottish Government and managed by the Energy Saving Trust.

- Upgrade insulation in roof space to current building standards. It is estimated that this will save you **£150** per annum.

Calculations:
Based upon insulating 750 m² to current building standards
Assumptions:
U value changed from 0.4 to 0.2 W/m²K
Temperature differential = 12 Celsius
Heating period = 1400 hrs
Saving = 5,040 KWh
Saving = £150

- It is recommended that an optimum start 7 day control system is installed to control the Church heating system, complete with inside and outside sensors. This will provide optimum start and stop times for heating during the heating season and allow for changes in seasonal temperatures, reducing the possibility of over heating the building during milder conditions and periods of non occupancy. It is estimated that savings of around **£220** per annum could be achieved.

Calculations:
Based on existing total heating load of 74,400 KWh
Based on a saving of 10% on existing heating costs
Saving = 7,400 KWh
Saving = £220

- The Client has expressed an interest in exploring the possibility of deploying an air or ground source heat pump as an alternative heating source. For consideration, it is recommended that a ground source heat pump is installed to provide heating for the Church. It is estimated that this will result in savings of **£440** per annum.

Calculations:
Based on an existing heat load of 74,400 KWh
Assumed boiler efficiency of 90 %
Required Input (heat pump)=74,400x0.9/3.5=19,131 KWh
Saving =55,269 KWh
Existing Heating Cost (gas) = £2,230
Proposed Heating Cost (heat pump) = £1,790
Saving = £440
*Assumed Coefficient of Performance (CoP) = 3.5
*Based on 60% eve & week end rate & 40 % day rate

Energy Saving Scotland – small business loans

The report has highlighted that an application for an interest free loan could be made.

This could include measures 2, 3, 4 5 & 6.

If an application was made which includes the energy efficiency measures then the value of the loan would be up to 5 times the cost savings identified.

More information can be obtained from your local business adviser.

