



# Analysis of the Feed-in Tariff responses to the Consultation on Renewable Electricity Financial Incentives 2009



Prepared by AEA  
URN 10D/537

# Executive summary

## Feed In Tariffs

The consultation document outlined DECC's proposed design of the FIT scheme, including:

- the provision of separate tariffs for generation and export,
- a set of tariff bands applying to different technologies and installation sizes,
- eligibility rules and transitional arrangements.

This section generated a voluminous response with some proposals gaining universal support (e.g. introducing the generation tariff) and others generating a very negative response (e.g. the proposal that generating stations operating before 15 July 2009 but not accredited under the RO before this date will not be eligible for FITs)..

The choice of tariff levels, banding, lifetimes and degression rates received a large number of responses. Some respondents proposed alternative sets of those parameters which, although not enormously different from DECC's proposals, were generally aimed to provide higher levels of support.

The upper limits for FITs eligibility (5MW for renewable technologies and 50kW for gas fired CHP) were generally supported, but some respondents suggested the limits should be higher.

DECC's proposals that FITs generators should be able to use their electricity on-site, off-grid generators should be eligible for FITs, and that generators should be able to assign the rights to their FITs payments to a third party were almost universally supported. Nevertheless, several respondents thought that measures should be put in place to prevent fraud relating to the assignment of FITs rights to third parties.

There was widespread support for a long-term guaranteed export price of 5p/kWh, as put forward by DECC, although the idea that the export price should be pegged to the wholesale electricity price also received a degree of support. The main reason behind the latter argument was that it would eliminate the risk of large deviations between the FITs export price and the value of the electricity to suppliers.

The consultation also considered the situation where a new technology (not yet specified as FIT-eligible) emerges onto the market during the lifetime of the scheme and presented two options of addressing such a situation. The first option suggested such technology be assigned to a single "other technologies" tariff band, while the second one proposed introduction of a new tariff band as a part of regular FITs reviews. Respondents did not indicate strong preference towards any one of the presented options, however, a number of other solutions were suggested, including a hybrid approach where a technology is assigned to an interim band before getting its own level of support at the next review.

The proposal for on-site generators not having to comply with energy efficiency standards to be eligible for the scheme was supported, although not universally. Additional requirements were thought to add to the complexity of FITs and the export tariff was thought to provide a sufficient incentive to save energy. Submitters also pointed towards a large number of other programmes, designed specifically to promote energy efficiency.

Similarly, respondents thought that measures to address fuel poverty should be separate from the FITs scheme, although most acknowledged that the scheme itself would result in increased electricity bills. Some thought that those on low income should be offered more support to be able to participate in the scheme.

DECC's proposal not to introduce upfront capitalisation of FITs was supported in just over a half of the submissions. Such an approach was thought to add to the complexity of the scheme and the difficulty of raising finance, especially for householders, was acknowledged.

An overwhelming majority of respondents agreed that all FITs generation should be metered, but some asked for more clarity on where the responsibilities for owning, installing, maintaining and reading the meters would lie. The cost of export meters installed before the roll out of smart meters was also raised as an issue, and some respondents suggested that FITs generators should be the first ones to receive smart meters.

Respondents agreed that smaller suppliers should not be required to participate in the scheme, and most thought that the proposed threshold of 50,000 residential customers was reasonable.

To avoid disadvantaging suppliers with larger shares of FITs customers, DECC proposed that all eligible suppliers contribute to the cost of FITs payments, proportionally to the number of residential customers they have – a process called levelisation. This was generally perceived to be the fairest way of funding the payments, although a few respondents, including Ofgem, thought that levelisation by MWh would be less regressive than levelisation by numbers of customers.

A number of suggestions were made as to how the levelisation process could encourage participation in FITs for small suppliers. Proposals included frequent levelisation and allowing small suppliers to pay their generators after levelisation. It was also suggested that small suppliers could be subject to a less onerous regime than larger ones.

The consultation put forward some additional questions about how the levelisation process could work, including whether or not suppliers' administrative costs should be levelised (and if so, how) and whether the process should take into account large unforeseen differences between FITs export prices and the market value of electricity. Respondents mostly agreed with the idea of levelising administrative costs, and some suggested a number of additional cost elements that could be included in the process.

Two questions related to the definition of an installation and how subsequent installations at a single site in different years should be treated. DECC proposed to define an installation as a single technology at a single site. This was widely agreed with, but some variations on this theme were also proposed. Suggestions included a single technology at a single site with a single owner or a single technology at a single site with a single total generation meter.

### **Cross cutting issues**

DECC proposed the following arrangements for eligibility of different-sized renewable electricity generation units installed at different dates:

	<50kW	50kW – 5MW	>5MW
Installations accredited under the RO before 15 July 2009	Automatic transfer to FITs	Remain in the RO	Remain in the RO
Installations completed after 15 July 2009 but before FITs become operational	FITs from Introduction	One-Off Choice of FITs or RO	RO
Installations completed after FITs become operational	FITs	One-Off Choice of FITs or RO	RO

These proposals were generally supported.

DECC also proposed that generating stations that had become operational before 15 July 2009 but had *not* applied for RO accreditation before that date will not be eligible for FITs. This generated a strongly negative response, the main thrust of which was that it would alienate early adopters of these technologies, who are mostly strong supporters of the fight against climate change and champions for renewables in their communities, thereby discouraging others from following.

# 1 Feed In Tariffs

The consultation set out DECC's proposed design for the introduction of Feed In Tariffs (FITs) for small-scale low-carbon renewable generation. It proposed a structure with separate tariffs for generation and export determined by the type of technology and size bands. The consultation also set out the proposal for how the FITs would be accessed, eligibility criteria and also how the cost of providing FITs would be spread across suppliers.

The consultation received positive comments on its layout and respondents were generally supportive of the proposed structure and tariff bands, although some variations on the latter were suggested.

## 1.1 Tariff structure

The vast majority of respondents supported the proposed generation and export tariff structure.

Two of the key advantages of small-scale generation are the increased efficiencies arising from onsite electricity consumption and reduced transmission and distribution losses. Incentivising export alone runs the risk of generators not consuming electricity on-site and failing to capture these benefits.

All respondents thought that generators should be able to use the electricity they generate on their own sites.

A "feed-in tariff" (i.e. export tariff) alone was thought not to provide sufficient financial incentive for potential generators to invest in small-scale generation. Recognising all generation was accepted as the preferable approach, especially at domestic level, where households would be using a proportion of their generation on site.

Some respondents thought that larger generators, such as community-owned wind farms (which primarily export to the grid rather than use the electricity on site), should be treated differently to households and offered an enhanced export tariff, given that they would not benefit from on-site use. The respondents who did not agree with the generation tariff element commented that feeding into the grid would be the only way to promote energy efficiency and that that a generator adding no electricity to the UK market should not receive a subsidy.

The export tariff was also welcomed as both an incentive to invest and also to help with promoting energy efficiency, as generators would be inclined to minimise the amount of energy they use onsite in order to maximise the benefit they get from the export tariff. In contrast, some respondents suggested that the proposed export rate of 5p/kWh is too low to encourage households to reduce their energy consumption when the import tariff is much higher (9-12p/kWh), and that the export tariff should be set in line with the wholesale price.

The respondents that did not agree with introducing the export tariff thought that the existing market for export tariffs is sufficient and that most suppliers already offer commercial export-tariffs to small generators. Other comments were based around the need to keep the FIT as simple as possible – submitters thought adding different tariff elements would lead to a complex scheme design. Some respondents commented on the role that FITs can play in strengthening the UK expertise in the field of small-scale renewable electricity generation, creating more jobs and encouraging new product development. A premium for the UK manufacturers and technologies (such as Building Integrated Solar PV (BIPV) - solar tiles and glass laminates manufactured in the UK) was suggested. Many individuals commented on the need to ensure that residential FIT income should be tax exempt and that installations on commercial premises should be exempt from business rates. There was a suggestion that a premium could be provided for aesthetically pleasing installations and for the UK manufactured equipment.

## 1.2 Eligibility

In the consultation document, DECC proposed that installations over 5MW in capacity (50kW for gas fired CHP) should not be eligible for FITs. Overall, respondents agreed that the limit of 5MW (and 50kW for gas fired CHP installations) was reasonable.

Alternative proposals put forward by respondents included:

- A limit of 10MW for renewables and 100kW for gas-fired CHP;
- A limit of 2.5MW, as projects under 2.5MW were thought to be harder to finance and above the 2MW scale the majority of investors would opt for the RO;
- A limit of 1 MW;
- A limit of 3MW, as operators greater than this were considered “sophisticated” operators;  
A limit of 5kW for micro CHP

One respondent also thought the 5MW limit for wind installations is not required

One argument for altering the limits was that the increasing size of wind turbines means a 5MW facility is now relatively small, even for a community owned project. One respondent pointed out that many community owned wind farms are larger than 5MW, including one of the examples quoted in the 2009 Renewable Energy Strategy.

A number of submitters thought the CHP limit might incentivise the use of a number of individual micro CHP units instead of a single larger unit, and suggested that the 50kW limit for gas fired CHP would make installing a plant to a large multiple-occupancy accommodation (such as multi-storey blocks, which often house the most socially disadvantaged), impossible

Most of respondents thought that off-grid generators should be eligible for FITs. The main reason supporting this point of view was that the majority of off-grid inhabitants tend to use diesel generation to produce electricity. The availability of FITs for such communities could provide an incentive to reduce reliance on diesel and significantly lower their carbon emissions. No official statistics were provided, but one respondent suggested that there are between 50,000 and 100,000 homes not connected to the National Grid, including up to 40,000 families in vans, caravans and boats. Although the vast majority of respondents agreed that off-grid generators should be eligible for FITs, a number of issues were brought to our attention. Those included, but were not limited to:

- ensuring that the generated electricity is used for useful purposes and not wasted, although this may be difficult for technologies such as wind or PV, where the energy input cannot be switched off;
- ensuring that the FIT does not incentivise off grid generation where a site has the option of connecting to the grid, or promote the connection of consumers to private wire networks;
- potential challenges associated with auditing and accounting for the generation;
- one respondent suggested that a specialist organisation may be needed that could administer the FITs to off grid consumers and also police compliance with the rules;
- another suggested that smart meters could provide the necessary evidence;
- one industry respondent claimed that the costs of advanced ad of sewage sludge with CHP have been incorrectly calculated;
- an individual respondent thought that safeguards would not be necessary because off-grid generators tend to have battery storage, so any excess electricity would simply be stored.

Majority of respondents who did not agree with supporting off-grid generation thought it was unfair for customers of licensed electricity suppliers to be subsidising the cost of FITs for off grid generators.

The consultation document set out a list of technologies FITs would support and asked for comments. Respondents mostly agreed with the selection of technologies, but some thought the list was limited to better developed and more obvious technologies. Additional technologies were suggested, namely:

- *biofuels*;
- small scale energy from waste;
- wave;
- tidal;
- all technologies listed in the Energy Act 2008;

- non-electrical technologies, such as solar thermal and ground source heat pumps.

Respondents were divided on the question how technologies, for which a tariff was not offered from April 2010, should be treated. Approximately half of the respondents thought a new tariff bands should be introduced as a part of regular FITs reviews. This would allow for customisation of the support level in a way consistent with tariffs set for other technologies and scales.

It was recognised that technologies close to commercialisation phase should also be provided with a tariff level at the start of the scheme. Introducing a single tariff for all remaining technologies was thought to be the simplest way of addressing this issue.. Some respondents recommended tariff levels for this band, others suggested that this should initially be aligned with the present market value of export (9p/kWh).

Some respondents advocated a combination of both approaches and suggested new technologies that emerge before the next FITs review be placed in a “remaining technologies” band and moved to an appropriate band at the next review.

The vast majority of respondents agreed that mandating energy efficiency standards should not be a requirement for getting FITs. The cost of FITs support was thought to be potentially greater than that of traditional energy efficiency measures, therefore the importance of co-ordinated policies was highlighted to ensure that energy users are presented with a hierarchy of actions available to them.

Adding in energy efficiency requirements to FITs was thought to unnecessarily complicate the scheme and create barriers to the growth of low carbon distributed generation. Respondents also suggested that the majority of individuals or businesses wishing to install renewable generation at their sites are those most likely to already have undertaken energy efficiency measures and are now seeking to take further steps to reduce their carbon footprint.

Some respondents also noted that there are other programmes that focus on improving energy efficiency in houses and small businesses e.g. the EST, Building Regulations, CRC, etc, and that these dedicated policies are best placed to tackle energy efficiency.

As brought forward in the earlier section on the tariff structure, respondents thought that offering an export tariff also incentivised generators to be as energy efficient as possible to benefit from the export tariff.

On the other hand, respondents who felt that energy efficiency standards should be a requirement for FITs distinguished between the domestic and larger scale installations. At the domestic level comparisons were drawn to the Low Carbon Buildings Programme (LCBP), where recipients are required to self declare they have completed the basics in energy efficiency. It was also suggested that, in terms of cost per tonne of carbon saved, energy efficiency measures are more cost effective and should therefore be carried out before subsidising renewable electricity generation.

There was a suggestion that cost effective energy efficiency measures should be mandated. However, there was also recognition that this would add additional cost to the scheme. Some respondents suggested that the Home Energy Check (HEC) (or a simplified/adapted version) could be incorporated into the application process for FITs. This could include a link to the Energy Savings Trust, thus creating an automatic referral to an Energy Saving Trust Advice Centre (ESTAC).

There were a number of eligibility issues raised in addition to the above. They included:

- the need to link FITs to other policies such as the Carbon Reduction Commitment;
- landlord and tenant issues;
- ownership of buildings and what happens when a house is sold;
- DC meters not being Ofgem approved;
- utility supplier contracts: i.e. a generator can be with three separate companies, which will encourage competition, efficiency, and innovation;
- charities: the third sector and charities should be able to benefit from the domestic regime, rather than be treated like other businesses; charitable bodies should be encouraged to install renewable energy technologies through special provisions assisting with upfront costs for capital;

- hassle factor in relation to adding different meters for import and export
- the upfront capital costs of the equipment being the key barrier for domestic customers wishing to install microgeneration.

### 1.2.1 Financing

The majority of respondents agreed with the proposal not to offer upfront capitalisation as part of the FITs, which was thought to add further complexity and increase costs of the scheme. Some suggested that the guaranteed tariff rates should encourage the financial sector to offer products supporting the installation of renewable technologies and reference was given to existing schemes such as zero interest loans from the Carbon Trust and Enhanced Capital Allowances.

There seemed to be a consensus that householders would find it especially difficult to raise the finance for renewables if the finance sector did not come forward to “fill in the gap”.

Of the respondents that thought up-front capitalisation was necessary, majority indicated the need for a clear distinction between domestic and non-domestic installations. Submitters were of a view that financing installations for the domestic sector would still prove difficult given current financial situation, even if higher rates of return were to be offered. One respondent reported the results of extensive research into consumers’ attitude and willingness to pay for renewable electricity generation, stressing the fact that householders are reluctant to take up loans to pay for expensive equipment. Many have a strong aversion to having to pay commercial interest rates for doing something the government wants them to do.

The issue of loan availability for schools and community groups was also flagged up by respondents, who thought using equity to raise capital for investment was not a viable option for community groups.

There was also a reference to previous modelling work done by Element Energy, which suggested upfront capitalisation had been shown to lead to much higher uptake levels with a lower total scheme cost.

If upfront capitalisation was not offered, respondents suggested interest free loans, or higher ROIs would be required.

### 1.2.2 Ownership of installations: Assigning rights

- An overwhelming majority of respondents agreed that recipients of FITs should be able to assign their rights to others. Submitters justified this point of view saying that assigning rights to third parties could: attract customers who may not otherwise be able to purchase microgeneration technology;
- eliminate any issues regarding long term ownership of the equipment, particularly when customers are moving houses;
- allow companies to act as agents for individuals, thus shifting the administrative burden for the generator and encouraging the deployment of small units;
- encourage creative deployment models and innovative approaches to financing;
- encourage third party financing;
- reduce credit risk to equipment sellers and lenders;
- help incentivise generation rather than just installation;
- stimulate uptake of renewables among low income householders;
- enable local authorities to install renewables for their residents, businesses and communities - particularly for the fuel poor;
- help support community organisations using income from FITs;
- encourage the development of ESCOs.

The assignment of FIT rights raised a number of concerns amongst submitters. Several respondents thought there was potential for fraud and one of them referred to the Individual Learning Accounts (ILA) and the Coal Miner’s Compensation Scheme (CMCS) as examples of similar schemes that had been abused in the past. A number of respondents thought there was scope for unfair practices

towards householders and suggested a high level of consumer protection would be needed as a preventive measure. Some respondents suggested that legal implications of what happens when a property is sold need to be thought through and suitable changes made to ensure there are no impediments either to deploying renewables or to buying and selling properties. It was suggested that there should be more clarity as to what rights each of the parties has in such circumstances. Another issue that was thought to need more clarity about was the change of supplier process.

### **1.3 Accreditation, registration and connection**

Respondents agreed that there need to be appropriate accreditation, certification and registration procedures, which include consumer protection measures, and generally supported the proposals set out in the consultation document. Submitters thought that using existing mechanisms, such as the Microgeneration Certification Scheme (MCS), would ensure that the FIT is kept simple, while eliminating fraudulent certifications.

Respondents were of the view that the RO accreditation process for projects above 50kW and of the MCS for those below 50kW appeared appropriate. A number of respondents suggested that the accreditation system must not place a disproportionate administrative burden on generators or suppliers.

There was a comment that the MCS accreditation does not fit well with hydropower, which is bespoke and outside the permitted development provisions of planning regulations, and it was suggested that small-scale hydropower schemes seeking FIT support should be able to self-certify through similar arrangements in the RO registration, although some respondents felt the RO process was too onerous.

Many of the concerns about accreditation related to the MCS, where respondents thought non-MCS-accredited installations should be entitled to register for FITs and the requirement for certification would discriminate against DIY installations. As an example, respondents referred to rural areas, where there is often no local MCS installer available. The MCS scheme was also thought to be costly and, as such, only open to dedicated installers. Respondents thought this was likely to create a barrier to participation for smaller businesses, such as microgeneration market entrants, local builders and electricians..

Some stated that it is the generation of renewable electricity that should count, not whether the generation plant has been certified. As the FIT scheme rewards generation, it was suggested that to be “accredited” one should only need to prove that the plant runs on renewable energy sources, not that it meets a particular level of performance. There were also distinctions made between the installation and the kit with regards to MCS.

A centrally managed system to track which FITs generators are eligible to receive which FITs payments was seen as essential for the scheme to operate. However, a number of issues regarding data protection were raised, such as who would own this database and what would happen if a generator changed a supplier.

### **1.4 Metering**

The majority of respondents agreed that installations receiving FITs should be metered. Some submitters commented on the need to clarify how appropriate meters are installed, who owns them and pays for them. It was suggested that suppliers are unlikely to pay for export, unless there is certainty regarding the amount (and possibly time) of generation that can be clearly demonstrated.

Metering generation was thought to potentially create additional issues for the FITs scheme, As an example, respondents referred to a situation where generation falls short of that suggested by the manufacturer or installer, which would affect the economic balance of the installation and could lead to complaints. One submitter stated that, as all Ofgem-approved total generation meters are 230V

AC, in case an off grid system does not operate at this voltage, new meters would need to get Ofgem approval.

There was a suggestion that it would be sensible to delay the requirement for export meters until the introduction of smart meters.

An installer and several suppliers thought that clarification was needed on how appropriate meters should be installed, who owns them and pays for them. In particular, the following set of questions was brought up:

- Who is responsible for the installation and maintenance of the metering equipment?
- Whether there will be minimum standards for that metering equipment?
- Who is responsible for the meter reading process and accuracy?
- How will suppliers receive readings from a generation meter before roll out of smart meters?
- How will disputed readings be addressed?
- What is the error rectification process for customers and suppliers?
- Will there be rights of entry to read and inspect meters?

Some respondents thought that suppliers' settlement systems may not be able to cope with large numbers of microgenerators and that it may not be possible to get them up to standard by the time the FITs are introduced. Quotations include:

- "it appears unlikely that ... new settlement procedures, will be in place by April 2010";
- "suppliers will need to do a lot of work to update processes and systems to support FIT, and changes may be needed to settlements. this will take time to achieve and to be fully automate";
- "export metering will initially be difficult as settlements may need to be changed and suppliers systems will definitely need changing. it is too late to achieve all of this by April 2010";
- "export metering will initially be difficult for non half hourly scale customers, as settlements may need to be changed and suppliers systems will definitely need changing. it is too late to achieve all of this";
- "it is unrealistic at the launch of FIT to expect changes to have been agreed and implemented to enable settlement systems to recognise exported electricity";
- "the government should put in place contingency plans until it considers that adequate metering and settlement arrangements are operational".

One industry respondent commented on the cost of installing interim export metering solutions prior to the roll out of smart meters:

- "Providing a guaranteed export tariff should be straightforward for larger customers (with installations >30kW) who have or can have half-hourly metering installed – the electricity use can already be settled through balancing and settlement system. For generators at the residential and small business scale, a non-half hourly (NHH) export meter would be required to record the energy exported to the grid. NHH export meters are available and would cost around £100 to install. This is calculated as a conservative estimate as 5p/kWh over 4 years at 500 kWh generation per year – this charge could be equivalent or even more than the proposed value of the export tariff. As it is likely these new meters would need to be replaced after only a few years with the roll out smart meters, they would become stranded assets with sunk costs."

This same respondent also cast doubt on the feasibility of suppliers' systems for export tariff administration being ready by April 2010, suggesting that short term manual meter reading approach will be required.

One finance sector, several Local Government and NGO respondents also raised the issue of the cost of metering, especially if separate generation and export meters are required for each technology, and its potential to deter uptake of especially microgeneration technologies.

One manufacturer suggested that regardless of an approach adopted, there should be no delays in the uptake of microgeneration products until smart metering or new settlement procedures are fully rolled out.

A public sector respondent mentioned the gap between the introduction of FITs and the official rollout of smart meters, and suggested that FIT generators should have smart meters as soon as they have been accredited. Another suggested that those installing renewable energy systems should be at the front of the queue for smart metering.

## 1.5 Finding a supplier and getting paid

DECC proposed that all suppliers with 50,000 or more residential customers be required to offer FITs. Small suppliers can be a source of innovation in the market, and many have strong green credentials. However as DECC does not want to create unnecessary burdens on them, it was proposed that all suppliers could offer FITs should they choose to.

A large proportion of respondents thought that all suppliers should be obliged to provide FITs, as this would ensure competitiveness. Several implied that small and large suppliers (many agreeing with the 50,000 customers threshold) should be treated differently in this respect, with small suppliers having less onerous requirements placed upon them. Submitters flagged up that, in case of several large generators joined a small supplier simultaneously, there may be problems with cash flow until the supplier is compensated through the levelisation process.. It was also suggested that small suppliers could have a generation capacity limit beyond which they would not have to accept a generator. This was however thought not to be extended to large suppliers.

Other comments included:

- if the whole grid system is to benefit from reduced demand and extra electrical input, the provision of FITs needs to be across the whole country;
- the uniform FIT-provision requirement will ensure generators are able to choose which supplier they use, maximising consumer choice;
- it would be potentially in the best interests of retail competition to remove the administrative burden for all suppliers to have to deliver FIT;
- it is important that introduction of FITs does not restrict customers' ability to choose their import supplier - a customer should not have to switch to a FITs obligated supplier for their imported electricity to gain access to the scheme;
- if suppliers can decide their own procedures for paying generators, generators must have the flexibility and freedom to switch suppliers;
- imports and exports should come within the same supply agreement;
- FITs should not inhibit generators' ability to switch import suppliers (independently from their export contracts), as this would be an impediment to competition in the market, and stop utility companies charging a premium for supplies to generators with large FITs;
- wherever possible, existing volume-capable billing systems should be used - this will minimise the administration cost of the FIT;
- the option of suppliers providing tariffs only to those they supply would be problematic for those tied in to current import contracts;
- there could be issues if small suppliers were faced with the obligated-purchase of renewable export under the FIT at a price above 2p/kWh without recompense through the levelisation process;
- allowing for a separate FIT supplier from the electricity supplier is likely to cause complications;
- to simplify the design of the policy, the same suppliers should be purchasing the exports and providing FITs payments.

Other suggestions and viewpoints included:

- suggesting the provision of FITs should be done through the normal utility supplier and be simply added to the existing billing system;
- managing FITs in a similar way to the RO, as this is a recognised mechanism;
- lifting the requirement for suppliers to offer FITs to non-customers because this will add unnecessary additional complexity and cost for no tangible benefit;
- offering of FITs could be administered by a third party.

## 1.6 Generation tariff bands and levels

The Micropower Council, Combined Heat and Power Association and the Heating and Hot Water Industry Council all thought that micro-CHP needs to be offered a tariff and this should be at least 15p/kWh at the start of the scheme.

Many respondents thought there was scope for gaming at the thresholds between bands. In particular, there will be significant incentives to split installations or to undersize:

- wind above 500 kW to below 500 kW;
- PV above 5 MW to below 5 MW;
- hydro above 1 MW to below 1 MW;
- biomass above 50 kW to below 50 kW;
- small scale non renewable CHP from above 50 kW to below 50 kW.

There were a number of responses suggesting the income should be exempt from income tax and the energy should be allowed to be counted against CRC.

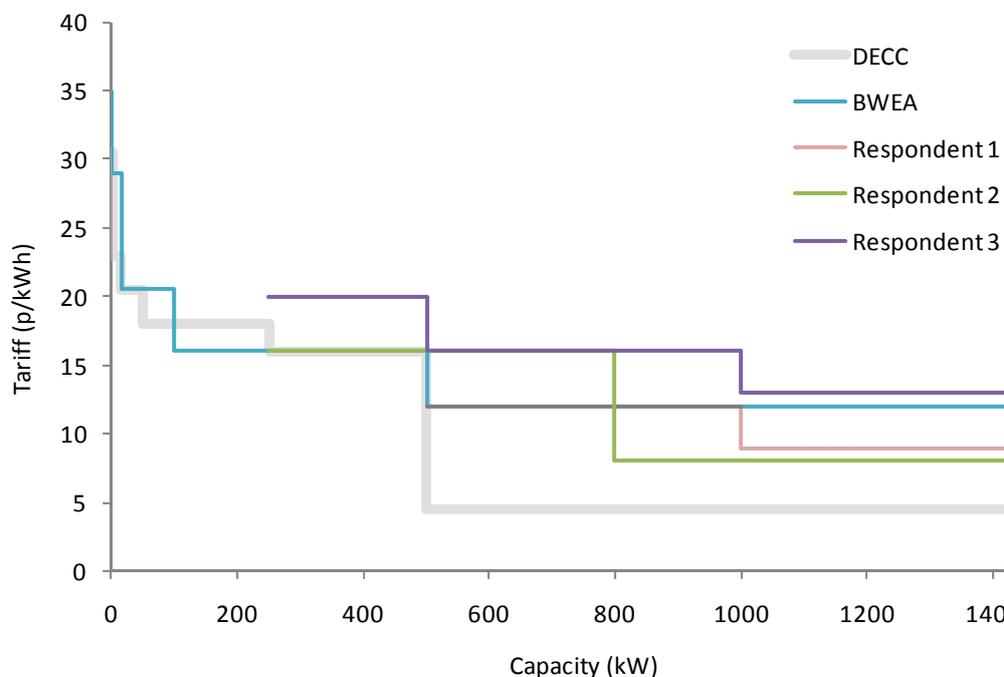
Other comments included:

- “size range for the top biomass band (50kW–5MW) is much too large; we believe that the technologies used in this range justify three bands (50kW–1MW, 1-2MW and 2+MW)”;
- an interim band of 800kW to 2MW should be created for wind;
- AD needs two bands to differentiate between plants operating on farm waste and those using feedstock from municipal and wet industrial waste.

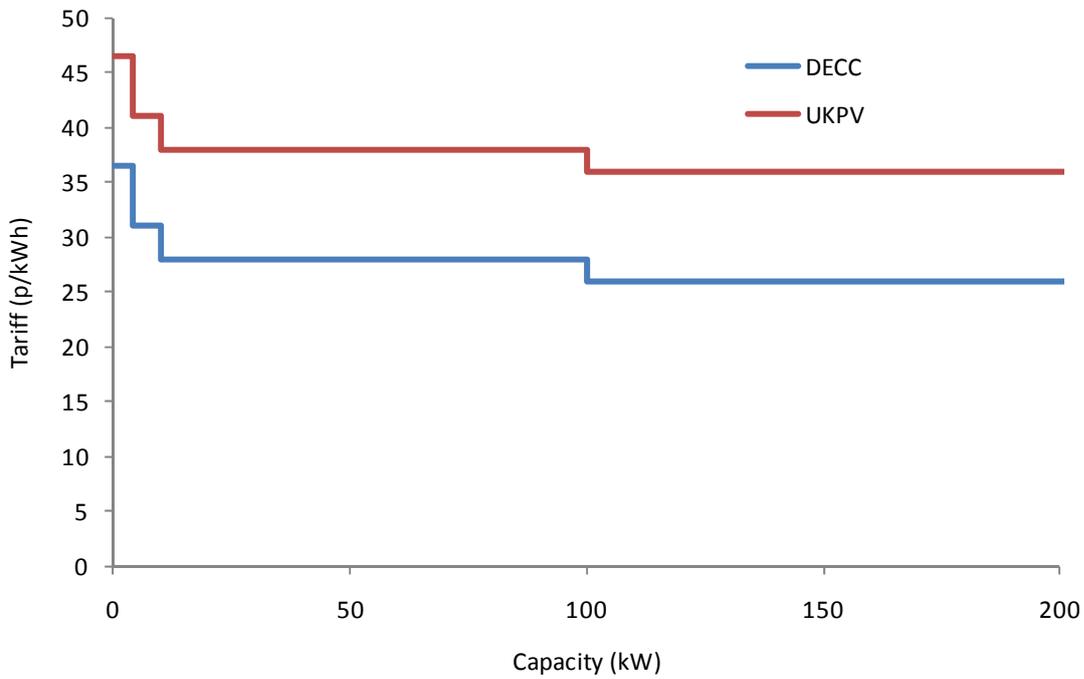
A large number of respondents thought the tariff levels for PV were too low and the depreciation rate of 7% too high.

Several respondents suggested detailed alternative banding structures. Figures 1, 2 and 3 below present some respondents' alternative suggestions for tariff structures for wind, PV and hydro.

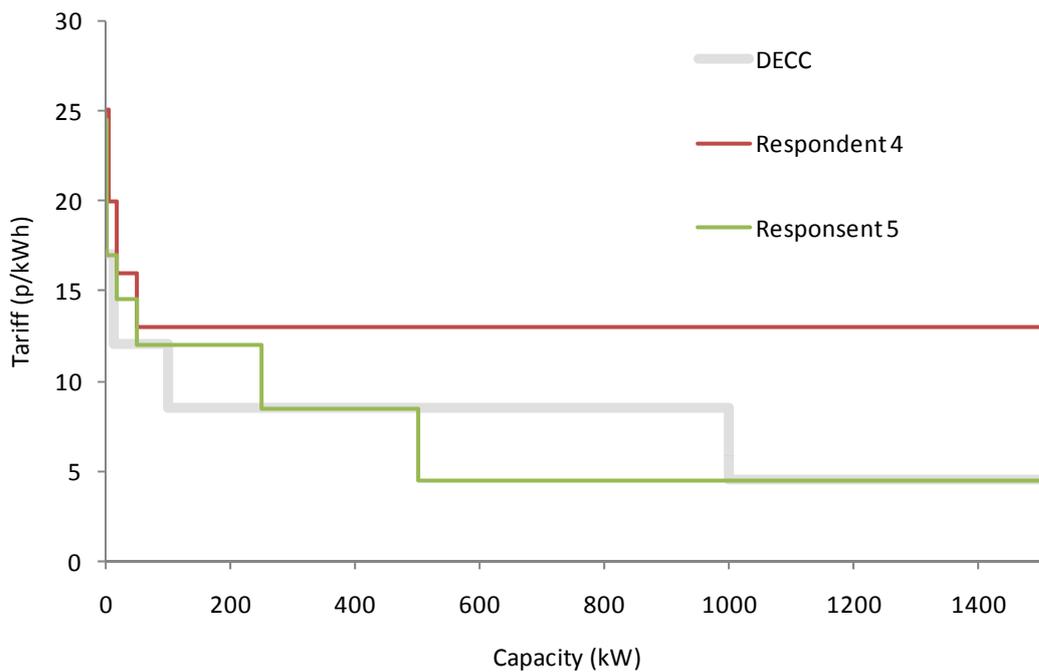
**Figure 1 – Comparison of DECC's proposed tariff structure for Wind with alternatives proposed by respondents**



**Figure 2 – Comparison of DECC's proposed tariff structure for PV with alternatives proposed by respondents**



**Figure 3 – Comparison of DECC's proposed tariff structure for Hydro with alternatives proposed by respondents**



Several suppliers said that the German market, which the consultation document had used as a comparison, is different to the UK one in that it has a more mature supply chain and cheaper loans. One supplier called for clarification of the tax regime for payments from the FIT at an early date.

One supplier carried out its own detailed modelling and concluded that the proposed feed-in tariff levels should provide a sufficient return to encourage private investment. Particular issues for further consideration include:

- tariff levels for solar PV should be set higher to achieve the target returns of 5-8% and encourage deployment;
- to drive initial investment in the early years, degression should be introduced later, e.g. on review in 2013;
- 10 years is an appropriate duration – longer lifetimes of up to 20 years give rise to difficulties in securing financing from capital markets.

Over 100 individuals and a few organisations submitted identically worded responses copied and pasted from <http://wesupportsolar.net/>, calling for an extra 10p/kWh for PV.

### **1.6.1 Export Tariff**

Most respondents supported the proposed level of the export tariff. Those that did not agree with the proposal, suggested a wide range of alternatives. Viewpoints varied, with one supplier saying that “anything above 2p/kWh is excessive”, to a generator suggesting 18p/kWh, based on levels available in other countries.

Suppliers generally did not think 5p/kWh is the right level and most of them suggested it should be set equal to the wholesale price instead.

One respondent made the point that electricity exported from microgeneration is likely to be consumed a very short distance away, and so would not incur distribution and transmission losses, adding that “consumers have great difficulty understanding how they can be paid (say) 5 p/kWh for their export, whilst their neighbour buys it from the supplier at 15 p/kWh.”

Some respondents suggested a lower size level, below which an export tariff would not apply, e.g. 30kW.

Others thought the export tariff should also be redistributed through the levelisation process.

Many respondents thought the export tariff should be index linked.

## **1.7 Reviews**

The majority of respondents agreed with the review process outlined in the consultation document, and a number of respondents thought that FITs should not be retrospectively altered once an installation is generating - this was seen to undermine the basis on which the initial investment decision was made.

Respondents did not have a strong view on the timings of the reviews, although to aid investment decisions, the timing and processes for conducting FITs reviews should be pre-defined, clear and transparent.

Some suggested that the introduction of degression should be postponed. If this was not adopted, it was suggested that a mini review at the end of year 1 would also be useful.

## **1.8 Providing FITs to those on low income**

Many respondents felt that the FITs scheme should not be used to address fuel poverty issues. As suggested with energy efficiency, the dedicated fuel poverty policies were seen as best placed to address the issue. There was also a comment that fuel poverty is largely related to heating requirements and the difficulties in achieving an adequate standard of warmth. The Heat and Energy Savings Strategy (HESS) and the future of Community Energy Saving Programme (CESP) were therefore thought to be more significant for tackling fuel poverty. However, there was a recognition that, as a result of FITs, there would be a likely increase in electricity cost, hence its effect on those on low income should also be considered.

There is a need to ensure that fuel poor households are not excluded from participating in the FIT and some respondents urged the government to ensure social enterprises, ESCOs, public institutions, social housing providers etc. are sufficiently incentivised and have sufficient expertise/capacity to be able to use the FIT to help alleviate fuel poverty.

There was a number of concerns raised about the FIT scheme not considering the effect on the fuel poor and low income households in terms of cost impact and their ability to access FITs. Submitters thought the cost of the scheme would impact the fuel poor, especially when added together with the costs of other energy policies. Respondents were also concerned about the households which would benefit most from reduced energy bills not being able to access FITs, just because they cannot afford the kit.

## **1.9 Supplier issues**

### **1.9.1 Levelisation**

Responses to question 55 about the levelisation process came mainly from generators, industry and the suppliers. A levelisation process to re-distribute FIT payments among generators was welcomed, with respondents suggesting that a formal process would ensure the scheme works effectively.

A common theme emerging from the responses was that the process should be fair and that the methodology used to calculate the levelisation should not cause any unnecessary advantage or disadvantage to any supplier. To ensure this, the process needs to be transparent and cost effective.

Cash flow implications, especially with regards to the smaller suppliers, were of main concern in the levelisation process as proposed. Submitters suggested a number of ways to address this issue, with most of them based around the timing of the process, and some suggesting that initially the process should be run on an annual basis. Some respondents also thought that more frequent payments are necessary if small suppliers (who are generally the green energy suppliers) are to be able to participate, and some suggested that the levelisation process be carried out before FITs payments are made to the generators. A number of responses indicated the need for the levelisation process to be designed to minimise cash flow impacts resulting from the number of FIT customers a supplier has. There was also a suggestion that small suppliers should be able to claim the levelisation payments in tandem with payments to their generators.

There was a comment calling for the levelisation process to be more closely aligned with the RO to incentive suppliers to promote FITs among their customers. Some respondents also thought using a per MWh mechanism of establishing levels of contribution from suppliers would provide some protection for the fuel poor and low income households, who typically have lower levels of usage.

### **1.9.2 Costs to suppliers of providing FITs**

Most respondents thought that suppliers should be able to recover fixed costs. There were a number of suggestions as to what should and should not be included in the levelisation process. Suppliers generally thought that all costs incurred in offering FITs should be included. These costs include, for instance:

- loss of profit/under recovery of costs on imports;

- set up costs for administration of FIT and export payments;
- operational costs of administering FITs;
- costs of the distribution and transmission system, metering costs, and environmental and social costs; and
- costs associated with the levelisation process itself.

A number of responses suggested the levelisation process should not include the export price (as the supplier will then sell this on), however, there was a suggestion that any difference between the export tariff and the value of electricity be included in the process, so that suppliers can be compensated for any unforeseen fluctuations in the value of electricity. A “cap and collar” mechanism was also suggested to protect suppliers from costs and prevent generators from making undue profits from the scheme.

There was also a suggestion that the level of administration cost suppliers can claim should be limited to ensure they are operating the FITs system as efficiently as possible, especially as these costs are likely to be passed on to consumers. Not allowing for recovering fixed costs was seen as being likely to encourage competition. One respondent suggested allowing smaller suppliers to recover a higher administration charge than the larger suppliers.

Several suppliers called for FITs payments to be administered by a dedicated agency, rather than by suppliers, and one suggested that the costs incurred by all licensed suppliers in facilitating the FITs subsidy payments would far exceed the costs of a central agency.

### **1.9.3 Auditing, assurance and enforcement**

The majority of respondents agreed with the proposals set out in the consultation document for auditing and assurance, confirming that using existing procedures where possible was sensible. In addition, respondents thought it was important that suppliers have a right of entry to where FITs generation plant is installed to check metering equipment and validate readings.

Feedback received from submitters indicated the need for auditing to ensure that only eligible and accredited installations claim FITs income and that the systems have actually generated over the life of FITs. Respondents also suggested consideration needed to be given to minimising the opportunity for fraud.

A light-touch yet robust approach to auditing was recommended at the domestic level to ensure potential customers are not discouraged from participating in the FITs scheme. Clear data sharing between organisations involved was thought to potentially reduce the requirement for in-depth auditing.

There were also comments about the MCS scheme being an inappropriate scheme to regulating installation.

Potential unforeseen issues suggested include:

- the ability for suppliers to identify FITs customers, which would ensure effective administration of the scheme. There are existing mechanisms that could be used to support this such as the ECOES database;
- householders may fear that if suppliers have access rights to their properties for meter reading, they would use it as an opportunity for aggressive selling of other products and services;
- customers are already confused by the bill layout. Allowing the energy suppliers to administer FITs would only make this situation more confusing for customers;
- dispute resolution procedures may be needed to ensure fairness to both generators and suppliers;
- suppliers are obliged to give notice of changes to tariff levels within 65 days - this needs to be considered to enable suppliers to pass on the costs of the FITs;
- a central delivery mechanism would be more cost-effective than requiring all licensed electricity suppliers to develop complex administrative schemes;

- the most significant issue for suppliers will be the ability to implement the operational procedures and system changes in time for the planned start date of 1 April 2010.

## 1.9.4 Technical and Administrative issues

### Definition of an installation/site

A majority of respondents agreed with the proposed definition of 'installation' (which was described as a single technology at a single site), but a few proposed variations on this theme including:

- a single technology at a single site with a single owner;
- a single technology at a single site with a single total generation meter;
- same technology, same site, grid connected at the same time, or within a 12 month period;
- all plant that shares a single grid connection point;
- a system connected to one generator (alternator);
- there must be entry of raw material to the system to be classed as installation
- all plant inside a defined boundary, or inside a radius of x km.

Many respondents suggested some desirable characteristics of the definition of an installation. These included:

- should be clear and simple;
- should avoid the potential for gaming;
- should prevent splitting installations into two or more smaller ones to get into higher revenue bands, e.g. district heating schemes shouldn't be disincentivised in favour of a larger number of individual household installations. One supplier presented the results of a calculation showing that FITs revenue from two 500 kW wind turbines would be more than double that from a single 1 MW turbine;
- should have an appeal mechanism;
- should be aligned with existing definitions, especially the one in the RO.

Several respondents emphasised the need for a clear definition of 'site', with some making reference to community owned schemes and the difficulty these have where it is not wholly owned by the community.

### Checking installations

A majority of respondents thought that checks to verify an installation were required. The following approaches were suggested for checking that installations conform to their definitions:

- on-site spot checks should be required on a sample of FITs generators to ensure that they are operational;
- monitor electrical output and flag up any inconsistencies with accredited capacity;
- accredited installers should carry out the check or make a declaration that the physical plant actually is what accreditation is applied for;
- self declaration with random audits;
- suppliers should carry out the checks, since they are the ones who would bear the risks of errors and fraud.

Several respondents said they thought the checking regime should be light touch, and that care should be exercised in dealing with householders, clearly explaining what the checks are for and that suppliers should put appropriate processes in place to check the information provided as part of the registration process.

### Installations over multiple years

The most popular approach to dealing with plant installed over multiple years seemed to be that the new plant should be treated as a separate installation with its own meter.

Other suggestions included:

- additional capacity added within 2 years of the initial installation should be counted as the same installation and get the same tariff;

- where generators increase capacity over time at a single site, degression should continue from the date of the first installation at the site;
- re-rate the entire site upon addition of another installation i.e. potentially down grading the tariff applicable to the first installation.

Several respondents raised questions regarding this issue, e.g.:

- If additional capacity takes the installation through a threshold, should all of the new capacity get the new band, or only some of it?
- What happens if a FIT-eligible system is extended with a FIT-ineligible?

## **2 Cross Cutting Issues**

### **2.1 Transitional Arrangements**

#### **2.1.1 Existing generating stations not already accredited under the RO**

There was strong disagreement with the proposal for generating stations that had become operational before the publication of the RES (15 July 2009) but that had not applied for accreditation under the RO before this date, not be eligible for FITs. The main reason given being:

- Early adopters of these technologies tend to be green enthusiasts and community groups, who are champions for renewables in their communities. Excluding them from rewards given to others could alienate the very people who are most supportive of the fight against climate change - this could disincentivise others from following suit, and the number of installations would be small and would not have a large financial implication.
- Some early adopters took their lead from signals given in the 2008 Energy Act, rather than the Renewable Energy Strategy.
- Many installers have sold systems on the expectation that they will be eligible for FITs, and it now turns out they will not be eligible.
- Part of the rationale for introducing FITs was that the RO was unsuitable and too complex a way of rewarding microgenerators. Prohibiting those, who have not used the RO, from benefiting from FITs does not recognise one of the fundamental reasons for introducing it in the first place.
- It could create a perverse incentive for people to decommission ineligible existing plant, have it refurbished and re-installed.

In addition, several respondents said that:

- Costs for early adopters are higher than for later adopters, and they also have other burdens such as the need to go through planning, which no longer apply – it therefore seems unfair to allow them a much lower tariff than later adopters.
- For existing RO registered micro generators, 9p/kWh seems very low compared with the tariffs for new ones.
- Some householders are already receiving tariffs from suppliers that are higher than the FIT they will get.

#### **2.1.2 Generating stations installed during the interim period**

The majority of respondents agreed with the proposed approach for plants installed during the interim period.

- One respondent said that for some technologies < 50kW, FITs can be less advantageous than ROCs. If an investor invested in an installation on the basis of projected ROCs income, their investment would be devalued.
- One respondent thought the proposal in para 4.14 regarding small generators who decide to switch to FITs in 2010 being transferred in March 2011 is unfair, as someone who chose FITs in December 09 would get 18 months more FIT than someone who chose in Jan 2010.

The opinions on conditional access to FITs for non-household installations built during the interim period, depending upon repayment central Government grants, were split with a slight majority against this idea.

- Many respondents said they thought that community groups would be unable to raise the finance to pay back their grants.
- Some said that they weren't aware when they claimed their grants that they would have to pay them back in order to receive FITs.

- Several thought that schools ought not to have to pay back grants. One respondent suggested that commercial entities should repay their grants but not parish councils, schools or community groups.
- Several respondents said it was unclear whether grants from the EU, RDAs and devolved administrations counted as central government.

### **2.1.3 New generating stations**

The consultation proposed that:

- generators up to 50kW, who would be eligible to receive support through FITs, will no longer be able to apply for accreditation under the RO;
- generators above 50kW will have a one-off choice between the RO and FITs;
- NFFO stations will go into the RO when their NFFO contract expires, but will not be eligible for FITs.

There was general agreement that new projects <50kW should not be eligible for the RO.

One supplier thought that NFFO contracted stations should not be eligible for either RO or FITs.

One individual thought that all new and existing generators should be treated equally.

Some respondents were concerned about generators in the 50kW – 5 MW band, who would be given the choice of taking a FIT or the RO, and the impact this may have on the RO and calculation of the obligation, especially as no time limit was suggested in the consultation for generators to stipulate which incentive they wanted to claim.

## **2.2 CHP: Overlap between RO, RHI and FITs**

Most respondents agreed with the proposal to decouple heat and power. Issues identified during consultation included:

- The choice of heat to power ratio could be driven by the relationship between the levels of support for electricity and heat, rather than by technical considerations.
- Need to ensure that only heat that is actually used is supported.
- Organisations that have made large investments on the basis of the current system should not be made worse off by the transition to the new regime.

## **2.3 Interaction with other policies**

Respondents were largely in favour of the proposal for the FITs scheme not restricting access for projects covered by other schemes. Several respondents thought care should be taken to prevent from carbon benefits of a given project being rewarded more than once.

Respondents from all categories asked for more clarification on how the scheme would interact with other policies, especially CERT/CESP and the CRC.