SQUIRE PATTON BOGGS

The Feed-In Tariff Scheme Is Now Closed to New Applications – So What Is Next for Small-Scale Low-carbon Generators?

Peter Wright, Rob Broom and Michael Zamecnik

Following the closure of the Feed-in Tariff (FiT) scheme to new applications on 31 March 2019, Peter Wright , Rob Broom and Michael Zamecnik, from our Energy & Natural Resources Practice, consider the legacy of the FiT scheme, whether solar can develop without a guaranteed route to market, and the arguments for a transitional offtake arrangement to be put in place until a successor scheme or clear alternative is ready.

1. The Feed-In Tariff Scheme

The FiT scheme[1] guaranteed payments for producers of renewable energy produced by "eligible installations" commissioned after 15 July 2009 and, in doing so, encouraged the uptake of a range of small-scale renewable and low-carbon electricity generation technologies with a total installed capacity (TIC) of up to 5MW in England, Wales and Scotland.

Qualifying technologies include solar photovoltaic (PV), wind, hydro and anaerobic digestion (AD) technologies up to 5MW, as well as fossil fuel-derived Combined Heat and Power (CHP) projects[2] of up to 2kW[3].

The FiT scheme, introduced on 1 April 2010, replaced the Renewables Obligation (RO) as the main form of subsidy or financial support for PV, wind and hydro installations with a declared net capacity (DNC) of 50kW or less. The FiT scheme also gave eligible small-scale generators with a DNC between 50kW and 5MW the one-off choice of applying under the FiT scheme or the RO. Solar PV has been by far the largest beneficiary of the FiT scheme.

The Government controversially closed the FiT scheme to new applications earlier this year[4], removing the financial incentives for new small-scale low-carbon electricity installations and effectively requiring households and businesses that install solar PV and other onsite generation technologies to export any power they do not use to the grid for free. So was the FiT scheme a success?

2. Payments Provided Under the FiT Scheme and Associated Financial Incentives

Those projects that are supported by the FiT scheme receive payments by way of two types of RPI-linked[5] tariffs per kiloWatt hour (p/kWh) for a fixed term (currently up to 20 years). These two tariffs are:

(a) **Generation Tariff** – This is the main payment under the FiT scheme and is payable for the total output of the renewable electricity that is generated onsite, tracked by a generation meter and paid whether the electricity is exported to the local electricity network or used onsite; and

(b) **Export Tariff** – This tariff is paid for any unused electricity that is exported (as measured by an export meter[6]) to the local electricity network over the term. This tariff is a bonus payment for surplus electricity, offering a route to market and providing an incentive for energy efficiency, as the payment is for kWh not used onsite but exported instead.

The exports are sold back to the National Grid via an electricity supplier, who is required to pay for such exports at the minimum rate, providing small-scale low-carbon generators a guaranteed income stream. Tariff rates are set by the Department for Business, Energy and Industrial Strategy (BEIS).

1 The FIT scheme was introduced under sections 41-43 of the Energy Act 2008 and came into force in the UK on 1 April 2010.

2 These are considered to be low-carbon, rather than renewable, technologies.

3 Ofgem E-serve, "Feed-in Tariff: Guidance for Renewable Installations (Version 10.1)", 10 May 2016, accessed 17 May 2019.

4 Installations already accredited under the FiT scheme will continue to receive payments for generating and exporting renewable and low-carbon electricity.

5 Generation and export tariffs are adjusted every April by the RPI percentage increase or decrease over the previous calendar year. For all installations with an Eligibility Date in the latest quarter before 1 April each year, the generation tariff will not be adjusted by RPI until the following year.

6 For installations below 30kW, the amount exported may be "deemed" at 50% of generation for solar, wind and anaerobic digestion; and at 75% for hydro. Installations over 30kW must have an export meter.

FiT payments start from the Eligibility Date of the installation[7], being the later of the commissioning date or the application date.

In addition to these payments, sites with FiT accredited installations obtained a further financial benefit through a reduction in their own electricity bills by virtue of purchasing less electricity from their electricity supplier and using more of their own generation onsite to meet their own demand.

Taken together, the benefits of the FiT scheme include:

(a) Encouraging investment in a wide range of small-scale renewables, such as PV, hydro and wind, despite the different technology tariff rates. The added cash-back incentive also greatly improved the take up amongst domestic, community and small commercial investors.

(b) Ease of entry into the market.

(c) Guaranteed long-term payments providing financial security for developers and investors.

The FiT scheme is funded through levies on licensed electricity suppliers, and, ultimately, consumers (through their electricity bills), regardless of whether or not they directly participate in the FiT scheme. Electricity suppliers have specific obligations under the Standard Conditions of Electricity Supply Licences[8], as well as under the Feed-in Tariffs Order 2012 (the "FiT Order"). These include the requirement that Mandatory[9] and Voluntary FiT Licencees[10] make FiT payments to FiT generators.

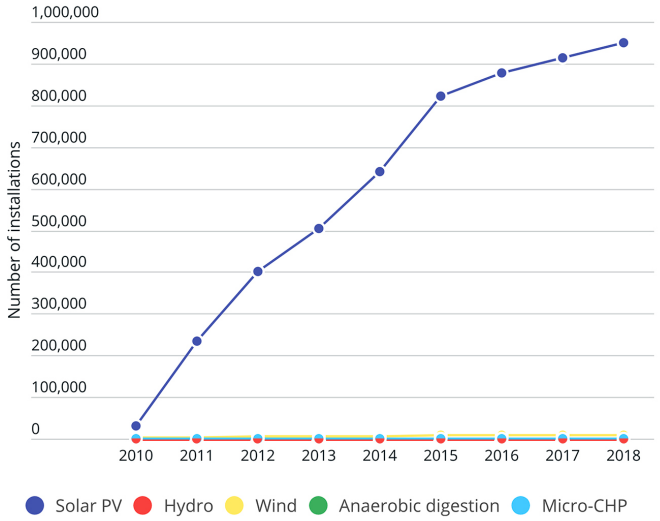
The FiT scheme also implemented a levelisation approach to ensure that its costs were fairly distributed. Levelisation is the mechanism by which the total cost of the FiT scheme is apportioned across licensed electricity suppliers. All licensed electricity suppliers (regardless of their FiT participation status) are required to make payments into the Ofgem FiT Levelisation Fund, which is based on both their market share of Great Britain's electricity supply and on any FiT payments made to accredited installations under the FiT scheme. The fund is then redistributed to FiT licensees that have made more or less payments to accredited installations than they would be required to by their market share contribution. Key provisions as to how the costs of FiTs are shared amongst all FiT licencees, through the levelisation (apportionment) process, are contained in the FiT Order.

3. Closure of the FiT Scheme to New Generation after 31 March 2019

On 19 July 2018, BEIS launched a consultation[11] (the "Consultation") that set out plans to close the FiT scheme to new applications after 31 March 2019. As such, from 1 April 2019, there has been no guaranteed route to market for new small-scale[12] generation.

The Consultation set out the Government's view that the current FiT scheme flat rate export tariff did not align with its desire to move towards fairer, more cost-reflective pricing and the continued drive to minimise costs to consumers. This reflected critics' views that the FiT scheme had eaten into budgets for clean energy subsidies funded via energy bills, leading to higher "green levies" while delivering emissions reductions at a higher cost than larger projects[13]. The FiT scheme was much more effective than anticipated, with 730,000 installations by 2015 - initial FiT rates were generous and the uptake of solar panels was faster than expected, which inevitably placed strain on the scheme's budget. In addition, the scheme has had to deal with funding cuts of around 65% in the value of payments, as the cost of installing solar PV (which accounts for 99% of the total number of installations supported by the FiT scheme – see Figure 1) fell dramatically over that period[14].

Figure 1: Renewable installations receiving the FiT: 2010-2018



Source: which.co.uk[15] (based on BEIS data for FiT tariff installations by month. December 2018 data is provisional)

7 Article 2(1) FIT Order and Schedule A to Standard Condition 33 of the Electricity Supply Licence.
8 Conditions 33 and 34 of the Standard Conditions of Electricity Supply Licences.
9 A Mandatory FiT licensee is a licensee that either itself, or through itself, supplies electricity to at least 250,000 domestic customers.
10 A Voluntary FiT licensee is a licensee that is not a Mandatory FiT licensee but which voluntarily elects to participate in making FiT payments under the FiT scheme.
11 BEIS, "Consultation on the Feed-in Tariffs Scheme", 19 July 2018, accessed 17 December 2018. The Consultation closed on 13 September 2018.
12 Less than 5MW.
13 Business Green, "Government proposes complete end to Feed-in Tariff Scheme", 19 July 2018.
14 SolarGuide, "Feed-in Tariff Ends in 2019", accessed 20 December 2018.
15 Sarah Ingrams, which.co.uk, "One month to go until the solar panel feed-in tariff closes", 28 February 2019, accessed 7 May 2019.

In its December 2018 response to the Consultation[16], the Government affirmed its decision, stating that:

"Government has considered the comments and evidence provided and has decided to close the export tariff alongside the generation tariff because the current fixed and flat rate export tariff does not align with the wider government objectives to move towards market-based solutions, cost reflective pricing and the continued drive to minimise support costs on consumers, as set out in the Control for Low Carbon Levies … however, we note in particular the comments received on the importance of **maintaining a route to market for small-scale low-carbon generation after 31 March 2019** [emphasis added]"[17].

On this final point, the Government published a call for evidence[18] (which closed on 30 August 2018) to follow up with specific proposals for future arrangements in due course.

4. Legacy of the FiT Scheme

It seems clear that the scheme was highly successful in enabling the deployment of new small-scale renewable generation. In its Consultation, BEIS noted that the scheme had significantly surpassed its original projections for deployment, both in terms of the number of installations and capacity deployed, in that it had exceeded both the 750,000 installations estimate and its projections from the 2011/12 comprehensive review for 2020/21 for wind, solar, hydro and AD. As at March 2018, more than 800,000 installations (around 6GW)[19] have been confirmed on the Central FiT Register (see Figure 2). Almost 242.5MW of solar was installed in Q1 2019, representing a significant surge before the FiT scheme was shuttered for good; and more than 23,100 domestic installations were completed throughout that period, amounting to more than 75MW[20].

Figure 2: The FiT Scheme in Numbers

2010

Feed-in tariff introduced

830,471

Total installations supported by the feed-in tariff

6.09GW

Total generation capacity supported by the feed-in tariff

Source: which.co.uk[21]

5. Can Small-scale Renewables Survive Without a Guaranteed Route to Market?

In spite of the success of the FiT scheme, are small-scale renewables economically viable to fend for themselves, now that new projects can no longer count on the financial backing they receive under the FiT scheme?

There are a number of continuing short-term barriers to further deployment of small-scale renewables, which include:

(a) A buyers' market that is largely illiquid for small parcels of intermittent electricity.

(b) Removal of remaining subsidies in circumstances where many projects will not provide an acceptable return; this includes the guaranteed income stream associated with the export tariff.

(c) High search and transaction costs for buyers and sellers.

(d) An ever smaller pool of installers; the number of companies operating in the renewable energy sector in the UK fell by 5% in 2016, foreshadowing the potential threat to installation capacity in the near future[22].

5.1 Solar Coming of Age?

There are many reasons to remain optimistic and to believe in the future of small-scale renewables in the UK, especially with regards to solar power. The past decade has witnessed the technological innovation that drove the precipitous fall in unit prices for basic PV technology; solar panels now cost on average two-thirds less than they used to in 2010; a typical 4kW array of solar panels costs about £5,000, down from £12,000-£15,000 when the FiT scheme began[23]. Looking ahead, a 1-5MW rooftop solar installation is expected to be developed at £73/MWh by 2020, and sub-10kW rooftop – or residential – solar is expected to have a levelised cost of energy (LCOE) of £128/MWh by the same year, equivalent to 12.8p/kWh[24]. The Solar Trade Association CEO Chris Hewett has said that "the good news, as we look beyond FiTs, is that solar is coming of age and while solar always makes great environmental sense, it now makes economic sense for most investors without public subsidies given fair treatment by government."

All these factors suggest that investing in solar energy can actually make economic sense for most investors, even without a public subsidy.

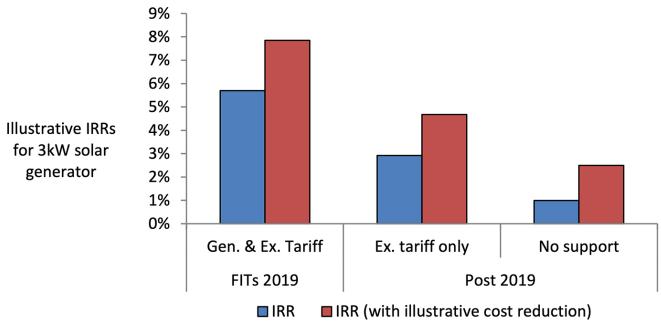
16 Government Response, "The Feed-in Tariffs Scheme: Government Response", December 2018, accessed 18 December 2018.
17 Ibid 16.
18 BEIS, "The Future for Small-scale Low-carbon Generation: A call for evidence", accessed 17 December 2018.
19 Sub-regional Feed-in Tariffs installations – March 2018, 17 December 2018.
20 Liam Stocker, Solar Power Portal, "Farewell FiTs: 242.5MW deployed in late FiT deployment surge", 9 April 2019, accessed 7 May 2019.
21 Sarah Ingrams, which.co.uk, "One month to go until the solar panel feed-in tariff closes", 28 February 2019, accessed 7 May 2019.
22 Pixie Energy, "UnFit for Purpose; a call for intervention to support small-scale low-carbon generation post March 2019".
23 Roofing Today, "Solar is 'Coming of Age' But Future Frameworks Must Be Fair", 19 July 2018, accessed 20 December 2018.
24 Solar Power Portal, "BEIS documents detail tumbling LCOE costs of solar PV out to 2030", 9 November 2016, accessed 20 December 2018.

5.2 Financially Viable Without FiT Support?

Ultimately, the extent to which small-scale installations will be deployed will largely depend on how attractive they would be to an investor without FiT support. BEIS, in its Impact Assessment[25], considered the internal rate of return (IRR) of a project under three separate scenarios: (i) generation and export tariffs continue; (ii) export tariffs continue only; and (iii) all tariff support is removed. The illustrative graph below (Figure 3) sets out BEIS' assessment of the economics for a representative standard residential 3kW solar generator installation in three scenarios.

In its Impact Assessment, BEIS revealed that it expects IRRs for a standard 3kW residential install to fall from approximately 7-8% (including an illustrative technology cost reduction) under the FiT scheme to just 2.5%, again including an illustrative cost reduction[26].

Figure 3: Illustrative IRRs for a 3kW solar generator



Source: BEIS Impact Assessment

Naturally, the first scenario, where both tariffs continue unabated, produces the highest IRR. Assuming all other factors stay constant, this scenario would likely produce the highest levels of future deployment, as generation tariffs, export tariffs and bill savings result in the maximum possible revenue for the installation. As expected, the third scenario, where the tariffs are wholly removed, nets the lowest projected IRR and would likely result in the lowest levels of deployment.

Nonetheless, BEIS held that, in spite of lower IRRs, it would be sufficient in "some cases for deployment to occur", and thus it is thought that, despite the absence of the FiT scheme, market conditions will still allow the growth in solar generation capacity to continue. Moreover, BEIS also considered that other factors, such as lower generation costs and general CAPEX costs, would collectively ensure generation economics stay attractive to investors.

While it is likely that investor returns (with or without FiT support) will lead to some level of future investment and deployment, BEIS admits that it is also inherently uncertain and prone to shifts in investor sentiment, particularly without FiT support. As a result, BEIS opted to produce a number of prospective deployment scenarios, namely a supported option (i.e. with a FiT scheme in place where generation and export tariffs continue) and an unsupported option, in regard to sub-5MW solar deployments:

i. **Supported** – This assumes future solar deployments continue along trends observed when the FiT scheme was in place. BEIS provided an assumed annual growth rate of 4%.

ii. **Unsupported (high estimate)** – This assumes that only half of the future solar deployments become realised and developed. BEIS provided an assumed annual growth rate of 2%.

iii. **Unsupported (low estimate)** – This assumes that only a quarter of the future solar deployments become realised and developed. BEIS provided an assumed annual growth rate of 1%[27];

5.3 Other Considerations

Other factors that work towards a positive investment outlook for small-scale generation (even with the removal of the FiT subsidy) are (i) a falling LCOE for small-scale low-carbon technologies but which are set to fall further, allowing low-carbon technologies to compete fairly and offer acceptable paybacks; (ii) the avoided cost benefit of consumption of electricity produced behind the meter, which is anticipated to rise to a level to allow the small-scale generation sector to better stand on its own two feet; and (iii) the implementation of better metering and control technology – this is becoming available for use by small-scale generation, in particular, in combination with battery storage[28].

5.4 Need for a Transitional Offtake Tariff to Support Continued Deployment of Small Generators from April 2019?

Pixie Energy, the sister company of Cornwall Insight, insists that the other considerations (discussed in part 5.3) are unlikely to change incentives sufficiently in the short-run and, as the emerging markets will not be proven much before 2023, investment may be dissuaded due to market uncertainty. Pixie Energy cites factors that adversely impact new small-scale generation investment, including:

(a) The erosion of value streams through industry change – including the removal of Levy Exemption Certificates (LECs) from 2016-17, changes to Triad rates and degression cuts in the generation tariff

(b) Loss of guaranteed revenue stream – meaning that developers have opted out of the export regime (in which the posted export tariff applies) and entered into negotiated rates with offtakers, in effect, entering the PPA market, and this market is still limited for small-scale generation

(c) Stress on supply chains – noticeable since the reduction of FiT tariffs and introduced caps on the volume of installations eligible for subsidies in 2016

25 BEIS Impact Assessment, "Consultation on the Feed-in Tariffs Scheme", July 2018, accessed 19 December 2019.

26 Liam Stocker, Solar Power Portal, "BEIS impact assessment lays bare government's meagre post-FiT expectations", accessed 18 December 2018.

27 Ibid 25.

28 Ibid 22.

Pixie Energy recommends a Transitional Offtake Tariff to provide continued support of deployment of small generators from 1 April 2019 until new local markets can be shown to work. Pixie Energy contends that this could be achieved at no cost to consumers by tying export rates to system values. It advocates a continuing obligation on suppliers to purchase surplus energy from solar sites below 250kW. It also proposes retention of guaranteed market access for community energy schemes at a higher threshold of 500kW given their reliance on certain export payments. This transitional proposal does have merits, as the lack of transitional measures could significantly damage the supply chain, which, in turn, would undermine the market and mean that once the outlook improves, new small-scale generation investment will be slower, later and more expensive[29].

6. Looking Ahead: A Possible Mandatory Supplier-led Route to Market: The Smart Export Guarantee

Following the closure of the call for evidence (on 30 August 2018), the Government announced a further consultation for a proposed replacement scheme for the FiT Export Scheme, called the Smart Export Guarantee (SEG), which would replace the "export payment" part of the current FiT scheme only. The proposal was that BEIS would require larger electricity suppliers (>250,000 domestic electricity supply customers) to offer small-scale generators a price per kWh for the electricity they export to the grid. Exported power would have to be metered, with suppliers obliged to offer at least one export tariff. Suppliers would have the flexibility to determine the tariff per kWh for remuneration, and the length of the contract; and the intention was clearly that there would be competition between electricity suppliers to offer better tariffs in order to gain customer loyalty[30].

Views on this consultation were invited by 5 March 2019, and the evidence gathered from this consultation will allow the Government to decide on whether, and if so how, to proceed with the SEG[31].

A further consultation, launched on 29 April 2019, seeks views on amendments to licensing conditions necessary to make way for the SEG scheme, and revealed that BEIS envisages that a "final deadline" for suppliers to offer tariffs to solar households and businesses could be set by the end of 2019.

7. Concluding Thoughts for Developers in the "Hiatus Period" Between FiT and the SEG

Since its launch in 2010, the FiT scheme has played a vital role in supporting small-scale renewables, community-owned energy and promoting the widespread development of a smarter, cleaner energy system. Following the closure of the FiT scheme to new installations and the resulting period of uncertainty effectively created by the absence of a successor scheme or any other clear alternative, developers looking to commit to projects during the interim subsidy-free period must get comfortable with the commercial viability of their project, based solely on the ability of the project to generate a profit without the benefit of direct subsidies, while at the same time seeking to explore other means of securing new project revenue sources (e.g. via Direct Wire or a committed offtake arrangement that will support the project, including sleeved or virtual Power Purchase Agreements (PPAs)). Alternatively, developers can wait for the introduction of the SEG-type market, which may become a reality sooner than expected. A number of electricity suppliers have pre-empted the SEG by introducing their own export tariffs for households and businesses with solar panels and other clean technologies[32], and this may offer a viable alternative route to market.

Contacts

Peter Wright
Partner, London
T +44 20 7655 1675
E peter.wright@squirepb.com

Rob Broom
Associate, London
T +44 20 7655 1263
E robert.broom@squirepb.com

Michael Zamecnik
Trainee, London
T +44 207 655 1407
E michael.zamecnik@squirepb.com

29 Pixie Energy, Summary of UnFit for Purpose Paper, accessed 18 December 2018.
30 Naked Solar, "The Feed in Tariff is dead. The Export Guarantee is born", accessed 8 May 2019.
31 Gov.uk website, consultation summary, "The future for small-scale low-carbon generation", accessed 16 January 2019.
32 James Murray, Business Green, "'The future of energy is local': Smart Export Guarantee plans edge forward", 30 April 2019, accessed 7 May 2019.