

## Photovoltaic Solar Panels and the Feed-in Tariffs

This note aims to give an overview of the current position and provide guidance in relation to the use and installation of PV (Photovoltaic) panels and the government's feed-in tariffs.

Over the past 12 months there have been many enquiries and several applications to the DAC with a view to installing PV Panels onto church roofs. The reason for the upsurge in interest is largely down to the current benefits provided by FITs (Feed-In Tariffs).

### What Are Photovoltaic Solar Panels?

Solar electricity systems capture the sun's energy using PV cells. The cells convert the sunlight into electricity, which can be used to run appliances, lighting and electric heating systems. PV cells don't need direct sunlight to work - you can still generate some electricity on a cloudy day – but the greater the intensity of the light, the greater the flow of electricity, so they are most efficient when installed on south facing roofs. The energy generated can be used as it is being generated (e.g. in the day), stored for later use (e.g. using batteries) or exported to the National Grid.

### What are the Feed-In-Tariffs?

The Feed-In Tariffs (also known as FITs) are part of a government scheme that pays people for creating their own "green electricity". The tariffs have been introduced by the Department of Energy and Climate Change (DECC) to help increase the level of renewable energy in the UK towards our legally binding target of 15% of total energy from renewables by 2020 (up from under 2% in 2009).

The FITs have two tariff components:

**Generation tariff** – a set rate paid by the energy supplier for each unit (or kWh) of electricity generated. This rate will change each year for new entrants to the scheme (except for the first 2 years), but once signed up the same tariff will be received for 25 years.

**Export tariff** - a further 3p/kWh is paid by the energy supplier for each unit exported back to the electricity grid (e.g. when it isn't used on site).

The FITs, therefore, potentially give churches three financial benefits:

- A payment for all the electricity produced, even if used on site by the church;
- additional payments for the electricity exported to the national grid;
- a reduction on the church's electricity bill, from using the electricity produced and used on site.

For installations that are between 4 and 10kW the FIT generation tariff is currently 36.1p/kWh for the first two years and then 33.0p/kWh for a further 23 years. However, the rates will be reduced regularly throughout the lifespan of the FIT scheme – and a review is currently planned in April 2012 (Larger installations, of more than 50kW, have already been reduced in April 2011).

THEREFORE IT WOULD BE WISE TO INVESTIGATE THIS SOON BEFORE THE TARIFFS ARE NEXT REVIEWED IN APRIL 2012 TO MAKE THE MOST OF THE CURRENT GOVERNMENT INCENTIVES.

Please note however that the use of solar panels is still relatively new, especially on church buildings, so please bear this in mind when thinking about any proposals and the possible costs and the payback period.

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### What to do next?

1. Carry out an environmental assessment and energy audit for the church and ascertain whether there are other easier and more cost effective ways of being environmentally friendly.
  - heating: is the boiler efficient? Are pipes insulated? Where are the draughts in the building?
  - lighting: use energy saving light bulbs and switch lights off when not in use. Look at the overall lighting scheme within your church.
  - water usage: are taps turned off, are the WCs dual flush, is rainwater harvested
  - recycling: reduce wastage within the church and recycle where possible
2. If PV Solar Panels are a viable option for the church speak to your architect about the best location for them (usually the south aisle) and check the feasibility of installing them on your church building. It could be that a better solution may be on a church hall or other building. Get some quotes from installers and check the possible payback period and all necessary costs. Find out where the internal equipment will be located.
3. Consult the DAC Secretary, as a visit from the DAC is likely to be needed and consultation will be necessary with English Heritage (for listed churches) and the local authority, as planning permission will be required. Ask if the PV contractor can help with the planning permission procedure and if this is 'part of the service'.
4. If the roof is visible the local authority and English Heritage are likely to oppose the installation of any panels. A good argument has to be made and the Statements of Significance and Need will need to be strong and well thought through. It will not be sufficient to say that you think it is a good idea. Give good sound reasoning and enlist the help of your architect and local community if there are benefits to be had for the local area.
5. Make sure that any panels are as unobtrusive as possible, get the contractor to put some sample panels on the roof (very useful for any consultations with EH, the LA and the DAC) so that all possible sightlines around the churchyard and beyond are accounted for and photographed.
6. If the DAC are in general agreement and the local authority are happy then Faculty approval can be applied for. Ask for an Advice Application from the DAC Secretary.

A word of caution...

Although PV Solar Panel installations have been granted on some churches nationally (some listed) many have not been so successful. High parapets are useful as visibility is key in being granted permission to proceed. Wing All Saints, Bucks, Piccadilly St James and Pentonville St Silas in London and Sleaford St Denys in Lincs are examples of successful projects. Currently Southwell & Nottingham Diocese has struggled with getting permission for PV Installations.

### Contacts and Further Information:-

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