Grant Thornton

Universities
Feed-in-Tariffs & the 'PV for Free' proposition

Introduction

The 2008 Energy Act gave the Government legislative powers to introduce a Feed-in-Tariffs ('FITs') scheme for small-scale low carbon electricity generation in Great Britain. After a period of consultation, the FITs scheme was launched on 1 April 2010. These proposals have presented universities with a real opportunity to implement renewable electricity solutions across campuses and reduce recurrent electricity costs.

The FITs scheme provides that predictable, transparent revenue streams (Generation and Export Tariffs) can be derived by small-scale generators (up to 5 MW capacity) from a range of established, clean technologies including anaerobic digestion, hydro, solar PV and onshore wind. This flier incorporates the recent changes proposed to solar PV FITs in a consultation document from the Department of Energy and Climate Change.

How the tariffs work

Generation tariffs are paid for each kWh generated by accredited installations, the tariff size depending on the technology, scale and timing of the installation (eg smaller systems attract greater tariffs). Once generators have the accredited technology in place they can then lock in to these fixed, index-lined revenue streams for between 20 and 25 years.

Export tariffs are paid at 3p/kWh for electricity produced but not consumed by generators, and instead exported to the grid.

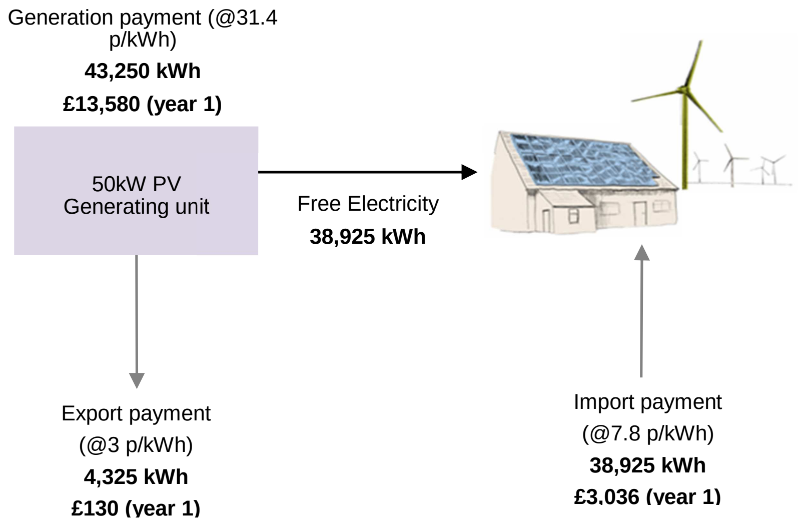
Tariffs will be paid by electricity suppliers, and have been set at a level to provide the generator with an appropriate rate of commercial return. Typical payback period on initial investment is between 8 and 12 years.

Along with revenue benefits, generators can also mitigate their exposure to the upward cost trajectory of existing energy supplies. This point is particularly relevant in light of recent DECC estimates that non-domestic electricity bills could increase by 70% by 2026-2030[1].

Example

The diagram below details the electricity flows and income flows for year 1 for a 50 kW PV system.

The table below details the assumptions which support the example above.



Key assumptions

Annual electricity produced (kWh) - 1 kWp system	865
System installed (kWp)	50
Electricity produced per unit (kWh)	43,250
Amount assumed to be exported	10%
Generation tariff / kWh	£0.314
Export tariff / kWh	£0.03
Avoided purchase tariff / kWh	£0.078

The university context

Location is a key factor in the decision over the form of renewable energy, and the two most talked about forms in the university context are solar PV and small-scale wind. Solar PV has been the focus for discussions to date, and, specifically the 'PV for Free' proposition.

PV for free

Many public sector bodies, including universities will already have been approached by organisations offering to provide and install solar PV panels for no up-front cost in return for access to the available roof or land spaces - an arrangement commonly known as 'PV for Free'.

[1] DECC, Impact Study on Electricity Market Reform. Figures are based on the baseline average figures in table C14: www.decc.gov.uk/assets/decc/Consultations/emr/1042-ia-electricity-market-reform.pdf

Under this model, the university would assign the tariff revenue to the organisation, which would ensure that the technology was installed and managed, and allow the university to have a relatively 'hands-off' approach. Depending on the scale of technology installed, the organisation would then be entitled to receive index-linked tariff revenues over 20-25 years.

For a university, PV for Free may appear an attractive opportunity to both reduce energy costs and to provide students with clean energy for no upfront investment. Equally, however, there are risks for universities in entering into long-term arrangements with organisations that do not deliver them best value. We feel therefore, that a degree of healthy cynicism should be applied when assessing the merits of PV for free and similar models.

Issues and how Grant Thornton can help

As a young and emerging market there is little in the way of 'FIT best-practice' which universities can draw on in arriving at an informed view when assessing the underlying economics and linked technologies of what potential organisations are proposing. As a result there are clear risks from rushed or poorly-researched implementation.

Perhaps the biggest risk we see is that by entering into a PV for free solution, **universities fail to capitalise on their ability to generate and receive fixed, long term, and indexed linked revenues streams, and deliver a healthy commercial return.** Grant Thornton can assist universities in reaching an informed position by mapping out a viable alternative delivery option whereby a university is transformed from passive end user to a core part of the energy generation vehicle.

An alternative approach

New funding and delivery models are emerging which allow universities to take a greater role in the development of renewable electricity on their campus, with reduced upfront capital commitments. For universities considering a FIT programme. These models will act as:

- a credible benchmark for those universities currently considering a PV for Free proposition
- a robust and viable delivery vehicle for those universities wanting to play a more proactive role in renewable energy generation as both producer and consumer.

Grant Thornton can help universities to understand fully the qualitative and quantitative implications of such options by:

- using financial modelling techniques to quantify the range of potential returns which universities may achieve
- using workshops to highlight key risks/rewards and mitigating strategies
- providing tailored funding advice (both upfront and by setting out potential for future refinancing gains)
- mapping out the likely contractual structure, and the university's position within that
- advising as to optimal tax structuring (capital allowances on specialist equipment, VATable elements).

Grant Thornton can also help to facilitate discussions with relevant parties - funders, suppliers, installers, wider advisory - drawing on our network of contacts.

The table below highlights the likely magnitude of cashflows over 25 years available to universities for a 50 kW system.

Example 50 kWp system

Debt required	£125k - £175k
Equity injection	£25k - £35k
Debt repayment term	10 – 15 years
Return on equity at the end of 25 years (cash)	£100k - £150k

Our track record

Grant Thornton have been active in the renewables energy sector for over five years, and have developed a leading position as advisers in this market.

Our Energy, Environment and Sustainability team services a key sector within a large nationally based Government and Infrastructure Advisory team comprising over 100 professionals operating from seven offices throughout the UK.

We have advised on numerous energy solutions including wind, solar, hydro, biomass and CHP. In 2009 we advised on the largest renewables scheme, yet to come to market. We have extensive industry and sector knowledge, as well as broader project finance capabilities.

We have a proven track record of supporting clients in a number of different ways including buy and sell side project management mandates, strategic reviews, fund raisings and financial modelling.

We have over sixty appointments in the higher education sector across the UK, with more than twenty appointments currently as external auditors making us the third largest provider of external audit services, by number of appointments, in the sector.

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