

SOLAR NEWS

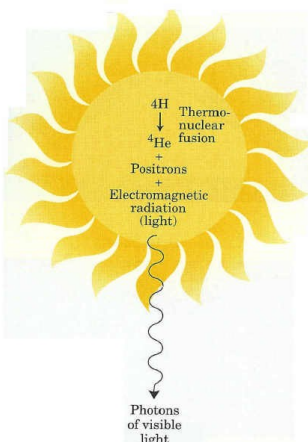


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Our Solar PV Systems:

- Our modules receive the Sun's "Photons" which occur in Natural Sunlight and convert them into Electricity.
- That is why the modules work all year round.
- There is estimated to be another 5 Billion Years of this Sunlight left as the Sun converts its mass of Hydrogen into Oxygen and Carbon.



WE'VE POWERED UP THE ROSS TRAVEL GROUP

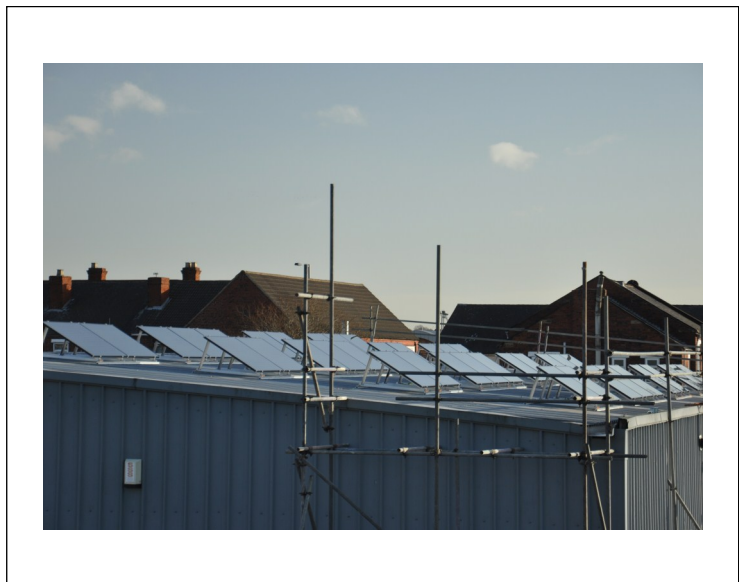


December 2012 Ross Travel Group based in Featherstone took an important decision to enter into the Renewable Energy Sector.

This involved producing their own energy from Natural Resources.

Their first step was to take advice from local "Renewables Expert" Naturally Powerful Solutions Limited, based in Oulton West Yorkshire.

The Ross Travel Team were provided with various proposals/options regarding the installation of a Solar PhotoVoltaic System. They took the decision to go with the "Solarworld" System.



Our



We turn sunlight into power.

Latest Installation

Naturally Powerful Solutions Limited are Yorkshire's specialised Solarworld Certified Installer.

WHAT WAS INVOLVED IN HAVING THE PV SYSTEM INSTALLED?

Naturally Powerful Solutions prepared computerized imagery of the property. The initial detailing can quite often simply be extracted from Google Earth. We can then impose one of the many

hundreds of available layouts and module types upon it. Our main aim at this point is to optimize the available "Yield" from



this configuration. Basically speaking we want to install a system which maximizes "harnessing" of the sun's energy, thus ensuring that Ross TG will continue to receive this power for the next 25yrs.

PV IN SCUNTHORPE

Not all roofs are the same, not all face south, and not all are unobstructed. Our team know this and therefore sur-



vey each property carefully to ensure that the best scheme is designed, supplied and installed to suit the available conditions. To quote Liam Neeson: we at Naturally Powerful Solutions Limited "... **have a particular set of**

skills".

In Scunthorpe our skills were put to the test! We had a customer who was keen to

have a PV system installed which would provide him with savings and income into the next generation. However his house encountered all of the aforementioned problems—hipped roof shape limiting the roof area, not all south facing and with shading from adjacent properties/ chimneys.

By using our computerized simulation software we were able to undertake a shading analysis and arrange various module layouts on the various facades of the roof and

provide a system using the latest products from a range of manufacturer's around the world and obtain the optimum return on investment. Key to our design and decision making process was our sourcing of excellent quality, yet cost effective Mono-Crystalline Solar Modules. These combined with the world most efficient inverters namely the American "Enphase Micro-Inverters". These support low light and low voltage situations and so we were able to harvest the maximum amount of energy from the modules. Ultimately we could still achieve a competitively priced installation for our customer.

WHICH TYPE OF SOLAR MODULE?

There are various types of Solar PV Module available. In the UK the prevailing climatic conditions and with most common roof types and with enough available space, then Crystalline Solar Modules will generally be the most cost effective option. Also to consider is the origin of manufacture. Modules are available from all over the

world. We can source modules from, amongst others, Japanese, Chinese, German and indeed UK manufacturers. However if we can become more technical then we suggest that the following aspects are also checked:

1. Performance tolerance (% + or -).
2. Product Warranty

3. Performance Guarantee (% over a number of years).
4. Specific yield (kWh/kWp).
5. Bypass Diodes (Nr).
6. Electroluminescence Test (Certificate Available).
7. Flash Test (Yes/ No).

...we at Naturally Powerful Solutions Limited "... have a particular set of skills".

PV IN ROTHWELL

Michael in Rothwell is a Typical customer of Naturally Powerful Solutions Limited. He was unhappy with the ongoing increases in fuel costs they were spiraling out of his control. He wanted to regain control of his energy, both cost and usage. He asked us to prepare a scheme for his consideration which we did. Pleased with the level of detail and information provided and after some careful consideration

he asked us to proceed. Once the decision had been made he felt he did not want any unknowns or uncertainties. As we had already checked his roof structure and the condition of his existing elec-

trics we could confirm with certainty that the price quoted would be the final price he paid. The only other proviso given was that the work was undertaken as soon as practicably possible and with as short a timescale as feasible. With this in mind the works were carried out and completed within six days of his instruction to proceed.

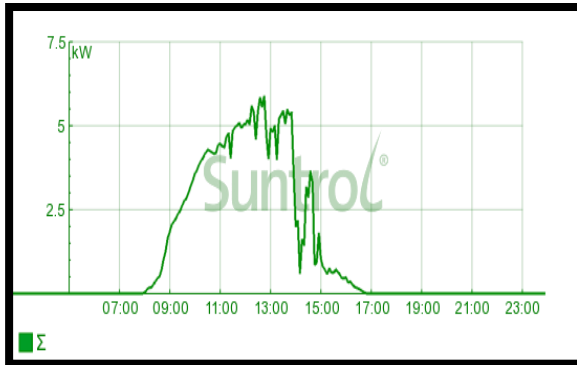


"... six days the NPS team had my job supplied and installed".

INVESTMENT PROFITS UP!

As the owner of a Solarworld solar power system supplied and installed by Naturally Powerful Solutions Limited, you would expect maximum output. This diagram is a printout of the recent production of electricity this month on 2nd February 2013 from our featured scheme at Ross Travel in Featherstone. Even though these are the Winter months the system starts to produce electricity at 8.00am in the

morning right up until 5.00pm in the evening. In terms of energy 25kWh was produced in that day alone.



This converts (in terms of hard cash) to benefit the owner £9.22 in one day

alone and this is the equivalent to £ 3,365.30 per year. This does not take into account the additional revenues available from the longer and brighter days of Spring, Summer and Autumn. Immediately, from the day of commissioning, the savings in electricity and combined income from the guaranteed-for-life of the system, government feed in tariffs begin. This provide a very healthy return on investment. Our systems return between 10% and 19%. In this case a 14% return is being achieved.

WHICH INVERTER?

This is often part of the system which is unseen and generally not discussed—to use a metaphor this is the “Heart” of the system. This is the piece of equipment which converts the electricity from the Modules into the useable AC



electricity that we use within our homes. Most Inverters work in the same way however there are some technical differences which we will focus on in a later issue of “Solar News”. Once again, we can source Inverters from all

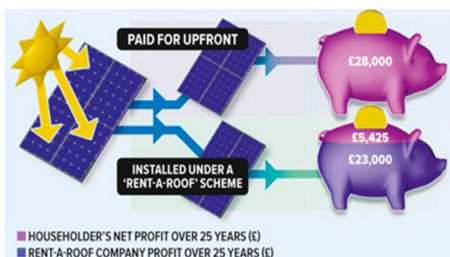
over the world , amongst others, Germany, Italy, America, Austria and China have large well established businesses in this respect. We use a balance of design, quality and cost, with an analysis of service back up and available guarantees to help make the correct decision in this vital part of the system.

“...a printout of the recent production of electricity this month on 2nd February 2013 from our featured scheme...”

IS FREE PV WORTH IT?

A “Guardian” article confirmed that a couple had been unable to remortgage their property on the basis that they had agreed to allow a firm to install solar panels on their roof for the duration of a 25 year lease. If you are offered free PV you will also enter into a lengthy contract with additional liabilities placed upon you. The article also stated that homeowners

would be **better off paying for their own Solar Panels ...** they could more than double



their financial savings by paying for the panels them-

selves. “Which” the consumer group calculated that there were huge savings that consumers were missing out on by having Panels installed under Rent -A-Roof Schemes. Their conclusion was that you should consider buying the Solar PV System upfront. Even if you had to take out a loan for part or all of the system you are more likely to be better off in the long run.

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Designers and installers of the most up to date Solar PV Systems and optimization technologies to minimize the use of energy derived from fossil fuels.

Naturally Powerful Solutions Limited are here to provide advice, design, supply and the install Solar Photovoltaic Systems.

We are a local business and we do not employ salesmen.

We do not invest heavily into internet "presence"—we offer clear honest and good advice for homeowners, businesses, communities and schools and any interested parties within the Yorkshire and surrounding area.

The products we offer are fully backed with Independent Insurance backed Warranties.

If you have interest in any of our articles or offerings then please do not hesitate to contact us.

Our Director, Ian M Parkes, can be contacted on 07880-030679 or email him at: ian@naturallypowerful.co.uk

OFFER TO LOCAL SCHOOLS

We think that our local schools can benefit from our experience.

By having a Solar PV System installed we can involve the school in the planning and proposal aspects of having a PV scheme incorporated. Rather than simply "ticking the green box". The ICT Department might be interested in the Design aspects. The outputs of production can be displayed in the school entrance where visitors are welcomed thus highlighting the "Green Credentials" that the school has.

We can offer schools various "awareness" training plans covering such topics as:

1. What is Climate? The changing climate - melting glaciers, rising sea levels, rising temperatures.
2. The Carbon Cycle.
3. The Greenhouse effect.
4. Human activities



causing climate change.

5. Demonstrating Solar Photovoltaic Energy.
6. Calculating Carbon Footprint.

Who wants to have a go at designing a new Image or

Logo for our business?

Here is Ben's new logo from Rothwell St. Mary's RC Primary School.

Any other thoughts or ideas kindly send them through to:

ian@naturallypowerful.co.uk