

Response to the consultation on the Feed in Tariffs Scheme

Q1 Do you agree or disagree with the proposal to end the export tariff alongside the generation tariff, which would close the scheme in full to new applications after 31 March 2019? Please provide evidence to support your reasoning; for example, around the impact on jobs, deployment, consumer bills and the supply chain.

Regen **disagrees** with the proposal to end the export tariff alongside the generation tariff. We believe that the Feed-in Tariff (FIT) has provided the basis for growth to the sector and has had a positive effect on the overall UK economy through increased investment and job creation.

Below, we provide evidence of the positive impacts of the FIT, the negative impacts of its closure and the feasibility of an alternative solution.

We recommend that the export tariff be kept open as a guaranteed route to market, at least temporarily until a viable alternative has been put in place. However, we appreciate the need to reduce the impact on consumer bills and have therefore provided evidence to show that an improved calculation of the export tariff could enable the scheme to be provided at no cost to the consumer. Initially the FIT was set at a very high rate and produced rapid growth in deployment, however since 2011 the FIT value has been subject to closer management and degression. This could form the basis of “price discovery” and a sustainable mechanism to encourage growth while managing impacts on consumer bills.

The Feed-in Tariff has triggered significant growth

The FIT has delivered well beyond expectation – it has triggered rapid growth in the renewables sector, resulted in a reduction in costs of technology and allowed a great number of individuals, households, communities and businesses to generate their own energy and become a part of the transition to a low carbon future.

“[...] the feed-in tariff scheme has been hugely successful in attracting investment in small-scale renewable electricity, delivering more than 800,000 installations across the country.”

Claire Perry, House of Commons, 17 July 2018¹

As stated by the Minister for Energy and Clean Growth in July 2018 and laid out in the consultation document, the scheme has far exceeded the initial targets and growth predictions; since the introduction of the FIT, deployment has reached nearly 1m and resulted in the installation of over 6GW² of total capacity. A growing renewables market has created 126,000³ jobs in the UK and attracted billions in investment – in 2015 alone £15bn was invested in the renewables sector, bringing the total market value of the industry to £17.6bn³. Such figures put the UK at the forefront of the global renewables industry and illustrate the importance of a growing renewables sector to the UK economy.

¹ <https://hansard.parliament.uk/Commons/2018-07-17/debates/FC92F325-EC65-485B-9FCA-6DB33C333942/RenewablePower-GeneratingCompanies19D1084B-DOF2-4155-9007-8F96F8E740EF>

²BEIS monthly feed-in tariff commissioned installations as at June 2018
<https://www.gov.uk/government/statistics/monthly-small-scale-renewable-deployment>

³ http://www.r-e-a.net/upload/final_low_res_renewable_energy_view_-_review_2017.pdf

A fundamental part of the challenge of transitioning to a low carbon future is encouraging society to understand and embrace this change. Small-scale renewables engage a wide range of people, show them the advantages of producing low carbon energy and give them ownership over that transition. Support for small-scale renewables through schemes like the FIT has been an important factor in changing attitudes— indeed recent figures show that 63% of UK residents would like to install solar panels, 60% would like to have a home energy storage device and 71% would be interested in a community energy scheme.⁴

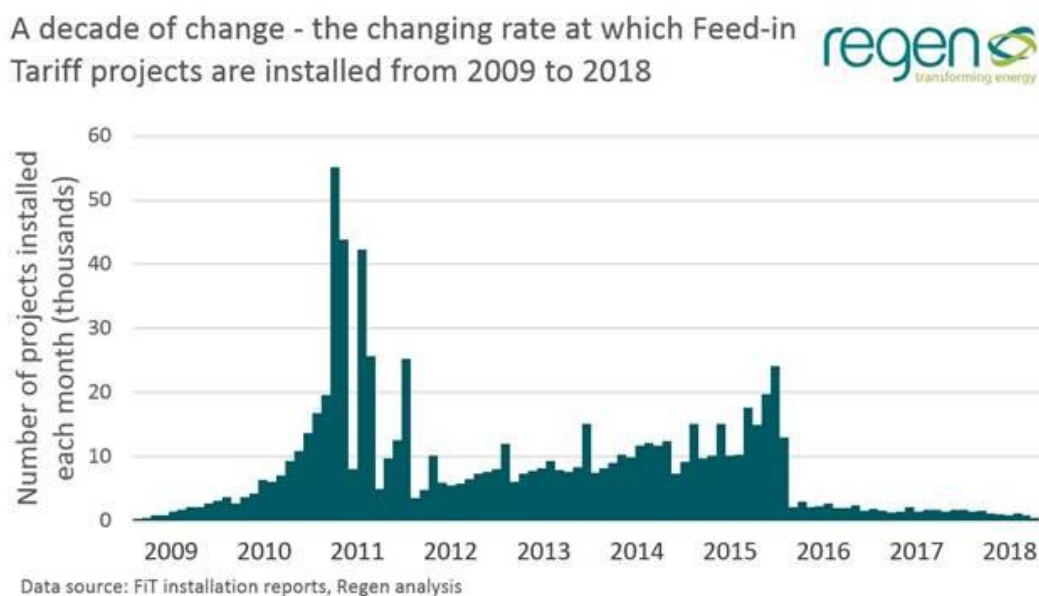
Predictive modelling by National Grid as part of their Future Energy Scenarios work shows microgeneration as a key part of the transition to decarbonisation; the two scenarios that meet carbon targets show a considerable increase in micro capacity (under 1MW) from 5% to as much as 31% of total capacity, while large scale transmission-connected capacity decreases its share in all scenarios⁵. The government’s own projections show that growth rates for small-scale solar, following the closure of the FIT, lag far behind growth rates projected in scenarios that meet carbon emission targets.

The closure will have wide-ranging negative effects

Investment and job losses

Since the closure of the generation tariff was first proposed in 2015 and tariffs were cut considerably, confidence in the sector has plummeted and resulted in a steep reduction in deployment – figure 1 shows a significant drop-off of tens of thousands of installations towards the end of 2015, and that downward trend continuing into 2018.

Figure 1



Following full closure of the scheme, the projections from the government's impact assessment show a significantly reduced rate of growth for the next six years across all small-scale renewables,

⁴ <https://www.documents.clientearth.org/library/download-info/clientearths-climate-snapshot/>

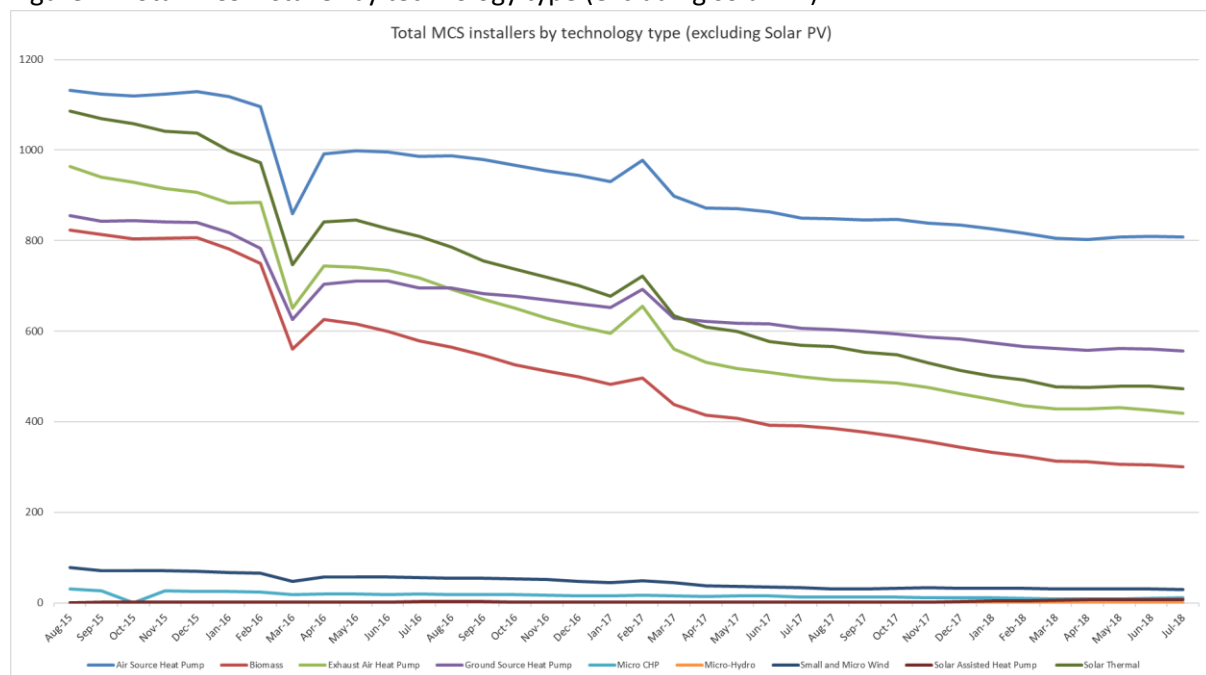
⁵ National Grid Future Energy Scenarios 2018. <http://fes.nationalgrid.com/media/1363/fes-interactive-version-final.pdf>

even using the more optimistic projections⁶. In the community sector, these projects will no longer be financially viable arrangements – a report by Community Energy England showed that the reductions in FIT tariffs in 2015 would put at risk 90% of developing projects representing a loss of capital investment of £127m⁷.

Solar and hydro installers in Regen’s membership report that their businesses will be severely hit by the lack of support available and the figures on job losses and businesses leaving the sector back this hypothesis. A report from PWC showed that jobs in the solar industry alone fell by 32% from 2015-2016⁸. Registered installers on the Microgeneration Certification Scheme have also fallen, across all technologies⁹ (see figure 2).

Closure of the generation tariff will exacerbate this trajectory, but the additional, unexpected closure of the export tariff will effectively halt new installations of small-scale renewables.

Figure 2: Total MCS installer by technology type (excluding solar PV)



Source: MCS installer statistics report (31st July 2018)

Technologies with a smaller market share will experience greater losses

The FIT supports a range of technologies and while solar has proven to be most successful, technologies such as hydro and anaerobic digestion (AD) have increased under the FIT with a total of 1189 and 420 installations respectively¹⁰. Whilst a technology neutral approach was initially appropriate, it is becoming clear that applying a blanket policy to very different types of technology and installations is not effective; the nature of generation plays a significant role in scalability and

⁶<https://www.gov.uk/government/consultations/feed-in-tariffs-scheme>

⁷https://communityenergyengland.org/files/document/35/1494863369_URN15D435CEEresponsetoFITsreview.pdf

⁸<https://www.pwc.co.uk/power-utilities/assets/solar-report-2016.pdf>

⁹ MCS installer statistics report (31st July 2018) <https://www.microgenerationcertification.org/about-us/statistics/>

¹⁰BEIS monthly feed-in tariff commissioned installations as at June 2018

<https://www.gov.uk/government/statistics/monthly-small-scale-renewable-deployment>

success will be measured very differently. Each type of renewable technology should be considered on its own merits and the different constraints and costs should be taken into account. For example, hydro projects have a far longer lifespan than the 20 year duration of the FIT scheme contracts and would not necessarily need long-term support, but initial capital costs are high. In contrast, the lifetime of an average AD installation is shorter than the duration of the FIT contracts and so are disadvantaged by the limits on replacement of generating plant.

Evidence from members and trade bodies indicates that neither hydro power nor AD could deploy without support after March 2019 with one member reducing the number of staff working on small-scale generation from 7 employees to 1 part-time employee.

Any approach to support for small-scale renewables should acknowledge the significant advantages that a range of technologies can bring; for example hydro is much better placed to match generation with times of high demand than solar or wind. AD plants have advantages beyond the energy system by helping to manage methane emissions from landfill sites.

No viable alternatives to the export tariff are in place and barriers remain to market entry

The closure of the generation tariff of the FIT has been coming for some time and the industry have been preparing for such an event, even if it comes prematurely. However, the export tariff closure was unexpected and there will not be enough time for the sector to adjust. Neither the consultation document nor the small-scale renewables call for evidence offer alternatives to provide revenue streams for exported generation, through other subsidies or through market routes.

Power purchase agreements (PPAs) won't be available for small-scale generators

The impact assessment suggests that PPAs offer another option to generators, but these are difficult to negotiate, particularly for smaller generators, and long-term contracts are currently not being offered. We have had feedback from energy suppliers in our membership that they currently have no plans and little incentive to provide PPAs to generators under 30KW. One issue is that for power to be included in a supplier's balancing mechanism settlement, the appropriate meter must be installed which is cost-prohibitive to the consumer. The lack of incentives for suppliers to provide a route to market for small-scale generators is further compounded by the current skewed market for 'green' energy due to secondary trading of unbundled REGO (Renewable Energy Guarantees of Origin) certificates – if suppliers are able to purchase REGOs at a low cost, there is little incentive to buy renewable energy through PPAs with multiple small generators. Without a backstop export tariff, if suppliers do offer PPAs combined with retail contracts, prosumers may find themselves locked into bad deals with low fixed rates for export, but high fixed retail rates. PPAs are only a viable route to market for larger scale renewable generators and even then, do not provide a long-term revenue security.

Electricity could be exported to the grid for free

If new installations come online that are not able to negotiate a PPA, electricity could be spilling onto the grid for free. Not only is this unfair to the generator, it also presents a problem to network operators managing the system

The export tariff should remain, but can be improved

We understand the importance of reducing the impact of subsidies on consumer bills and that if the export tariff is set too high compared to the underlying wholesale price, it could lead to higher

energy bills. The total cost of deemed export passed onto consumers in 2016-17 was £495,437¹¹ - or £0.02 per household, per year¹². The cost of metered export payments is harder to calculate as they are not currently included in the levelisation payment, but the Ofgem annual report for 2016-2017 puts the total value of export at around £43m¹¹, which again equates to around £0.02 per household per year, using Ofgem’s calculations.

However, the wholesale price is increasing and so the difference between the export tariff and wholesale price has become much smaller. In 2018, suppliers were often selling electricity for a higher value than the export tariff and therefore gaining revenue, rather than passing the loss onto consumers. Figure 3 shows the wholesale price overtaking the export tariff in 2018.

Figure 3: Rise in day ahead price compared to the export tariff in 2018



Source: N2EX day ahead auction prices, Nordpool¹³ and export tariff rates, Ofgem¹⁴)

A static export tariff therefore no longer gives value to either the generator or the consumer. A revised, dynamic version of the export tariff which tracks wholesale price could ensure that consumers are not footing the bill for small-scale renewable generators and that generators receive a fair price. For existing FIT installations, if the wholesale price does continue to increase and suppliers benefit from the lower export rate, government should ensure this amount is offset against the generation payments passed onto the consumer.

What would a smart export tariff look like?

We envisage a smarter tariff to be indexed to wholesale price. How closely in time the export tariff tracks the wholesale price would be dependent on the standard of metering and ability of generators to respond quickly to price signals. This will of course vary depending on the size of the

¹¹ Total deemed export payments minus the value of deemed export payments. Source: Ofgem Feed-in Tariff Annual report 2016-17 https://www.ofgem.gov.uk/system/files/docs/2017/12/feed-in_tariff_fit_annual_report_2016-17_0.pdf

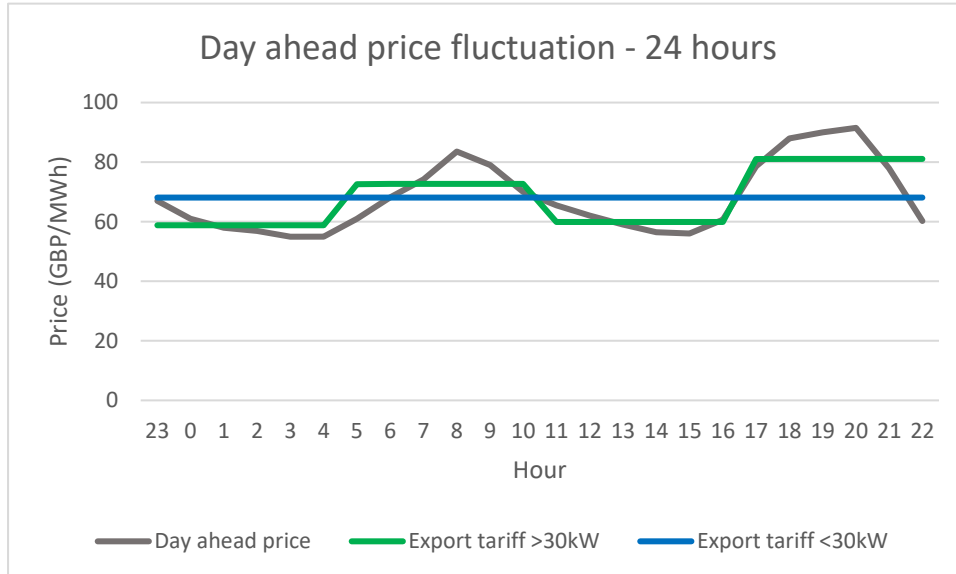
¹² Assuming 27.2m households in the UK based on 2017 ONS figures

¹³ N2EX Day Ahead Auction Prices, Nordpool. <https://www.nordpoolgroup.com/Market-data1/GB/Auction-prices/UK/Hourly/?view=table>

¹⁴ FIT Generation and export payment rate tables, Ofgem. <https://www.ofgem.gov.uk/environmental-programmes/fit/fit-tariff-rates>

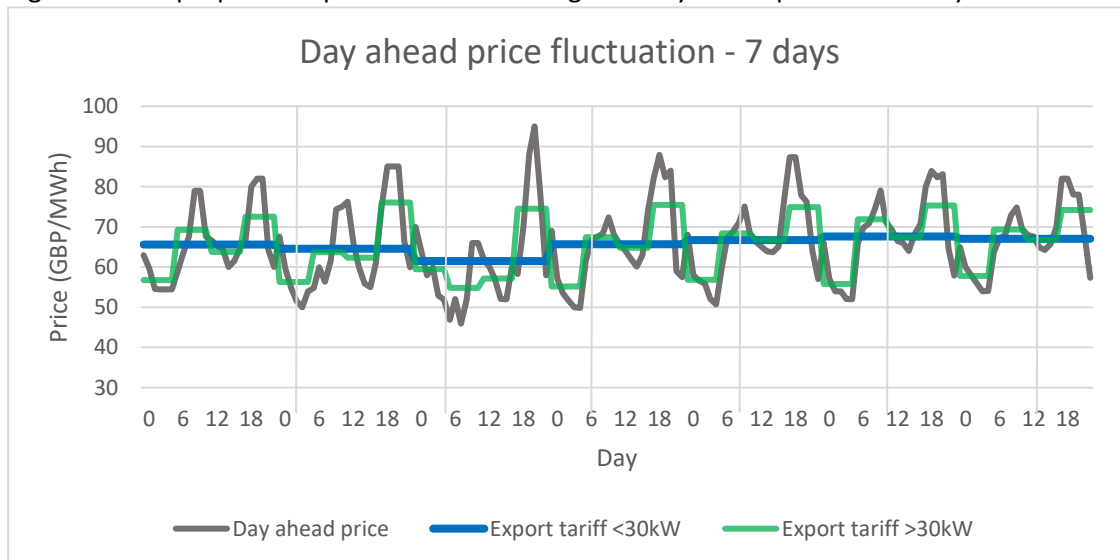
installation – larger generators will already have meters that can measure export and may be better equipped to respond in near real-time to price signals. A pragmatic approach would be to have two types of tariff – a daily or weekly flat rate tariff for unmetered generators under 30kW and a more dynamic tariff allowing closer to real-time pricing for metered installations over this size. The figures below show examples of how the two different export tariffs could work; the tariff for smaller generators tracks the daily average of the wholesale price and the tariff for larger generators tracks a 6-hour average of the wholesale price.

Figure 4: Two proposed export tariffs tracked against day ahead price over 24 hours



Source: data as above, analysis Regen

Figure 5: Two proposed export tariffs tracked against day ahead price over 7 days



Source: data as above, analysis Regen

A fairer, smarter export tariff could encourage generation at system peaks

A more flexible tariff could encourage generators to consume and export at different times to take advantage of peaks and troughs in prices. This would be beneficial to the generator to maximise revenue, but also to the system to help balance demand. Small-scale renewables bring additional value to the energy system by their ability to help deal with local demand and balancing;

incentivising generators to export at local peak demand times can help reduce network infrastructure costs.

As the energy system evolves to be smarter and more flexible, tariffs can be designed in a way that enables the fairest price for generators. The system-wide use of smart metering and the introduction of management platforms will enable generators and consumers to take advantage of more dynamic tariffs that give them the best value for money and help system operators manage the system more effectively.

Non-dispatchable forms of renewable energy are less able to respond to price signals, however an export tariff designed in this way could allow different technologies to maximise their generation; allowing different renewables to participate in such a way will bring revenue to technologies with a smaller market share which will feel the loss of the FIT more acutely.

The transition to a smart energy system allows technologies such as storage, aggregation and demand-side response to realise their full value. A dynamic export tariff is a demonstration of a smart environment that will create new opportunities for these technologies. The storage industry, which expects to see fewer installations if the solar market continues to decrease, could take advantage of the smarter export tariff to increase their uptake by enabling renewable generators to be more flexible with their export. The growing small-scale aggregation sector will also be able to take advantage of a smart, flexible export tariff, particularly for those smaller-scale domestic installations which don't have the ability to quickly respond to price signals.

Recommendation: the export tariff should remain in a revised form until a viable alternative is in place

There is clear evidence to support the continuation of the export tariff in a revised form that benefits small-scale renewable generators and consumers. Although the export tariff is not a large source of income for small-scale generators, in the absence of any other alternative following the FIT closure in March 2019 it would provide a safety-net for new installations and demonstrate continued government support for renewables. This revenue uncertainty should be minimised by a floor price which underpins the export tariff, encouraging investment by ensuring a baseline minimum income. If larger-scale technologies are being offered a guaranteed strike price, it is unclear why households and businesses in the UK, who are helping the country achieve the transition to a low-carbon economy, should not also benefit. If this can be enabled through the smart systems evolution and with no additional burden on energy bills, as we have shown, there is every reason to offer support for both large and small-scale generators.