



Renewable Electricity: Feed-in Tariffs and The Renewables Obligation

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The Renewables Obligation (RO) and Feed-in Tariffs (FITs) are part of the Government's strategy for increasing renewable electricity generation. This is necessary because the UK has an EU target for renewable energy of 15% by 2020, a significant proportion of which is expected to come from electricity.

The Renewables Obligation, as originally introduced in 2002, was criticised for being too complicated, particularly for small generators, and not distinguishing between different technologies in need of varying levels of support. These issues have now been addressed. The first by the introduction of Feed-in Tariffs for generators of less than 5 MW; the second by introducing banding for the different technologies, which will be reviewed regularly. The main criticism that has been made of FITs, which is not limited to the UK, is that they are an expensive way of stimulating renewable generation.

The first review of FITs was due in 2013 but was bought forward. The Government was concerned about the increasing number of large photovoltaic projects under FITs and the low level of anaerobic digestion schemes so far. The Government published a consultation in which it proposed a scaled reduction of the tariffs for solar projects of above 50kW. These changes were confirmed in June 2011, to be implemented in August 2011.

The review of banding for RO Certificates is also underway. The Government intends to announce the changes to the RO, to be implemented in 2013, by the end of 2011 to ensure greater investor certainty.

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1 Introduction

The UK renewable energy target for 2020 is 15%, as part of the EU overall target of 20% by 2020. Renewable electricity is expected to play a significant role in this with projections showing that at least 30% of electricity will need to be from renewable sources if the UK is to have a good chance of meeting its target. In 2009 this figure was only 6.6%.

There are currently two incentive schemes for renewables. The Renewables Obligation (RO) was introduced in 2002 as the main support scheme for large renewable electricity projects, over 5 Megawatt (MW). Since April 2010 Feed-In Tariffs (FITs) have been available for schemes smaller than this, with the aim of increasing microgeneration.

2 The Renewables Obligation

The RO places an obligation on UK suppliers of electricity to source an increasing proportion of their electricity from renewable sources. They do this through purchasing a Renewable Obligation Certificate (ROC) issued to an accredited generator for renewable electricity. It is proof that a certain amount of electricity has been generated from a renewable source.

A renewable generator therefore has two sources of income. Income generated from the sale of electricity to the wholesale market - which does not distinguish between renewable and non-renewable energy - and income from the sale of ROCs.

Originally one ROC was issued for each megawatt hour (MWh) of eligible renewable output generated. Since April 2009, the RO has been banded to provide more targeted levels of support to different renewables, to reflect differences in technology costs and market readiness.

2.1 Supplier Obligations

Until 2009, the obligation level was set in terms of percentage of a supplier's sale of electricity:¹

Table 1: Obligation levels for 2009/10 forwards

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
England and Wales	9.7%	10.4%	11.4%	12.4%	13.4%	14.4%	15.4%
Scotland	9.7%	10.4%	11.4%	12.4%	13.4%	14.4%	15.4%
Northern Ireland	3.5%	4.0%	5.0%	6.3%	6.3%	6.3%	6.3%

This was changed so that the obligation is now expressed as a required amount of ROCs per MWh (megawatt hour) of a supplier's sales. For the period running from 1 April 2010 to 31 March 2011 this has been set at 0.111 ROCs per MWh.² Suppliers can meet their obligations under the RO in one of three ways:

- presenting Ofgem with Renewables Obligation Certificates (ROCs) to the full value of their obligation;
- using a buy-out clause which allows them to pay £35.76 [2008-09 level] per MWh for any shortfall; or
- using a combination of ROCs and buy-out.³

At the end of an obligation period the buyout fund is recycled pro rata to all suppliers who presented ROCs. ROCs are also tradable; in this way a market value is provided for electricity generation from renewable sources. On 27 January 2011 the average price for ROCs was £48.06.⁴ The *Renewables Obligation Order 2009* (SI 2009/785) came into force on 1 April 2009. Part 2 of Schedule 2 of this Order introduced banding for different technologies, fixing the rates from 2009 to 2013:

¹ Department of Energy and Climate Change, [Calculating the Level of the Renewables Obligation](#), 2009

² Department of Energy and Climate Change website, [Renewables Obligation](#)

³ Ofgem, [Renewables Obligation - total obligation levels for 2008-09](#), August 2009

⁴ [E-ROC online auction service website](#) [on 15 February 2011]

AMOUNT OF ELECTRICITY TO BE STATED IN ROCs GENERALLY

<i>Generation type</i>	<i>Amount of electricity to be stated in a renewables obligation certificate</i>
Electricity generated from landfill gas	4 megawatt hours
Electricity generated from sewage gas	
Co-firing of biomass	2 megawatt hours
Onshore wind	
Hydro-electric	
Co-firing of energy crops	
Energy from waste with CHP	1 megawatt hour
Geopressure	
Co-firing of biomass with CHP	
Standard gasification	
Standard pyrolysis	
Offshore wind	
Dedicated biomass	$\frac{2}{3}$ megawatt hour
Co-firing of energy crops with CHP	
Wave	
Tidal-stream	
Advanced gasification	
Advanced pyrolysis	
AD	
Dedicated energy crops	$\frac{1}{2}$ megawatt hour
Dedicated biomass with CHP	
Dedicated energy crops with CHP	
Solar photovoltaic	
Geothermal	
Tidal impoundment – tidal barrage	
Tidal impoundment – tidal lagoon	

2.2 Renewables Obligation Banding Review

The *Energy Act 2008* introduced a legal obligation on the Government to review the banding of ROCs on a regular basis. The first review was initiated in 2010 for changes to be introduced in 2013. The previous Government set out details of the [Renewables Obligation Banding Review Process](#) in a document published in March 2010:

1.1 The Renewables Obligation Order 2009 (the ROO 2009), which came into effect on 1 April 2009, introduced a number of changes to the operation of the Renewables Obligation (RO). The most significant of these was the introduction of banding, which established differentiated levels of support for different technologies according to a number of factors including their level of development.

1.2 We agreed that we would review the bands for all technologies at regular intervals to ensure that as market conditions and innovation within sectors change and evolve, developers continue to receive the correct level of support necessary to maintain investment in the renewables industry.

1.3 The requirement to carry out these regular banding reviews comes from the Electricity Act 1989 (as amended by section 37 of the Energy Act 2008), the primary legislation for the RO, which states after the first order containing banding provisions is made, no subsequent orders containing banding provisions can be made unless a banding review has been carried out. The secondary legislation, the ROO 2009, provides that regular banding reviews of all the banding provisions may be commenced at 4 yearly intervals, with the first commencing in October 2010. The ROO 2009 also provides for all or any of the banding provisions to be reviewed at any time if certain conditions are met. We refer to these reviews as early reviews.

The current Government's intentions for the review, including examining the possibility of extending FITs to large generation schemes, were set out in the following written answer in September 2010:

Elizabeth Truss: To ask the Secretary of State for Energy and Climate Change what plans he has for the future of the Renewables Obligation scheme; and if he will make a statement.

Charles Hendry: The coalition agreement makes clear our commitment to maintaining a banded Renewables Obligation, and not changing the ground rules for existing investments. We are also committed to implementing a full feed-in-tariff, with the aim of securing a significant increase in investment in renewables so that we can meet both the legally binding renewable energy-target in 2020, and our longer term decarbonisation objectives.

We are still working through the details of such a feed-in-tariff, any changes made to the support mechanism will be considered in light of wider electricity market reform.

Elizabeth Truss: To ask the Secretary of State for Energy and Climate Change what the timescale is for his Department's review of the Renewables Obligation scheme banding levels.

Gregory Barker: A banding review is scheduled to begin in October 2010 with changes to be introduced on 1 April 2013.⁵

A further response in October 2010 set out at what stage the review was at:

Gregory Barker: My officials are currently in the process of appointing independent consultants to carry out the scheduled banding review of the renewables obligation. This will look at the support level for biomass technologies.⁶

Subsequently the Government announced that they will be bringing forward the review to increase certainty for investors. The intention is to agree by mid-2011 any changes that will be introduced in 2013.

Developers of new large-scale renewable electricity projects will get earlier and greater certainty about how much support they will receive under the Renewables Obligation from 2013, Energy Minister Charles Hendry announced today.

Industry will now get an indication of the support they will receive for new large-scale projects that start generating renewable electricity from April 2013, as early as mid-July 2011. Under previous arrangements, support levels were not due to be finalised until Autumn 2012, meaning developers had been reluctant to start projects with long construction periods.⁷

3 Feed-In Tariffs

The Labour Government developed the Renewables Obligation specifically to encourage large-scale renewables. It is a fairly complicated scheme and was not successful in encouraging small scale domestic generators. From 1990 to 2007, the percentage of

⁵ HC Deb 8 September 2010 c552W

⁶ HC Deb 18 October 2010 c481W

⁷ DECC Press release 2010/126, [Faster review of support for Renewable electricity to provide investor certainty](#), 8 December 2010

electricity generated from renewables in the UK only rose from 1.6% to 5.1%. For the same period in Germany - with feed-in tariffs in place - generation rose from 4.3% to 15%.⁸

FITs are much more straightforward. Suppliers are obliged to pay a higher unit price for electricity from renewable generators than for electricity generated from other sources. Because of this FITs have been particularly successful in bolstering domestic microgeneration in European countries.

3.1 Energy Act 2008

Repeated calls were made for the Labour Government to move away from the RO and introduce FITs. However they were concerned about the impacts on the large-scale commercial generation, where market certainty is particularly important.

As a result the Labour Government introduced FITs - for smaller schemes only - shortly after the creation of the new Department of Energy and Climate Change. The Secretary of State, Ed Miliband, introduced an enabling clause at a late stage of the *Energy Act 2008* to allow the introduction of tariffs for small-scale microgenerators up to 5MW output. The Labour Government consulted on the details of the scheme in July 2009 in its [Consultation on Renewable Electricity Financial Incentives 2009](#) and FITs became effective from 1 April 2010.⁹

The FITs scheme works alongside the Renewables Obligation (RO). It is intended to provide financial incentives for people and businesses to install small-scale electricity-generating technologies such as solar electricity panels and wind turbines. Individuals and businesses eligible for the scheme are paid a set amount per kilowatt hour (kWh) they generate and use themselves, which will vary according to the type of generation and the size of the scheme. In addition they are paid 3p/kwh for any surplus exported to the grid. The level of payment is fixed for between 10 and 25 years depending on the type of technology and is linked to inflation.

3.2 Tariff Levels

Small generators (50kW - 5MW) have to make a choice between ROCs and FITs. Microgenerators (≤50kW) can only apply for FITs. Tariff levels are set out below:

Tariff levels, for technologies installed between 15th July 2009 and 31st March 2012 of most significance to householders

Technology	Scale	Tariff level (p/kWh)	Tariff lifetime (years)
Solar electricity (PV)	≤4 kW (retro fit)	41.3	25
Solar electricity (PV)	≤4 kW (new build)	36.1	25
Wind	≤1.5 kW	34.5	20
Wind	>1.5 - 15 kW	26.7	20
Micro CHP	≤2kW	10.0	10
Hydroelectricity	≤15 kW	19.9	20

⁸ HC Deb 21 June 2010 cc57-60W

⁹ Department of Energy and Climate Change, [Consultation on Renewable Electricity Financial Incentives 2009](#), 15 July 2009

Tariff levels vary depending on the scale of the installation. The tariff levels shown in the table above apply to installations completed from 15th July 2009 to 31st March 2012 for the lifetime of the tariff. After this date, the rates decrease each year for new entrants into the scheme. All generation and export tariffs will be linked to the Retail Price Index (RPI) which ensures that each year they follow the rate of inflation. The tariff levels will be reviewed in 2013.¹⁰

3.3 Scheme Operation

Generators have to advise their chosen supplier of their intention to receive FITs. The supplier will then register or confirm the generator's details with Ofgem and the installation will be entered on the Central FITs Register. The Register will include the relevant details of the installation and assign a tariff code – which will identify the generation tariff which the generator must be paid. It is up to the suppliers paying FITs to decide their own procedures for paying generators subject to minimum standards (e.g. quarterly payments).¹¹

On an annual basis, suppliers must provide information to Ofgem on FITs payments they have made and other relevant information. Ofgem then uses this information and other sources to calculate the total cost of the scheme, and to divide that cost among all the suppliers according to their share of the electricity market (excluding any imports of green electricity from outside GB). Suppliers who have paid out less than their calculated share – including those that are not offering FITs – have to pay into a fund administered by Ofgem. This is then redistributed to those that have paid out more than their share.¹²

In addition to this annual reconciliation there are also periodic redistributions within the year in order to minimise the financial exposure of suppliers – particularly small suppliers with large FIT contributions. Currently this process, called “levelisation” occurs on a quarterly basis. More information about levelisation and the payments made/received so far is available from the [Ofgem website](#).

3.4 Cost of the Schemes

A parliamentary written answer from January 2011 provided the following forecast of spending on FITs and the RO by electricity suppliers, between 2011 and 2020:

The spending is estimated at £32 billion* from 2011 to 2020 under the Renewables Obligation; £3.6 billion* under small-scale feed-in tariffs; £9.8 billion* under the Renewable Heat Incentive; and £8.9 billion* under the Renewable Transport Fuels Obligation.

* In 2010 prices, discounted at the social discount rate of 3.5% to 2011.¹³

There has been some debate as to whether FITs, as currently designed, represent value for money. [George Monbiot](#), for example was highly critical of them for this reason. However, others have defended them as a market support mechanism for new technologies such as [solar photovoltaics](#).

¹⁰ [Energy Saving Trust website](#) [on 15 February 2010]

¹¹ Department of Energy and Climate Change, [Feed-in Tariffs Government's Response to the Summer 2009 Consultation](#), February 2010, p35

¹² Department of Energy and Climate Change, [Feed-in Tariffs Government's Response to the Summer 2009 Consultation](#), February 2010, p40

¹³ HC Deb, 18 January 2011 c743W

4 Control framework for DECC levy-funded spending

The Treasury published a *Control framework for DECC levy-funded spending* on 12 April 2011, setting out the reasons for this as follows:

A number of the Department of Energy & Climate Change's energy and climate change policies are funded through levy-funded spending, which feed through to energy bills. These fall outside of the standard spending framework. The Government has announced a new control framework for these policies to maintain the tax and spending within agreed limits. This will deliver the Government's energy objectives while capping the impact on energy bills and ensuring that these policies are affordable over the long-term. The Government remains committed to maintaining support levels for those existing investments where it has said it would do so and not to making retrospective changes.¹⁴

The treasury published a guidance document explained how this would work:

DECC will [...] need to set policy such that the central forecast for DECC levy-funded spending is equal to or less than the agreed cap. This will be informed by individual forecasts for tax and spend associated with each policy, with estimates produced by DECC and agreed as necessary by the Treasury and verified by the Office of Budget Responsibility. The Treasury will have full access to the methodology behind these estimates.¹ On a periodic basis (and at least annually) DECC will prepare updates of forecast income and expenditure on a policy-by-policy basis, as well as the latest outturn figures. These will be readied in the run-up to each fiscal event and signed-off by DECC's Chief Economist. DECC and the Treasury will agree at the outset a range of acceptable headroom above the cap, which will represent the level of permissible variation before DECC has to develop urgently plans for bringing policies back into line with the cap. The Treasury may seek a financial contribution from DECC should a satisfactory reduction plan not be brought forward. The acceptable headroom will initially be 20 per cent of the total cap but will be reviewed during the Renewables Obligation Banding Review and the Feed-in Tariffs Comprehensive Review.

According to DECC the cap for the current spending review period, ending 2014-15, has been set at £867 million for feed-in tariffs and at £9.8 billion for the renewables obligation:

Policy	2011-12 (£m)	2012-13 (£m)	2013-14 (£m)	2014-15 (£m)
Renewables Obligation*	1,764	2,191	2,615	3,203
Feed-in Tariffs	80	161	269	357
Warm Home Discount	250	275	300	310

From *Control Framework for DECC levy-funded spending*

Further explanation on how the cap will work was set out by DECC in a [Questions and Answers](#) document published in June 2011.¹⁵

¹⁴ HM Treasury Website, [Control framework for DECC levy-funded spending](#), as of 23 June 2011

¹⁵ DECC, [Control Framework for DECC levy-funded spending: Q&A](#), 6 June 2011

5 FITs Review Brought Forward

There have been calls for the current Government to review FITs. However, they have committed to maintaining the level of support for existing entrants for the lifetime of their installations:

Jack Lopresti: To ask the Secretary of State for Energy and Climate Change whether feed-in tariffs are guaranteed for 25 years for new installations; and what factors would lead to their withdrawal.

Charles Hendry: The recent announcements in the comprehensive spending review confirmed any changes to feed-in tariffs as a result of future reviews of the scheme will only affect new entrants to the scheme from that point forward. The Government have no intention of changing tariffs for those already receiving FITs.¹⁶

In February 2011 the Government announced it was bringing forward the review of FITs that was due to be completed by 2013. The reason given for this was the unexpectedly high uptake by large photovoltaic schemes and the low uptake by anaerobic digestion schemes, neither of which had been expected. Chris Huhne, Secretary of State for Energy and Climate Change, set out details in a statement:

In light of the economic and fiscal situation, inherited by the Coalition, it is imperative that we take a more responsible and efficient approach to public subsidy, including where this subsidy is funded through energy bills. Specifically the Spending Review committed to improving the efficiency of FITs and finding £40million of savings, around 10%, in 2014/15.

Since the Spending Review, I have become increasingly concerned about the prospect of large scale solar PV projects under FITs, which was not fully anticipated in the original scheme and could, if left unchecked, take a disproportionate amount of available funding or even break the cap on total funding. Several large solar installations have already received planning permission. Industry projections indicate there could be many more in the planning system. In light of this uncertainty and the risk that such schemes could push FITs uptake off trajectory and may make the Spending Review savings difficult, I have decided to end the potential for damaging speculation and bring forward the review of the Scheme to look at ways of correcting these early teething problems.

I recognise that industry needs a long term plan for investment in which it can have full confidence. Today I am announcing a comprehensive evidence based review in to the FITs scheme and, to provide further certainty to the renewables industry, I can confirm that we also hope to publish next month measures to support renewable heat within the envelope agreed at Spending Review.

The FITs review will:

- Assess all aspects of the scheme including tariff levels, administration and eligibility of technologies
- Be completed by the end of the year, with tariffs remaining unchanged until April 2012 (unless the review reveals a need for greater urgency)

¹⁶ 17 Nov 2010 : Column 822W

- Fast-track consideration of large scale solar projects (over 50kW) with a view to making any resulting changes to tariffs as soon as practical, subject to consultation and Parliamentary scrutiny as required by the Energy Act 2008.¹⁷

5.1 Consultation

The consultation was launched on 18 March and closed on 6 May 2011. A DECC press release summarised the main proposals:

As solar PV technology has developed, its costs have reduced, and are now believed to be around 30% lower than originally projected. This means the technology does not need as much support to be competitive.

The Government is therefore proposing reducing the support for all new PV installations larger than microgeneration size (50kW) and stand alone installations. The new proposed rates are:

19p/kWh for 50kW to 150kW
 15p/kWh for 150kW to 250kW
 8.5p/kWh for 250kW to 5MW and stand-alone installations

These compare with the tariffs that would otherwise apply from 1 April of:

32.9p/kWh for 10kw to 100kw
 30.7/kWh for 100kw to 5MW and stand-alone installations

Such changes are in line with amendments made to similar schemes in Europe where in Germany, France and Spain tariffs for PV have been reduced sharply over the past year.

Alongside the fast-track review of solar, a short study has also been undertaken into the lack of uptake of FITs for farm-scale anaerobic digestion. The study suggests that the tariff for this technology is not high enough to make such schemes worthwhile. The proposed new tariffs are:

14p/kWh for AD installations with a total installed capacity of up to 250 kW
 13p/kWh for AD installations with a total installed capacity of between 250 kW and 500 kW

These compare with the tariffs that would otherwise apply from 1 April of 12.1p/kWh for AD up to 500 kW.

And

The Government will not act retrospectively and any changes to generation tariffs implemented as a result of the review will only affect new entrants into the FITs scheme. Installations which are already accredited for FITs will not be affected. Solar PV installations less than 50kW are not affected by this fast track review.¹⁸

5.2 Changes to Solar and Anaerobic Digestion Tariffs Confirmed

Following the closure of the consultation on 6 June 2011, the Government announced on 9 June its decision to introduce the reduced rates for solar PV outlined in the consultation with

¹⁷ Written Ministerial Statement, *Feed-in Tariffs: Written Ministerial Statement by Chris Huhne, Secretary of State for Energy and Climate Change*, 7 February 2011

¹⁸ DECC, *Greg Barker outlines proposals to protect green electricity scheme (Press notice)*, 18 March 2011

effect from August 2011. The proposed increases for anaerobic digestion will also be introduced.

The press release, which is available on the DECC website, provided further details on the decision:

Today's announcement follows the recent public consultation on large scale solar and anaerobic digestion which closed on 6th May 2011. The fast track review looked at reducing the tariffs for large scale solar to protect the money available for small scale projects and the range of technologies supported under this scheme. The review was launched following initial evidence showing the number of large scale solar projects in the planning system to be much higher than anticipated.

Energy and Climate Change Minister Greg Barker said:

"I want to drive an ambitious roll out of new green energy technologies in homes, communities and small businesses and the FIT scheme has a vital part to play in building a more decentralised energy economy.

"We have carefully considered the evidence that has been presented as part of the consultation and this has reinforced my conviction of the need to make changes as a matter of urgency. Without action the scheme would be overwhelmed. The new tariffs will ensure a sustained growth path for the solar industry while protecting the money for householders, small businesses and communities and will also further encourage the uptake of green electricity from anaerobic digestion."¹⁹

5.3 Judicial Review

When the Government review of tariffs was announced in February several solar companies went to court to request permission for a judicial review. The companies announced on 9 June that the request had been granted by the High Court.²⁰

¹⁹ DECC, [New feed-in tariff levels for large scale solar and anaerobic digestion announced today](#), 9 June 2011

²⁰ Business Green, [Climate minister offers olive branch to angry solar developers](#), 9 June 2011