

The UK solar market's position worldwide in the face of changing FiT policy

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ABSTRACT

The solar photovoltaics market in the United Kingdom was virtually non-existent until April 2010, when the long-awaited feed-in tariff scheme was implemented. Yet, despite coming late to the game, the UK's solar industry took off immediately, installing more than 80MW in the first 12 months alone. Now, just two years down the line, the market is placed as the world's eighth largest. This paper will take a look back at how the UK got to this point as well as considering just how bright the future of this fast-paced market will realistically be.

A victim of its own success

When the UK government first introduced a feed-in tariff (FiT), the rate was extremely attractive. Paying out 41.3p (49.3 euro cents) per kilowatt hour of solar energy produced for systems up to 4kW, the incentive prompted a large amount of interest. In fact, in the first three months of the scheme more than 6MW of microgeneration was added to the Ofgem Central FiT Register.

Yet it wasn't long before the UK solar market became a victim of its own success. The new coalition government – which took office after the implementation of the FiT scheme – soon realized that because solar component prices were falling so dramatically, the incentive rate was simply too high. This, coupled with the fact that the UK FiT is index-linked and therefore due to increase annually, prompted the UK's first experience of feed-in tariff cuts.

At this point, feed-in tariff reductions were occurring worldwide as the cost of PV components continued to decrease. In most cases the markets affected by cuts were mature enough to cope with the changes, and therefore adapted and continued on. Examples of this were seen in Germany, Italy and France, where alterations were made in order to compensate for current market conditions. These three countries still rank among the world's top five.

However, the UK government, which was not as familiar with the photovoltaics industry as its European neighbours, resolved to impose drastic feed-in tariff cuts without consulting industry beforehand. The decision was made to dramatically decrease the tariff for larger-scale solar – above 50kW – in a bid to stunt the growth of this end of the market. On August 1, 2011, those installing systems of 5MW saw the FiT drop from 30.7p/kWh down to just 8.5p/kWh.

The UK's climate change and energy minister, Greg Barker, explained: "I want

to drive an ambitious roll-out of new green energy technologies in homes, communities and small businesses and the FiT scheme has a vital part to play in building a more decentralized energy economy.

"We have carefully considered the evidence that has been presented as part of the consultation and this has reinforced my conviction of the need to make changes as a matter of urgency. Without action, the scheme would be overwhelmed. The new tariffs will ensure a sustained growth path for the solar industry while protecting the money for householders, small businesses and communities and will also further encourage the uptake of green electricity from anaerobic digestion."

This striking reduction prompted investor, market and industry uncertainty all at the same time.

At this point it seemed that large-scale solar was to be scarcely installed in the UK, as the upfront cost simply outweighed the return offered by the feed-in tariff. However, while the future looked bleak for the larger installations, the feed-in tariff rates for systems smaller than 50kW had been left untouched until the first scheduled scheme review in April 2012. These incentive rates were still considerably attractive to those working in the UK solar industry, and many began to ramp up installations.

By the end of the first FiT year, more than 73MW had been installed at microgeneration level, and this success was set to continue.

As the end of 2011 came into sight, the UK government realized the error of its ways in slashing the feed-in tariff rate for systems over 50kW while leaving the smaller system rates at the original level. As it turned out it was really this sector that needed reviewing, as the UK government's passion for small-scale generation coupled with a generous incentive rate prompted a huge amount of uptake.

Before long, the success of the smaller-scale systems prompted fears that there were more cuts on the horizon. As it turned out, these fears were well-founded.

Small-scale slashing

On October 31, 2011 the UK's Department of Energy and Climate Change (DECC) announced its intention to reduce the feed-in tariff rates for solar PV installations up to 50kW by as much as 50%. DECC also revealed that it planned to introduce these cuts from April 1, 2012, but with a reference date of December 12, 2011 – giving installers just six weeks to install at the higher rates.

"The plummeting costs of solar means we've got no option but to act so that we stay within budget and not threaten the whole viability of the FiT scheme. Although I fully realize that adjusting to the new lower tariffs will be a big challenge for many firms, it won't come as a surprise to many in the solar industry who've themselves acknowledged the big fall in costs and the big increase in their rate of return over the past year," explained minister Barker.

"My priority is to put the solar industry on a firm footing so that it can remain a successful and prosperous part of the green economy, and so that it doesn't fall victim to boom and bust."

This proposal again prompted a huge amount of backlash from those working in the UK solar industry, as many felt that the government had again acted without consulting those at ground level. This time the proposal was held up in a courtroom, where the December deadline was deemed "unlawful". DECC appealed against this ruling to the Supreme Court, though the final judgment is yet to be announced.

Though the UK solar industry expressed the concern that these cuts would restrict the market, DECC maintained that the proposed new tariff rates will still offer

Band	Original feed-in tariff rate (pence/kWh)	Post large-scale cuts feed-in tariff (pence/kWh)	Post microgeneration cuts feed-in tariff (pence/kWh)	Duration (years)
≤4kW (new build)	37.8	37.8	21	25
≤4kW (retrofit)	43.3	43.3	21	25
4kW–10kW	37.8	37.8	16.8	25
10kW–50kW	32.9	32.9	15.2	25
50kW–100kW	32.9	19	12.9	25
100kW–150kW	30.7	19	12.9	25
150kW–250kW	30.7	15	12.9	25
250kW+	30.7	8.5	8.5	25
Standalone	30.7	8.5	8.5	25

Table 1. UK feed-in tariff rates before and after the cuts take place.

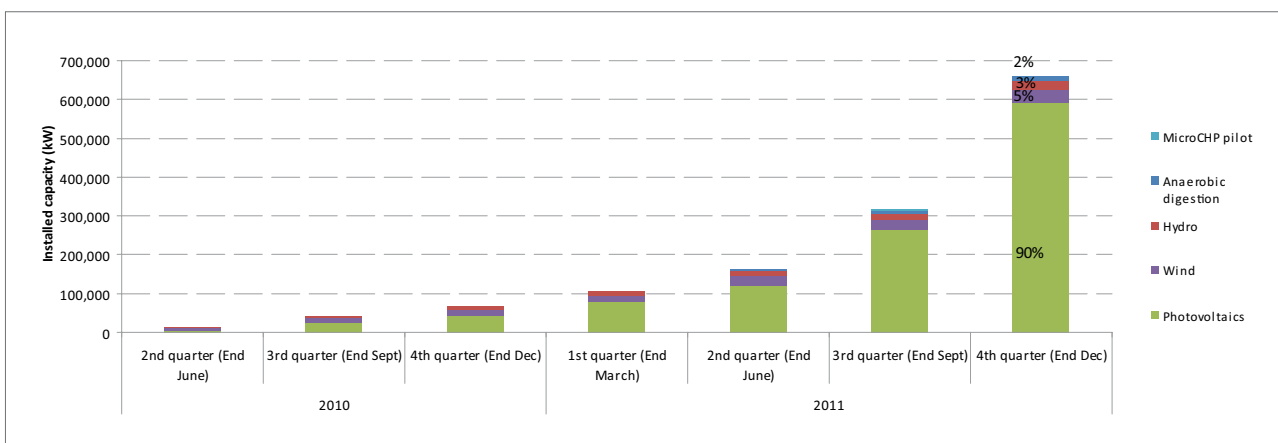


Figure 1. Installations by technology – cumulative installed capacity (kW).

Source: DECC

a rate of return of around 4.5% to 5% for “well-situated solar PV – broadly comparable to that intended when the scheme was set up.”

While these returns are indeed profitable, those working in the industry were used to an ROI of 10% or even 20% and therefore rushed to complete as many installations as possible at the higher rate, prompting a gold rush in the solar market.

In the fourth quarter of 2011, in the two months between the October announcement and the December deadline, more than 63MW of solar was installed.

While the feed-in tariff fiasco had generated a lot of uncertainty in the UK solar industry, it also prompted a great amount of solar enthusiasm. By January 2012, the UK solar industry had installed more than 910MW, from 1kW installations right through to large-scale solar parks. This places the UK in eighth position worldwide, where previously the UK was not even recognized as a solar player.

The UK vs. the global market

According to the European Photovoltaics Industry Association (EPIA), global PV installations reached 27.7GW in 2011,

marking a 70% increase from the numbers recorded in 2010. The leading markets, including Italy, Germany, China, US, France and Japan, reached more than 1GW of additional capacity during this period. The two biggest markets in 2011, Italy and Germany, accounted for nearly 60% of global market growth during the past year. These results were achieved despite several rounds of feed-in tariff cuts in both locations.

In 2012 alone, feed-in tariff cuts have been announced in Germany, Italy, Spain, Switzerland and Greece as well as in China. The difference between most of these cuts and those occurring in the UK is that they have been implemented as a direct

result of market conditions as opposed to knee-jerk reactions that have become so synonymous with the UK.

Leading by example

In a bid to move its solar market beyond feed-in tariff furore and further uncertainty, the UK government has now pledged to step up its commitment to solar technology by working alongside – instead of against – those in the solar industry. This method has been tried and tested in successful solar markets around the world, including Germany.

Since the UK solar industry has been forced to deal with unexpected and

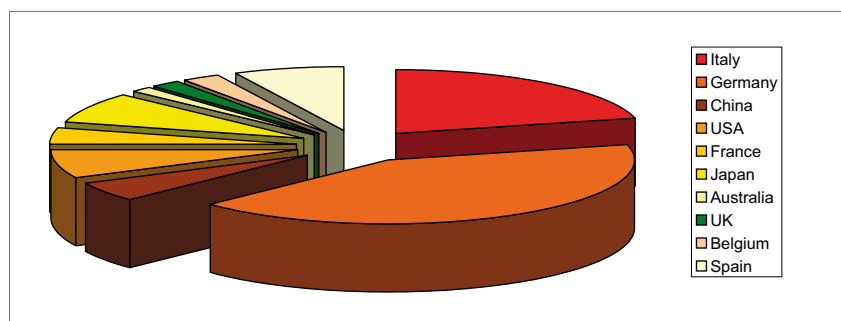


Figure 2. Top 10 solar markets by global cumulative installed capacity (MW).



Source: solarecentury.co.uk

Figure 3. Howbery Business Park in Wallingford Oxfordshire.

somewhat rash decision-making in the past, the future success of its market depends largely on government following through with this commitment.

Leading by Germany's example, the UK government has therefore set up two focus groups where members of DECC, including the minister of state for energy and climate change, can meet with representatives of the UK solar industry in order to discuss policy decisions before they are implemented. One of these groups will focus solely on the UK's solar strategy, while the other will involve members of the PV manufacturing industry, who will be able to offer advice on PV cost declines, which are likely to impact the rates of return possible in the UK. This is very similar to the way things are done in Germany, where the Federal Solar Industry Association (BSW-Solar) has regular meetings with the government.

Furthermore, after much contemplation, the UK government has also decided to implement a feed-in tariff depression model, similar to the system currently in place in Germany. DECC proposes that such a scheme is necessary to allow the British solar industry to operate within its

tightly constrained budget.

Instead of targeting a specific a specific rate of return, DECC has decided that, from July 1, the tariff level should be set at a rate that "returns broadly within the range of 4.5–8% under central cost assumptions."

DECC proposes that the starting tariff levels for July 1 should be set dependent on the levels of actual deployment of solar in March and April. As a result, DECC has modelled for three different scenarios depending on the level of capacity installed in March and April.

DECC's proposed July 1 tariff rates are outlined in Table 2.

The most conservative option released by DECC would see FIT rates slashed by over 20% in July, while Option A will see March tariff levels slashed by 35%. A further 5% reduction on the July level of tariff will be enacted in October 2012, with 10% reductions being introduced every six months thereafter.

Conclusion

For a market that is only two years old, the UK solar sector has gained a lot of experience. Having faced two rounds of

harsh feed-in tariff cuts in the space of just a few months, the industry has been forced to quickly adapt to changing environments. Indeed, many have discovered how to bounce back and continue profitably despite an abundance of uncertainty. The government has also had to make changes in order to cement the future success of PV in the UK. Learning from the more experienced markets, DECC is now expected to work in partnership with the solar sector to keep key players informed of upcoming decisions as well as tracking PV price declines by communicating with experienced manufacturers.

2012 is not expected to be as tumultuous as the previous two years. As a result, the installation figures will be lower. Yet, as the market levels off, the industry is expected to pick up and work consistently to the point where grid parity is achievable and feed-in tariffs can be left in the past. Since the leading PV markets in Europe have had a considerable head-start, the UK solar sector is not projected to overtake or compete in the coming years; it will, however, be recognized as a serious contender at last.

About the Author

Emma Hughes is editor of news and information website Solar Power Portal and bi-monthly magazine *Solar Business Focus UK*. She has been covering the UK's solar industry since its inception in 2010, and has spent several years working in the semiconductor, consumer technology and photovoltaics industries. Emma has also presented at several global solar events and is widely regarded as one of the most influential solar technology journalists in the UK.

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Band (kW)	April 1 tariff	Option A	Option B	Option C
≤4kW	21p	13.6p	15.7p	16.5p
>4kW–10kW	16.8p	10.9p	12.6p	13.2p
>10–50kW	15.2p	9.9p	11.4p	11.9p
>50–150kW	12.9p	7.7p	9.7p	10.1p
>150–250kW	12.9p	5.8p	8p	10.1p
>250–500kW	8.9p	4.7p	6.8p	7.1p
Standalone	8.9p	4.7p	6.8p	7.1p

Table 2. Tariff rates for July 1, 2012, as proposed by DECC.