



**REPORT ON THE REAL-TIME OUTPUT
PERFORMANCE OF SOLAR THERMAL (HOT
WATER) SYSTEMS AND POTENTIAL
INVESTMENT RETURNS FOR THE “RENEWABLE
HEAT INCENTIVE” – (RHI) 2012**

Commissioned by ACME Energy, London

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ABOUT THIS REPORT

Due to the upcoming **Renewable Heat Incentive** tariff program in the UK in 2011/2012, ACME Energy in London commissioned a study in early 2010 to look at competing **Solar Thermal (hot water) technologies** with a view to their impact on the financial investment model of the **Renewable Heat Incentive**.

This performance study has been running since **April 2010** finishing at the end of August 2011. It is a **comprehensive performance study** into Solar Thermal (hot water) systems in the UK and Ireland with local weather conditions. This is the final report.

This involved thousands of pages of live data from two “real” customers whose system data was online and in the public domain.

This report needed and wanted to use “real” information in its study. The study needed to determine how accurate manufacturers estimations on performance reflected reality.

Thus we could then generate financial models and determine investment conditions.

As the study has determined, it was possible to exceed UK Solar PV returns in one case and not in another case.

Prior to this study, a number of assumptions were made and are listed in the study BUT, it was also in the spirit of the study that this would be the first detailed study of its type of “in situ” **Solar Thermal (hot water) systems**.

Currently; there is a lack of **detailed information** about actual performance of Solar Thermal (hot water) installations and this needs to be addressed as the basis of the RHI tariff will be metered outputs. For RHI, the more your **meter spins**, the more **tariff you receive**.

If you invest in the wrong equipment, you could undermine your investment OR get no investment return at all.

With the **solar thermal hot water** industry flooded with generic performance statements and no evidence that any of the theoretical calculations actually bear any resemblance on reality, it was important to get detailed information of this nature so financiers **have the information** to help them invest in RHI.

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With thanks for compiling, auditing, verifying AND writing, formatting, structuring and re-verifying what has been weeks and months of man hours of data, graphs, tables and text, we would like to thank the following for the unyielding dedication and professionalism in meeting this mammoth task in advance of the RHI launch:

John, Patrick, Greg, Ann, Jamie, Julian, Cody, Mike, and many others who know who they are.

Just for clarification, each "individual" daily chart/graph of each system day consisted of thousands of lines of code which had to be formatted, compiled, verified, and audited.

About the authors

ACME Energy's Finance Division is exploring financial investment criteria and models for the Renewable Heat Incentive. Due to the lack of "actual" historical performance information in the market, it was seen as a necessary step to profile some Solar Thermal (hot water systems) to get a sense of what their revenue yield may look if metered at the RHI's 8.5p per kWhr value. ACME Energy has access to significant internal resources both technical and financial in the area of Solar Thermal (hot water) systems.

CAVEAT

While the authors consider that the data and opinions contained in this report are sound, all parties must rely upon their own skill and judgement when using it. The authors do not make any representation or warranty, expressed or implied, as to the accuracy or completeness of the report. Please note that there is considerable uncertainty concerning historic performance of Solar Thermal (hot water systems) due to the lack of any kWhr heat metering measurement. This report and analysis was conducted over a period of 15 months, with no access to the installed systems to verify their configurations by independent means. The authors assume no liability for any loss or damage arising from decisions made on the basis of this report. The views and judgements expressed here are the opinions of the authors.

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