

BeGreen

Solar Thermal Panels - Indicative Costs

A typical domestic solar thermal panel would cover 3-4m². A 4m² panel would typically generate around 1800 kWh/yr, around 50% of annual requirements. Cost of installation, including a new hot water cylinder, would typically be around £5,000 without grant assistance.

The Energy Saving Scotland Home Renewables Grant Scheme provides funding of 30% of installations costs up to £4,000. The Be Green Renewables Grant provides funding of 20% of installations costs up to £1,200. With both these grants the cost of installation could be reduced to around £2,500.

Current Paybacks with Grants

Fuel	Cost/kWh	Energy Saving/yr	Direct Saving/yr			Simple Payback with grants	Saving CO2/yr
Electricity	12p	1800 kWh	£216.00			11.5 years	775 kg
Oil	5p	1800 kWh	£90.00			28 years	450 kg
Gas	4p	1800 kWh	£72.00			35 years	340 kg

A new system of tariffs called the *Renewable-Heat-Incentive* is to be introduced next year. The level of the Renewable Heat feed-in-tariff has not yet been decided but is currently out to consultation at 18p/kWh for Solar Thermal. Using that figure, and the assuming grant schemes will continue to operate until their introduction, gives the following indicative costs.

Possible Paybacks with Feed-In-Tariffs

Fuel	Cost/kWh	Energy Saving/yr	Direct Saving/yr	FIT/yr	Total saving/yr	Simple Payback FIT & grants	Simple Payback FIT only	Saving CO2/yr
Electricity	12p	1800 kWh	£216.00	£324.00	£540.00	4.5 years	9 years	775 kg
Oil	5p	1800 kWh	£90.00	£324.00	£414.00	6 years	12 years	450 kg
Gas	4p	1800 kWh	£72.00	£324.00	£396.00	6.5 years	12.5 years	340 kg

Even without grants the introduction of FITs should improve the payback time for solar thermal installations, in some instances significantly. Should installations be eligible for both grants and FITs then payback times would be greatly improved. The Energy Saving Scotland loan scheme provides interest free loans of up to £10,000 for energy efficiency measures such as Solar Thermal panels. However the funds for this scheme are limited and it may be discontinued. Instead, some form of 'Green Mortgage' or 'Pay-As-You-Save' loan scheme to fund energy efficiency measures may be introduced in the near future.



It's our future



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Solar Thermal - Renewable Heat Incentive

The *Renewable-Heat-Incentive* is currently out to consultation and is due come into effect next April. It is similar to the *Feed-In-Tariff* recently introduced for renewable electricity generation. These schemes are modeled on ones that have been successfully introduced in other countries. The principal aims of the schemes are to rapidly build-up the domestic renewables industry, reduce costs, and expand a small but important part of the renewable energy mix.

The *Renewable-Heat-Incentive* should reduce payback periods considerably; to under 13 years for a typical installation, without grants. Given the tariffs last for 20 years, this represents a fairly healthy, and guaranteed, return on investment. If the scheme is successful in building the industry and reducing costs, then at some point the scheme will be closed to new entrants but this should not affect anyone already registered; the tariffs effectively form a 20 year contract.

Installation still involves a significant capital investment, but because the *Feed-in-Tariffs* effectively guarantee a predictable return on investment, there is the prospect of loans becoming more readily available to fund such measures. The *Energy Savings Trust* currently operates an interest free loan scheme but the fund for this is limited and may be discontinued.

The main political parties have indicated the introduction of some form of '*Green Mortgage*' or '*Pay-As-You-Save*' scheme for energy efficiency measures that should include renewables. Given that almost all energy efficiency measures pay for themselves in the long term, this may be the key to unlock up-front capital funding for a whole range of improvement measures, so long as the loan or mortgage is tied to the property rather than the person. Hopefully a detailed scheme will be forthcoming.

Up till now Solar Thermal panels have been the most popular domestic renewable technology, largely due to the comparatively low costs and ease of installation. It can require additional alterations to the plumbing system so it's best considering when works to the system are being planned anyway. They usually require a new hot water cylinder but can sometimes be fitted to existing systems, including some combi boilers.

Solar Thermal panels work most effectively facing South-East to South-West, although East and West facing panels still work reasonably well. They can be mounted flush with the roof or raised slightly above, and are classed as Permitted Development so do not require permission outside *Conservation Areas* or on *un-Listed Buildings*. In *Conservation Areas* or on *Listed Buildings* the Planning Department will take a view on a case by case basis. As they are permitted development elsewhere, an application for *Conservation Area* or *Listed Building* consent should not involve a Planning Fee.