A Proven Solution
How to grow renewables with a Fixed Feed-in Tariff

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Foreword by Andy Atkins

Jobs, investment and competitive energy markets
A real Feed-in Tariff to provide Clean British Energy for all

Our energy system stands at a crossroads. The UK’s power sector, three quarters of which is fuelled by coal and gas, is overwhelmingly dominated by just six big companies. It is responsible for over a quarter of our carbon emissions. Yet the Government’s independent advisers, the Committee on Climate Change, say that we need to have almost zero-carbon electricity by 2030.

Clearly the UK has a challenge – but there is hope and huge opportunity too. The green economy is working. According to the CBI, “Over a third of the UK’s economic growth in 2011-12 is likely to have come from green business” and there are now nearly a million people working in low carbon and environmental jobs.

That investment – and those jobs – depend on certainty and stability of Government policy. Take that certainty away and investment dries up and jobs disappear. So it is of the gravest concern that, just as the UK’s electricity system faces an investment challenge of around £110 billion, proposals in the Government’s new Energy Bill could throw backwards support for renewable energy.

As this report from Senior Lecturer in Energy Policy at the University of Birmingham energy expert Dr David Toke sets out, the Coalition’s plan, to introduce a new, highly complex mechanism known as ‘Contracts for Difference’ (CfDs) to support energy production – rather than opting for the tried and tested ‘Fixed Feed-in Tariff’ – will significantly reduce certainty, rather than increasing it.

As he shows, the Government’s policy also appears designed to support costly new nuclear, rather than clean energy from our wind, sun and waves.

In so doing, the Government places at risk not just our burgeoning homegrown renewable energy industry, but also the prospect of a more open, competitive energy market, in which new, entrepreneurial businesses, local authorities and community co-operatives could all take a stake.

Friends of the Earth believes a future which offers clean British energy for all, from large offshore wind farms to solar panels on school roofs, not one still dependent on polluting coal and gas, or costly nuclear, owned by a handful of giant companies.

Dr Toke’s report provides the evidence to show that the Government’s plans will give us none of this. MPs should now ensure that the Energy Bill adopts a simple Fixed Feed-in Tariff in place of CfDs, in line with international best practice. This will make a huge real-world difference, unleashing the full power of renewables for communities and the wider economy, as well as assisting our fight against climate change.

Andy Atkins
Executive Director, Friends of the Earth
The UK is about to publish an Energy Bill that will determine how Britain is powered for the next 40 years. The content of the Bill will play a make or break role in determining whether the UK meets its goals under the Climate Change Act, as well as whether our European obligation for 15 per cent renewable energy by 2020 is met.

To achieve this, a massive scaling up of renewable energy from our huge natural resource of wind, wave, solar and tidal is required. As costs of renewable energy technologies continue to fall and the global gas market becomes more costly and more volatile, this is increasingly the most economic as well as environmental path.

However, the Government’s proposals for ‘Contracts for Difference’ (CfDs) follow none of the international lessons of best practice in deploying renewable energy, and suffer from such fundamental failings that they would be a step backwards in renewables development. They have been primarily designed to support nuclear power with little attention to the fact that they are likely to increase uncertainty and costs for renewables, while decreasing competition and shutting out new entrants.

This report argues that instead the Government should adopt an internationally effective, tried and tested method of cost-effectively promoting renewable electricity – the fixed Feed-in Tariff (FIT).

Contracts for Difference have three major shortcomings. First, their structure is prohibitively complicated for all but the biggest, most-established energy market players – primarily the ‘Big Six’; second, they introduce unnecessary risks and uncertainty (resulting in higher financing costs); and third, they place smaller and independent generators at an inbuilt financial disadvantage to established market players.

CfDs have been designed to support nuclear and renewable energy generation, as well as CCS. In part, one mechanism has been chosen for both nuclear and renewable generation in order that it can be called a ‘low carbon’ rather than a nuclear subsidy. This represents an attempt to satisfy EU rules on state aid which allow support for renewables but which are not favourable to giving subsidies to nuclear power, and also to circumvent Coalition party manifesto commitments not to subsidise nuclear power.

The Government’s programme for Electricity Market Reform was predicated on the notion that nuclear would provide the bulk of low carbon power after 2017, with renewable energy as very much a junior partner. This plan was based on wholly unrealistic notions of the cost-effectiveness of nuclear power compared to various types of renewable energy. EMR is likely to produce little nuclear power development compared to Government intentions. However, in the process, renewable energy companies are being deprived of the contract security they need with CfDs simultaneously increasing risk and depriving many companies of the ability to obtain contracts to generate renewable energy. Unless important changes are made, Parliament will be presented with a mechanism that is not fit for purpose for renewable energy. This paper sets out in detail how CfDs would eliminate much of the competition to the ‘Big Six’ electricity companies in the renewable energy development market. Three factors are key to this:

- CfDs remove the guarantee that renewable energy, once produced, will be bought.
  - The two existing systems of support – the Renewables Obligation and the Feed-in Tariff for small projects – have an obligation on energy companies to buy the electricity produced.

- It creates near insurmountable hurdles to small investors and independent generators.
  - Including the need to post collateral involving large sums of money (many tens of millions of pounds), pay imbalance fees and fees for trading services and to establish a trading arm involving extra specialist staff.

- It introduces a raft of unnecessary trading uncertainties for renewable energy generators.
  - Removing the guarantee of what price they will receive for the electricity they generate, increasing the cost of financing.
It is ironic that this change is presented as a means of increasing competition in the electricity market when it does precisely the opposite. The complex rules and trading uncertainties inherent in CfDs mean that the ‘Big Six’ electricity suppliers may end up charging electricity consumers significantly more for organising renewable energy schemes that would be the case if a Fixed FIT system was used instead for all generators.

A proven solution

An increasing number of countries are choosing to adopt Feed-in Tariff policies as their mechanism to incentivise the deployment of renewable electricity. Central to this expansion has been the growing evidence that – compared to renewable obligation or portfolio type policies that are currently used in the UK for large scale renewables– the FIT has proven a more cost-effective and competitive policy. A Fixed FIT, classically like that operated in Germany and used in other leading renewable energy producers such as France and China, involves offering contracts to prospective renewable developers of all shapes and sizes that pay them guaranteed, fixed amounts for electricity generated, for a pre-determined period of time.

A system of Fixed FITs encourages much greater market competition than CfDs. Fixed FITs are much simpler and allow all plausible projects developed by all types of developer to come to market. Arrangements can easily be developed to integrate FITs into the existing electricity market trading system, as will be explored later, and done in such a way as to give greater cost-effectiveness to the electricity consumer than will be delivered through CfDs.

This report also shows that the option of Fixed FITs has been sidelined in Government consultations, despite a wealth of evidence that would support their introduction, including the fact that a Fixed FIT system would involve significantly lower costs for the consumer compared to the CfD for a given output of renewable energy. Instead, the debate has focused on a choice between CfDs and an alternative of a ‘Premium’ Feed-in Tariff. A Premium FIT would be a substantially inferior means of promoting renewable energy compared to a Fixed FIT. Premium FITs are less cost effective for the consumer compared to Fixed FITs. In addition, a Premium FIT, like CfDs, would not contain an obligation on the energy suppliers to buy renewable energy produced. In both cases, without an obligation on the suppliers to give contracts to independent generators, the contracts available for new renewable generation would still be largely controlled by the electricity suppliers. Partly the option of the Fixed FIT has been missing from the debate because the interests of independent generators have not been foremost in policy considerations, and perhaps also because too much discussion of this option would undermine the case for CfDs. Indeed, the CfD arrangements fit in with the interests of the electricity suppliers in retaining control over the expanding renewable energy market, as well as providing a cover for the attempt to give subsidies to nuclear power. The CfD proposals will help to entrench control of electricity markets by vertically integrated electricity supply companies, something which undermines the causes of promoting competitive electricity markets, implementing energy efficiency and developing demand side response mechanisms.

When combined with other aspects of the government proposals, for example introducing ‘auctions’ of renewable energy contracts and imposing caps on spending, there is a significant danger that the proposals in Electricity Market Reform will slow down the rate of deployment of renewable energy. The proposals will create considerable uncertainty for investors, increasing financing costs and eventually the cost to the electricity consumer. The uncertainty that has been created by the Government’s muddled proposals can be abated by abandoning the proposals for CfDs altogether. Instead the Government should use the current Energy Bill to create a Fixed FIT for medium and large scale renewable energy schemes, in line with international best practice. If there is the possibility of delay in introducing the new system beyond 2017 then the current Renewables Obligation should be extended to provide a bridge to a Fixed FIT.

“The option of Fixed FITs has been sidelined in Government consultations, despite a wealth of evidence that would support their introduction.”
Introduction

The Energy Bill, which will spend the next year being debated in Parliament, will shape the electricity mix for the next 40 years. Central to the Bill are proposals for ‘Electricity Market Reform (EMR)’, intended to secure investment in Britain’s energy infrastructure. It is estimated that over £100 billion of investment is needed over the next decade, to replace ageing power stations as they are decommissioned. One of its central planks is the proposal for ‘Contracts for Difference’ (CfDs) to support low carbon generation. CfDs are a support mechanism that aims to provide guaranteed prices for low carbon energy – both nuclear and renewable – by giving a contract to a low carbon generator which guarantees they will be paid the difference between the market price for electricity and a promised support level. They would replace the Renewables Obligation (RO), which only supports renewable energy generation and is due to end in 2017.

While the Renewables Obligation succeeded in delivering some sustained increases in capacity, increasing renewable energy generation as a proportion of electricity from under 2 per cent in 2002 to what may be expected to be over 10 per cent in 2012, studies have indicated that Feed-in Tariffs are much more cost-effective than ‘quota’ mechanisms for renewable energy such as the Renewables Obligation (Ragwitz 2007, German Renewable Energies Agency 2012). A large part of the success of the RO is due to the fact that it operates by giving electricity suppliers an obligation to supply an increasing proportion of their electricity from renewable energy. To demonstrate this they must purchase Renewable Obligation Certificates (ROCs) from renewable energy generators, the value of which is influenced by the penalty price for not supplying each MWh of renewable energy towards their obligation.

However, the proposed successor to the RO, Contracts for Difference, have been heavily criticised even before they are introduced. The Energy and Climate Change Select Committee’s Pre-Legislative Scrutiny report of the draft Energy Bill in Summer 2012 found that they are skewed towards supporting nuclear at the expense of renewable generators, are overly complex, increase risk and shut out smaller and independent generators. Additionally, despite the first Green Paper being published in 2010, the Committee found that many of the crucial details of the model are yet to be resolved, for example who would be the guarantor on the contracts signed with low carbon generators.
As will be discussed, when used in the case of renewable energy, CfD arrangements are associated with very low deployment rates. They effectively exclude generators that are independent of the major electricity companies. The Government proposes to use CfDs to fund all low carbon electricity schemes (renewables, nuclear and conventional power stations with carbon capture and storage). As will be explained, the choice of this mechanism may have been influenced by a desire to achieve political acceptability for giving subsidies to nuclear power.

Fixed Feed-in Tariffs have been used in the majority of EU states (Bechberger and Reiche 2007), and in an increasing number of other countries in the world, with great success in promoting renewable energy deployment. They guarantee specified premium prices over stated periods, say 15 or 20 years. They involve issuing contracts, or power purchase agreements (PPAs), to all types of prospective renewable energy generators to pay predetermined prices for production of renewable energy.

Despite success internationally in deploying renewable energy, there has been little debate in the UK about the merits of a Fixed Feed-in Tariff in the context of the Government’s Electricity Market Reform proposals. This report examines the merits of a Fixed Feed-in Tariff compared to the two alternative proposals – Contracts for Difference and a Premium Feed-in Tariff – and finds that to meet the objectives of securing investment in renewable energy a Fixed Feed-in Tariff is a superior, proven solution.

“Fixed Feed-in Tariffs have been used in the majority of EU states with great success.”
The Conservative policy on energy released just before the 2010 election said nothing of CfDs, and discussed Feed-in Tariffs only for renewables (Conservative Party 2010). Nuclear power was keenly advocated, but the only new measure proposed was the carbon floor price, introduced in last year’s Finance Bill but considered as part of the package of EMR reforms. There was a pledge to move towards FITs rather than the Renewables Obligation as a means of funding renewable energy. A Fixed FIT had already been introduced by Labour in the Energy Act 2008 to fund small renewable projects, after considerable support from the Conservative Party and Liberal Democrats (then in opposition). The Conservatives were aware of criticisms that the RO was not cost-effective compared to a FIT system and proposed adopting a FIT for large-scale renewables.

There was little public debate of the CfD idea before the details were published in a Green Paper in December 2010 (DECC 2010a). Under the proposals the EMR would be phased in from 2014 to take full effect in 2017. The Green Paper’s analysis of the costs of different power generation options (DECC 2010a) were based on some challengeable assumptions. First, estimates of the costs of nuclear power are based on estimates of costs of (3rd generation) nuclear power plant that had not yet been built in the UK or completed elsewhere in Europe. This is as opposed to using past UK construction costs of British nuclear power plant (for example Sizewell B, completed in 1995). Second, while it was estimated that nuclear construction costs would fall in the future, it was assumed that the costs of onshore wind would remain more or less constant. In fact, independent estimates of costs of power from new nuclear power stations have suggested that they are increasing (to over £100 per MWh – see later). The Green Paper’s assertions that onshore wind costs would be relatively static are contradicted by DECC’s own conclusions in its review of funding onshore wind under the Renewables Obligation. DECC said (in July 2012): “The cost-effectiveness of onshore wind continues to improve. Capital and levelised costs are projected to fall over the decade, meaning that support for onshore wind can also come down” (DECC 2012c). Third, it was implicitly assumed that the costs of raising finance to build nuclear and renewable plant were the same (DECC 2010a, Mott Macdonald 2010). In reality the rather greater uncertainty about construction costs of nuclear power plants compared to renewables such as wind power means that the costs of raising finance for nuclear power may be
rather higher in practice than for many renewables. This pushes up the costs of nuclear power compared to renewables. The assumptions made in the Green Paper represented a distinct pro-nuclear bias over renewables.

There were hopes that up to 16 GW of new nuclear power would be built by 2025 (DECC 2012a). This would generate around a third of current UK electricity supply. A political problem existed with this vision. Both of the Coalition parties had promised in their manifestos that there would be no subsidy given to developers of new nuclear power stations. An additional consideration is that the European Commission specifically rules out giving state aid to private sector bodies. There are exceptions, such as supporting renewable energy, but such exceptions do not include nuclear power.

Hence the design of CfDs was distorted to help nuclear power overcome these political considerations. On the one hand there is a lack of government backing for the implementation of the premium payments to generators, and on the other hand the complex system of CfDs makes it difficult to work out what subsidies are being paid to which types of technology. This uncertainty increases investment risk for renewable generators. The requirement that renewable generators must themselves trade on electricity markets makes life more or less impossible for most renewable developers other than major electricity suppliers. This all fits in with a process of denying that there are specific subsidies targeted at new nuclear power plant. If nuclear’s political interest had not been uppermost in Government thinking, a different set of proposals could have been developed to give more help to renewables.

However, recent independent analysis and leaks have created doubt about whether it would be possible to secure nuclear development at cheaper prices than even offshore wind (or solar power), never mind onshore wind. Previous analysis produced by the Government and also the Committee on Climate Change saying that nuclear power is more cost-effective than renewables have proved inaccurate – especially in a post-Fukushima world where safety demands have increased costs further.

Since then The Times has reported that the cost of Hinkley C will be £165 per MWh payable over a 25 year contract (Webb 2012). The CEO of EDF, Vincent de Rivaz, has denied that Hinkley C would cost as much as £140 per MWh, although an EDF spokesperson said that the cost would be over £100 per MWh (Gosden 2012).

Various criteria used to assess the relative costs are subject to challenge. It is looking increasingly likely that nuclear development will be on a much smaller scale than has been planned. In fact three of the major electricity companies have withdrawn, or postponed, plans to build nuclear power stations. Even the remaining EDF/Centrica consortium has postponed the start of works to build Hinkley.

Nevertheless we are left with a policy that is oriented towards an assumption that nuclear will be the dominant element in a low carbon deployment programme, and which, as will be discussed, assumes a limited degree of expansion of renewables after 2017. The options for a Fixed Feed-in Tariff, as part of a programme for the scaling up of renewables rather than a plan for nuclear, have been little discussed.

### How much does nuclear power cost? – in £/MWh

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<th>Source</th>
<th>Cost/Year</th>
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<tr>
<td>Department of Energy and Climate Change (Source: DECC 2010a, p. 28)</td>
<td>98 (2010 start).</td>
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<tr>
<td>Committee on Climate Change (Source CCC 2011; p.70)</td>
<td>78 (2020 start)</td>
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<tr>
<td>Peter Atherton (Citigroup) 2012 (Source: Reuters 2012)</td>
<td>166 (Hinkley C cost)</td>
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Fixed FITs – a superior solution

A ‘Fixed Feed-in Tariff’ (FIT) is a policy under which the rate of remuneration for renewable energy production is set for a given period in advance of the start of the project. This rate is guaranteed by the state. There are some variations in the arrangements, but Fixed FITs have in common the principles that the amounts payable are clearly known in advance over a guaranteed period, say 20 years.

Cost effective deployment of renewables

Fixed FITs have been associated with the highest levels of renewable energy deployment (as measured by percentage contribution to electricity supplies) achieved by any country. Denmark used a Fixed FIT until 2002 and this led to it getting 20 per cent of its electricity from wind and 30 per cent from renewables sources as a whole. Feed-in Tariffs are also associated with large proportions of electricity generated from renewables in Portugal, Switzerland, France and Germany. China now has the highest volume of deployed wind power in the world and has a Fixed FIT in place. Spain’s development (providing now around 15 per cent of Spanish electricity) has involved support via a FIT system whereby developers could choose a completely fixed rate or go for a premium added onto the wholesale electricity price, although a cap was put on the total remuneration making this, in effect, more like a ‘Fixed FIT’.

A key problem with the RO is that the value of the future wholesale prices of the electricity as well as the value of ROCs are uncertain, meaning, in effect, that the investment costs rise as investors demand higher returns to compensate for increased risk. By contrast Fixed Feed-in Tariffs offer much greater certainties about future returns; the investment costs are lower and hence are more cost-effective for the consumer. CfDs can offer some of these advantages concerning greater certainty about future returns compared to the RO, but are very flawed in other respects.

In the case of Germany its Fixed Feed-in Tariff has a rate set for the first few years that is higher than the remaining period of payment of premium rates. The German Feed-in Tariff law deals with the issue of caps on spending through its ‘degression’ policy, wherein the Feed-in Tariff rate for a particular technology changes according to the progress in meeting targets for volume of generating capacity that is installed: ‘When the total additional capacity installed exceeds or falls below a certain amount, the degression percentage increases or decreases by a statutorily fixed number of percentage points (“flexible cap”).’ (Federal Ministry for the Environment, Nature Protection and Nuclear Safety 2012). In Germany renewable energy sources now provide over 20 per cent of total electricity demand (Der Spiegel 2012), most of which has come online since the Feed-in Tariff laws were first passed in 1990.

A study conducted under an EU-funded programme has attested to the effectiveness of the Fixed FIT in cost-effective delivery of large volumes of renewable energy (Ragwitz 2007), and a more recent analysis came to a similar conclusion with regard to FITs in comparison to RO-style ‘quota’ schemes (German Renewable Energies Agency 2012).

A feature article in the February 2011 issue of ‘Renewable Energy Country Attractiveness Indices’, published by Ernst and Young, summarises some key points when they say that Fixed FITs:

‘Tend to provide less costly renewable energy per kWh generated, due to their lower risk profile and
greater certainty. They are easier to understand by both investors and finance providers and tend to attract a greater plurality of market participation from local communities and businesses as well as specialist developers, investment funds and utilities, than more complex market-based mechanisms.’ (Johns 2011, 2)

The same report contains an analysis of the Government’s EMR proposals and produces a negative reflection on the proposals for CfDs when compared to the Fixed FIT:

‘The EMR consultation poses many questions over the form of the FIT—preferring a “contract for difference” mechanism accompanied possibly by an auction process which, if poorly implemented, could produce a complexity that would negate some of the benefits that a simple FIT provides. It could also leave exposure to market risk. Certainly, participants more familiar with basic FIT systems could conclude that the more complicated proposals do not warrant further engagement – with the consequence that the desired broadening of market participation would not occur to the extent that it could... the analysis [in the EMR consultation document] provides no cost comparison to a two-stage FIT with degression (such as that in Germany), even though there is evidence to suggest that this type of approach does, over time, produce a more cost-effective portfolio of low carbon energy production.’ (Johns 2011)

Access to the market
It should be noted that, as Ernst and Young highlight, under German-style Fixed FITs any company or individual has access to Feed-in Tariff contracts for renewable energy. Indeed, in Germany most of the renewable energy schemes
have been organised by companies or individuals (often farmers and community groups) that are independent of the major electricity companies.

However, CfDs (combined with ‘auctions’), are likely to eliminate competition for the main electricity suppliers by effectively preventing access to contracts for independent renewable developers. This is because, without an obligation on the energy suppliers to buy renewable electricity, independent generators will have no guarantee that they will get an agreement from a supplier to purchase the power they produce (a Power Purchase Agreement). Comments made by the main renewable trade associations (RenewableUK and the Renewable Energy Association) show the danger of the current approach. According to RenewableUK:

‘It is critical independent generators are able to sell power in a bankable manner. Otherwise, independent generators would struggle to bring forward the projects needed to meet targets. There is still concern as to how generators will go about selling power and whether there will be some mechanism such as a ‘buyer of last resort’ in place for projects that do not win a contract.’ (Select Committee on Energy and Climate Change 2012, Ev 135)

‘Only if there is a ‘buyer of last resort’, which would guarantee that generators would achieve a reference price, would Power Purchase Agreements not be required. However, any capacity using this route to market will not be responding to market signals. The impact will be equivalent to a Fixed Feed-in Tariff, which was ruled out as an option in the previous consultation (despite it being acknowledged as a cheaper option overall).’ (Select Committee on Energy and Climate Change 2012b, Ev 199)

The two trade associations are calling for a ‘buyer of last resort’ to sit alongside CfDs. This ‘buyer of last resort’ is likely to have the same effect as a Fixed FIT in that it would offer a standard, simple, tariff for a guaranteed period. However, if such an institution is established under the terms of the Energy Bill, it is very possible that the contract prices offered by the ‘buyer of last resort’ would be significantly inferior to that earned by electricity suppliers from organising schemes directly under CfDs. Electricity suppliers may argue that they should receive compensation for ‘balancing’ and other activities, despite the fact that such compensation may be out of proportion to the added value actually made by the electricity suppliers. It would be far simpler and much better if CfDs were abandoned and a Fixed FIT introduced instead to fund all of the commercial renewable energy developments. This would, in any case, be much more cost-effective for the consumer. Good Energy, the green electricity supplier, spells this out. After criticising the arrangements for CfDs Good Energy say in their evidence to the Energy and Climate Change Select Committee scrutiny of the Energy Bill:

‘A traditional, straightforward FIT, however, with the required budgetary safeguards in place, is likely to be a far more effective method of creating a genuinely liquid market through a more level playing field, because it is one where the chief policy mechanism does not fundamentally favour the market incumbents over new entrants.’ (Select Committee on Energy and Climate Change 2012b, Ev 219)

A Fixed FIT the market and price signals

The Government has never given a clear explanation of why a Fixed FIT was not seriously discussed as a policy option for EMR. They merely stated that ‘there remain concerns about how a Fixed FIT would interact with the wholesale market – therefore a package of reforms with this option included would also be less coherent.’ (DECC 2010a, 63). However the Government already operates a system which does in fact integrate a contract similar to a Fixed FIT into wholesale electricity trading arrangements. The renewable Non-Fossil Fuel Obligation (NFFO) contracts, dating from the 1990s, are contracts that work in the same way as a Fixed FIT would (even though, as discussed earlier, they were awarded through a flawed
Fixing Electricity Market Reform

The start of the Renewables Obligation the Government has organised the sale of the electricity in these contracts into the wholesale electricity markets through auctions organised by the Non-Fossil Purchasing Authority (NFPA). This is a cost-effective way of integrating these contracts into the electricity markets since the electricity suppliers have to bid against each other to buy their value.

Claims have been made that somehow a Fixed FIT system would interfere with the ‘efficient’ operation of the electricity market by reducing price signals. Rather, as mentioned earlier, it is already the case that similar contracts to those available under Fixed FIT arrangements are already being successfully integrated into electricity markets using competitive means. This will aid the provision of ‘efficient’ market signals, not detract from it.

Lower volumes of electricity are being needed from energy which does not have Fixed FIT contracts will not mean that any price signal will become weaker. The market price will reflect the level of demand for the energy, with the price becoming lower the more a given level of demand is met by renewables, and the price rising if less renewable energy is available at a particular time. The different price levels will bring forward whatever supply is needed to meet the demand for electricity. Certainly, wholesale electricity prices will fall when the proportion of electricity supplied from renewables rises (either at a particular time of day, or as a general average trend), but that is a very good thing for the consumer, and in no way prevents demand needs being met. It is certainly very curious for arguments about weak price signals to be raised in a context where the trading policies of the major electricity companies have, in the past, reduced the liquidity of the wholesale electricity market to a trickle as they have dominated the electricity trading markets. It is the operations of the ‘Big Six’ that weaken electricity market price signals, not any prospect of a Fixed FIT. Indeed, under a vertically integrated electricity market the suppliers have an incentive to sell more electricity produced by the generation owned by the company, rather than employ either energy-efficiency or response measures to cope with fluctuating output from renewable generators.

Under a Fixed FIT, the National Grid, acting as the System Operator, will continue to perform its role in correcting short term imbalances between contracted supply and demand as before. Professor David Newbery, a Cambridge University economist, has argued that a Fixed FIT will reduce costs by large amounts compared to CfDs. He says: ‘The estimated extra trading and balancing costs of a CfD [compared to a Fixed FIT] for on-shore wind might be £70 million per year by 2020, while the cost of the increased risk incurred by a Premium FIT might add another £180 million per year. If similar savings were made to projected offshore wind investments the savings might be three times as high’ (Newbery 2011). The Government do not appear to have attempted to calculate the benefit from such savings, and therefore have not included them in their analysis of the relative cost-effectiveness of different low carbon support mechanisms (DECC 2012b).

Even the Government seems to recognise elsewhere that Fixed FITs will not damage market efficiency. In statements made in the Impact Assessment that accompanied the EMR consultation document, the Government says:

1) ‘Therefore whilst the volume of transactions will be lower under a fixed payment, the quality of the price signals (and therefore liquidity) will not necessarily be affected’. (DECC 2010b).

2) ‘A fixed payment significantly reduces barriers to entry. This is particularly significant for independent renewables developers. It also therefore largely removes the incentives for vertical integration. In the long term this may mean that more fossil-fuel electricity is traded on the market, which will improve liquidity’. (DECC 2010b).

A Fixed FIT would be significantly more cost-effective for the consumer than CfDs (and, as will be discussed, also a Premium FIT). This is because a Fixed FIT would reduce the costs of the renewables programme compared to a CfD by reducing the
costs of balancing variable renewable energy sources. A Fixed FIT would also reduce investment costs by reducing investor uncertainty over future returns on investment. Professor Newbery compared the balancing arrangements under the proposed CfDs and a Fixed FIT, and came to the conclusion that a Fixed FIT would be much more cost-effective than CfDs in various ways, including doing the balancing of renewable output. Newbery advocates giving the task of ‘balancing’ wind power to the System Operator in the context of a Fixed FIT. He argues that if the System Operator has appropriate incentives, it would deliver cheaper balancing services (through its National Grid view of the market) than those that are likely to be provided through the ‘Big Six’ electricity companies balancing wind power separately. Newbery argues that: ‘The alternative of a Fixed FIT [compared to CfDs] with the dispatch entrusted to a System Operator charged to minimise the cost of dispatching and balancing the wind then looks more attractive, both in terms of minimising system operation costs and providing the assurance of a low cost contract with no uncertainties to alarm bankers.’ (Newbery 2011).

As indicated already there is no evidence that the original Impact Assessment published by DECC, (DECC 2010b) took such issues into account. Indeed it is not exactly clear what criteria were included in the modelling conducted in the Impact Assessment, which showed that CfDs were marginally more cost-effective than the Fixed FIT. The discussion of ‘efficiency’ in the Impact Assessment is especially confusing. There is an apparent implication that a Fixed FIT is inferior to the CfD option because ‘Fixed payments remove exposure to electricity price and offtake risks (the risk of not being able to sell the electricity you produce), resulting in loss of market efficiency benefits’ (DECC 2012b). Variable renewable energy generators, such as wind power operators, will always sell all their energy under any of the suggested payments systems unless there is so much renewable energy that some has to be constrained by the System Operator. Hence the criticism of alleged relative market inefficiency under a Fixed FIT for variable renewables is meaningless. On the other hand there is no evidence that the Impact Assessment has taken into account the possible impact of the mixed signals given out by the CfD system to renewable generators. It is conceivable that some low carbon generators could ‘game’ the system by stopping production when wholesale electricity prices are high because it is in those periods when they may have to pay money back into the system if the wholesale price is higher than the strike price. This would act to reduce the efficiency of CfDs. However, the Impact Assessment, does state that: ‘CfDs are complex mechanisms that may result in an investment hiatus and unintended consequences during implementation’ (DECC 2012b). Such costs have not been monetised in the models conducted as part of the Impact Assessment.

**It should also be said that a Fixed FIT system**

acts to ‘de-risk’ investments compared to both CfDs and Premium FIT systems. As argued earlier, CfDs increase investor risk in various ways compared to a Fixed FIT system. A Premium FIT system, as will be argued in the next section, also involves increased uncertainty about future returns and therefore involves increased costs in order to offset this risk. Once again, there is no clear indication that the Government’s Impact Assessment (DECC 2012b) took such issues into account.

In short it seems that not only would a Fixed FIT be the most cost-effective option for the consumer, and the most market-efficient, but it would also be relatively straightforward to organise in the UK. There are different options available to fine-tune this task, but it is clear that it would be much more cost-effective and also involve much greater competition in both the renewables and wider electricity markets than CfDs. It would also be a much better option than another option discussed by Government, and supported by some interests in the electricity industry: a policy called Premium Feed-in Tariffs.

“In short not only would a Fixed FIT be the most cost-effective option for the consumer, and the most market-efficient, but it would also be relatively straightforward to organise in the UK.”
A Premium FIT involves paying a defined supplementary payment for each unit of renewable energy generation which the renewable energy generator earns in addition to the value of any electricity sold on the wholesale electricity market.

This has been used in other countries relatively rarely. It has featured as an option for renewable energy generators in Spain but, as explained previously, this existed alongside as a Fixed FIT option that could be chosen by the generator, and even the premium option has become effectively fixed in later years by a cap on payments. Indeed it may be regarded as rather strange that the EMR consultation document and White Paper took the CfD and the Premium FIT ideas as being the main options for a Feed-in Tariff. As argued before, there are no grounds for doing this at all. A Fixed FIT would enhance, not detract from, electricity trading arrangements.

One explanation for this is that the CfD option and the Premium FIT option were the ones presented by major electricity interest groups including the ‘Big Six’ electricity companies (who mainly preferred CfDs), and some renewable energy trade interests who favour the Premium FIT. One aspect of the Premium FIT notion is that in some ways it resembles the Renewables Obligation, with the premium payment for the renewable electricity (presumably varied in quantity according to the technology) being analogous to the Renewables Obligation Certificates. This can be justified on the basis that there are some elements of continuity here. There would be some reduction in uncertainty (compared to the RO) since the value of the premium would be fixed compared to the more uncertain future value of the ROCs. However the uncertainties associated with the future value of the electricity sold on the wholesale market would remain. Indeed this is the biggest area of financial uncertainty under the RO. Hence a key problem with the Premium FIT notion is the same as a key issue with the RO – it is relatively inefficient from the point of view of the electricity consumer. This can be demonstrated using an example which assumes (as is for the most part the case) that the two elements of payments to renewable energy generators are the wholesale electricity price and the renewable energy premium.

For example, the wholesale electricity price has been around £50 per MWh in recent years. However, investors are not going to assume that it will stay at this level – it may move down – and so they will only finance projects on the basis of a conservative estimate of returns from the sale of electricity, say £30 per MWh. If the premium for onshore wind, for example, was £50 per MWh and the wholesale price ended up as also being £50 per MWh then the project would, under the Premium FIT system, be funded on the basis that it would earn a minimum of £80 per MWh, whereas it actually would earn £100 per MWh. By contrast, investors would equally be interested in investing in a project that would earn a Fixed FIT rate of £80 per MWh. So, comparing the two systems, under a Premium FIT system the project would cost £100 per MWh whilst it would only cost £80 per MWh under a Fixed FIT. The consumer subsidy under a Fixed FIT would be £30 per MWh compared to £50 per MWh under the Premium FIT.

This Premium FIT option is also more costly, using much the same logic, for the consumer compared to CfDs. Hence while a Premium FIT may give more money to renewable energy generators than CfDs, it is seen as being less cost-effective. Given the criticisms about the RO’s cost-effectiveness this is a very damaging flaw in the debate about a system to replace the RO. Indeed the idea of the Premium FIT may be characterised as an attempt

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**“Hence a key problem with the Premium FIT notion is the same as a key issue with the RO – it is relatively inefficient from the point of view of the electricity consumer.”**
There is a further problem with the Premium FIT idea in that it offers much less scope to independent generators compared to a Fixed FIT or the RO. Under the RO there is an obligation on electricity suppliers to meet targets for renewable energy generation out of their own supply, or pay penalties. Thus, there exists a strong incentive for the suppliers to offer Power Purchase Agreements to independents. However, a Premium FIT solution would not necessarily provide an obligation. Of course a Premium FIT could be combined with an obligation system – with the electricity suppliers being given a penalty for failure to supply a given amount of renewable energy towards their target. However, both CfDs and Fixed FITs could be operated together with a supplier obligation as well, so it is no more likely that a Premium FIT system would have one. The point is that without an obligation, or Fixed Feed-in Tariff contracts that can be accessed by companies who cannot trade on the wholesale electricity markets, there is no guarantee that the ‘Big Six’ will offer PPAs to independent renewable developers.

The Premium FIT concept has been given support by sections of the renewable energy industry. This can be understood partly in terms of the industry wanting to retain the relative generosity of the Renewables Obligation. However, it can also be argued that as a large proportion of the renewable energy developers in this country are themselves owned by electricity suppliers, there is also an interest in those companies retaining control over the renewables market. This control is achieved through a Premium FIT, or, indeed, with CfDs. The point is that it is usually only the electricity suppliers who can trade on the electricity markets, and so all but the largest independent generators need PPAs with the electricity suppliers under a Premium FIT system, just as independents need PPAs with electricity suppliers under a CfD system. It does seem then, that to encourage genuine competition among a wide number of players, a Fixed FIT rather than CfDs or a Premium FIT needs to be employed.

It may help to understand the appearance of arguments for what are, in rational terms, the inferior policy options of CfDs and the Premium FIT (compared to the optimum solution of a Fixed FIT), if we understand the interests of the electricity suppliers themselves. They have no commercial interest in allowing the sort of level playing field in access to Feed-in Tariff contracts between them and independent generators that is afforded in the case of a Fixed FIT option. Leading electricity suppliers will face declining sales of electricity from their own power stations as the proportion of electricity supplied from renewable energy rises. So they want to own, or at least control, the expanding renewable energy market. If electricity suppliers can ensure that a system exists whereby independent generators are beholden to them to issue PPAs, then the electricity suppliers can either simply not issue PPAs to independents or charge them transaction costs for giving them contracts. In this way the electricity suppliers can prevent loss of income resulting from the loss of electricity markets to independent renewable generators. Of course the interests of the consumer lie in there being greater competition to increase the volume of renewable energy supplied at a lower cost, and this is best served by a Fixed FIT system which offers a level playing field of competition between independent generators.
Contracts for Difference explained

CFDs involve a contract (a type of power purchase agreement) which will be issued to a generator to guarantee that they will be paid a set price for each unit of energy generated over an agreed period of time. In the short term the generator will receive the wholesale market price for their power. Then at the end of a given time period, the payments will be topped up to compensate the generator for those times when the market price was lower than the contract price. Of course the generator will also pay back money earned if the prices are over the set amount for a given period.

CFDs are currently often used in agreements between electricity suppliers and conventional power stations. Now however, as applied to ‘low carbon generation’ (described by the Government as nuclear power, renewable energy and carbon capture and storage), CFDs would involve the Government setting a pre-determined price (called a ‘strike price’) for generation. The generators would, in the short term, receive the market wholesale prices for their power, but have this amount topped up (or reduced sometimes) to match the strike price set out in the long-term contract.

Under the Government’s proposals for CFDs the contracts would be issued to renewable developers by the System Operator, the National Grid, which would state that they would pay whatever strike price the Government decided to pay for a particular technology. (A different strike price is expected to be set for each technology). The Government has pledged to reveal its chosen strike prices for different low carbon energy technologies by the end of 2013. However, there is also provision in the Energy Bill for special ‘investment instruments’ to be drawn up so that large projects can be given the go-ahead earlier. The Government has not, as yet, committed itself to definitely revealing the price given in contracts issued under this provision.

The payment of revenues to generators would be handled by ELEXON. This is a subsidiary of the National Grid which oversees and operates the trading and payments associated with the balancing mechanism in UK electricity markets. ELEXON would perform the function of ‘topping up’ or, on rare occasions, taking away money from the payments made to low carbon generators on the basis of the ‘difference’ with the wholesale electricity price. Usually the wholesale electricity prices will be rather lower than the strike price payable for a particular low carbon technology, although occasionally, at time of especially high electricity demand relative to supply, the wholesale price might be higher than the strike price.

ELEXON will also expedite transfers of money from consumer bills to fund payments to projects with low carbon CFDs in respect of each generator. The generators will be paid by the electricity suppliers, but ELEXON will even out differences between charges on consumers from different electricity suppliers by levying consumers in proportion to the share of total low carbon CFD payments made by particular suppliers. This is a process of ‘equalisation’ which is used in several policies including the existing sub-SMW FIT.

The electricity market is decentralised in the sense that (unlike for a period in the 1990s) there is no centrally despatched ‘pool price’. The prices are agreed bilaterally – this makes it very difficult to determine what the market price is. However what can be done is that particular electricity trading markets can be chosen as representing a ‘reference price’ which can be used as a proxy for the market.
wholesale price. Low carbon energy generators will be paid (or have to pay) the difference between this reference price and the strike price.

In practice there is no guarantee that the actual price earned by a particular generator will be the same as the ‘reference’ price, leading to uncertainty for investors as the payment of the rate for a particular renewable technology is therefore not guaranteed. This in itself is a critically important issue given that the uncertainty over prices may well lead to considerably higher investment costs for the projects.

A fundamental flaw with the CfD model is the level of uncertainty that prospective investors are faced with about what return, if any, a project will make. These uncertainties include:

- Will it be possible to sell the electricity on the market?
- Will it be possible to make the ‘reference’ price?
- When will I know whether I will get a Contract for Difference?
- Will the contract for difference be guaranteed?

This uncertainty drastically pushes up the cost of capital, and therefore the cost of the project, and ultimately, the cost to the consumer. Moreover, for independent generators, the answer to these questions is largely left in the hands of the ‘Big Six’ energy companies who, as they control 99% of the retail market, to a large extent determine what electricity will be bought, from whom, and at what price. In practice, as explained later, most independent generators will not be able to develop their own projects as they are unlikely to gain access to reasonably priced Power Purchase Agreements.

Below the crucial faults in the CfD arrangements are examined.

Contracts for Difference: Increasing the market dominance of the ‘Big Six’

A substantial proportion of renewable energy projects are established under the existing Renewables Obligation, by independent generators. Under the RO, as mentioned earlier, the electricity suppliers are obliged to meet their targets or pay penalties. So they have an incentive to offer Power Purchase Agreements to independent generators, and independent generators can obtain a good price for their ROCs if they sell them on the market for ROCs. Without the independent generators it is likely that the RO would have been much less fulfilled than it has been, leading to an even more inefficient mechanism with even higher earnings for the ‘Big Six’ electricity suppliers than have been the case. There have been a few cases of farmer-owned and community-owned windfarms (for example Westmill Windfarm in Oxford), with the Scottish Government having a target of 500 MW of capacity from community wind power by 2020. However the large bulk of independent renewable energy generation has been developed by companies such as Fred Olsen Renewables, Renewable Energy Systems and Wind Prospect. Some of these projects are very large by any standards, the largest being above 100 MW in capacity. Often the projects have been sold on to the major electricity companies, but it is doubtful that the projects would have been developed in the first place without the action of the independent companies.

However, under the CfD concept, the electricity suppliers (mostly, in effect, the so-called ‘Big Six’) have no incentive to give PPAs to independent generators at anything other than a heavily discounted rate (ie they would pay the independent generator a lower rate for their generation). Further, in practice only electricity suppliers and a handful of very large generators will be able to obtain contracts. This applies to very large independent developers as well as small ones. In theory the regulations allow any project above 10 MW in size to trade on electricity markets. However, the requirements to post large sums for collateral (so that they can pay possible imbalance penalties) and the need to employ a trading arm and the need to establish the necessary trading agreements, make participation in electricity trading virtually impossible even for independent developers who organise projects as large as 100 MW. Smartest Energy, a small electricity supplier, report that they
have to post collateral of over £100 million, as well as paying trading services fees and imbalance fees (Groves 2011). The CfD proposals threaten to make things even worse for independent generators and small suppliers by creating a new need to post collateral for the ‘difference’ payments as well as the ordinary power price.

Moreover any contracts for buying electricity (PPAs) would be provided by those who trade on the electricity markets - in practice this would comprise only electricity suppliers and very large generators (well over 100 MW). Such actors would have little incentive to give Power Purchase Agreements to others. Electricity suppliers are no longer obliged under the CfD proposals to achieve a given target for renewable energy (unlike under the RO). Independents are likely to be seen as competitors with the electricity majors, to whom giving PPAs will do the latter’s business no good. Hence the electricity suppliers are unlikely to give out PPAs to independents, except possibly at a significant discount in order to make a substantial profit. Gordon MacDougall of Renewable Energy Systems has suggested that such discounts could be ‘excessive’ (Select Committee on Energy and Climate Change 2012c).

This problem is recognised by the renewable energy trade associations, RenewableUK and the Renewable Energy Association. As discussed later, both associations have called for the Government to put measures in place that would ensure that independent generators have access to good contracts (Select Committee on Energy and Climate Change 2012b Ev 135 and 199).

Contracts for Difference: Reducing Competition and Market Diversity

Supporters of CfDs claim that making renewable energy generators trade on electricity markets will improve market efficiency by giving the generators an incentive to sell at the highest market price through exposure to market competition. However this is a specious argument for several reasons. The biggest reason is that far from increasing market competition, CfDs will reduce it by strictly limiting the number of players in the market able to develop renewable energy projects – no trading desk, no participation. The second issue is the complexity of the market arrangements, which gives the vertically integrated ‘Big Six’ companies increased opportunity to game the market and also to keep efficiency gains to themselves, rather than pass them on to consumers. Third, the complexity of the payments system and the lack of a necessary link between what a generator is actually paid for its output on wholesale electricity markets and the amount that the system calculates will be earned by generators inject uncertainty and risk into calculations of future returns. Finally, as has been discussed earlier, it is simply incorrect to claim, as has been widely assumed, that a Fixed Feed-in Tariff cannot involve the efficient operation of electricity markets and competition in the sale of wholesale electricity generated by renewable energy projects. In fact, arrangements can be designed to deliver Fixed FITs that give greater competition in the sale of wholesale electricity than are present in the CfD arrangements, and a Fixed FIT is more cost-effective for the consumer compared to CfDs.

In its White Paper the Government says that elements of the design of CfDs are drawn from arrangements running in Denmark for offshore windfarms and in The Netherlands for renewable energy as a whole (DECC 2011). These systems are said to be similar to CfDs and also to involve ‘auctioning’ of contracts. A tactic which, as discussed later, is likely to damage renewable energy. The auction system is especially unsuitable for deploying onshore wind schemes, and yet this is the first technology that would be procured with the auction system under the UK Government’s plans.

It is difficult to maintain a serious case that the Danish and Dutch cases represent cost-effective ways of promoting renewable energy after the modest nature of the quantity of renewable energy that is being deployed in these countries is taken into account. Cost saving under these systems results simply from the sheer absence of new renewable energy schemes. In the period January 2009 to January 2012, according to WindPower
Fixing Electricity Market Reform

Leading electricity suppliers will face declining sales of electricity from their own power stations as the proportion of electricity supplied from renewable energy rises. So they want to own, or at least control, the expanding renewable energy market.

Monthly (the trade magazine), around 100 MW of wind power was installed in the Netherlands compared to around 1850 MW in the UK in the same period. Basing a renewable energy support system on that used currently in the Netherlands and Denmark is a very bad sign for EMR.

The Danes virtually invented modern wind power in the 1970s, 1980s and 1990s, and made rapid progress in deploying wind power up until 2003. However, since the introduction of a CfD model when the Danes began their ‘auction’ system for offshore windfarms in 2003 (with their Fixed Feed-in Tariff ending in 2002), the record has been much thinner. Since the start of 2003, while the UK has installed around 6700 MW of wind power (2360 MW offshore), less than 800 MW of wind power has been installed in Denmark (400 MW offshore). This shift has come about in the context of Danish Government policy changing the emphasis away from support schemes that helped locally-owned projects install wind capacity, which previously dominated in Denmark.

The British Renewables Obligation may have its faults, but at least it has delivered a more respectable number of wind projects, with current deployment now running at over 1000 MW a year. In Germany, which has a Fixed FIT system, some 14,400 MW of wind power has been deployed in the period from the start of 2003 to the beginning of 2012. When renewable energy deployment needs to be stepped up dramatically in order to meet the target for the UK in the EU Renewables Directive, it is worrying that the Government is opting for a mechanism that has led to a sharp fall-off in deployment elsewhere.

Contracts for Difference: Hidden subsidies for nuclear power

The Government’s insistence that its proposals do not involve subsidies for nuclear power is contradicted by the fact that the top-up payments to bring the income stream up to what is equivalent to the strike price will be above the market reference price.

The Government has said that it does not define as a subsidy that which is also given to other forms of low carbon power – creating a need to use the same support mechanism for nuclear as for renewable energy. This is necessary as EU state aid rules prohibit actions by state agencies to favour some private interests over others, in particular by giving them preferential subsidies (Europa 2012a). There are some exemptions. These include ‘aid for the protection of the environment, in particular those allowing enterprises to go beyond Community standards, taking the form of tax reductions or encouraging investment in energy saving and the promotion of renewable energy’ (Europa 2012b). Hence there is no problem with state agencies being involved in giving support to renewable energy, provided it is authorised by the European Commission. However, the same is not the case with nuclear power, which is not exempted from state aid rules.

Subsidising nuclear power would also contravene the Coalition Agreement. Recently, Southern and Scottish Energy (SSE), one of the ‘Big Six’ companies, attacked the CfD proposals as a means of subsidising nuclear power. The Select Committee on Energy and Climate Change has also criticised the arrangements as involving a hidden subsidy for nuclear power (Select Committee on Energy and Climate Change 2011). CfDs are a piece of bureaucratic navigation which confuse the picture unnecessarily for renewable energy, which is caught up in the current negotiation process about whether CfDs meet EU state aid rules. It is perfectly straightforward to adopt administrative procedures to give state guarantees for renewable energy. The political requirements to adopt circuitous CfDs as a means of framing nuclear as a general low carbon source appears to be the real reason why the Fixed FIT has been so easily ruled out as an option to finance renewables. As can be seen, the politics of promoting nuclear power have severely damaged the prospects for promoting renewable energy.

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Contracts for Difference: Crucial detail still missing

A widespread criticism of the current CfDs proposal is that it does not involve the Government guaranteeing that the strike price will be paid. Instead it is left to a series of private sector institutions to arrange payment and collectively act as a ‘multiple counterparty’. This is different to the normal practice of renewable energy Feed-in Tariffs, where the prices are guaranteed by regulations set by Government.

In the case of the UK’s small renewables Feed-in Tariff, not only are the tariff structures simple (with no reference to wholesale electricity prices), but the scheme is administered through Ofgem, the government’s regulatory body for gas and electricity. There are fears that the Government’s proposals for CfDs will result in a lack of confidence amongst investors and banks that the contracts will be fully honoured. It seems that none of the organisations involved in administering CfDs is able to offer absolute guarantees of payment.

This means that CfD contracts may not be legally enforceable since there is no specific agent that can be sued for failure to pay money according to the terms of the contracts. The Select Committee on Energy and Climate Change declared that ‘None of the evidence received for this inquiry suggested that the draft Bill’s proposed “multiparty contract” (termed a “synthetic” or “virtual” counterparty by some) would work in practice’ (Select Committee on Energy and Climate Change 2012a). This will have to be resolved if CfDs are to work – but the lack of resolution so far should test the assumption that a change in the support mechanism – from CfDs to a Fixed FIT – would cause much further delay than proceeding with the CfD model.
Auctions, caps and the Levy Control Framework

It is bad enough that CfDs will seriously damage the ability of independent developers to bring forward renewable energy projects. When the proposed system of ‘auctions’ and the Treasury-imposed Levy Control Framework (LCF) are taken into account the EMR package could severely limit renewable development.

The Government is proposing an auction system for awarding CfDs for renewable energy, with onshore wind being the first in line. As has been discussed, auctioning off electricity generated by existing renewable schemes as a way of integrating renewable electricity production into the electricity markets can be an attractive idea. On the other hand auctioning off contracts to prospective renewable energy generators will very often be a bad idea.

An auction system involves developers being invited to submit projects for development at a ‘bid’ price. Those developers making the lowest bids will be awarded contracts sufficient to fill up the quota of capacity earmarked for development by the government at any given period.

Yet onshore wind is a most inappropriate technology for this auction and capping instrument, and the outcome for deployment rates would be very negative. This is likely to lead to a repeat of the outcome of the renewable ‘Non-Fossil Fuel Obligation’ in the 1990s (Mitchell 2000). Under this type of tender/auction system there is a tendency for developers to put in optimistically low bids in advance of knowing the full conditions (eg wind speeds and grid connection costs). Hence many of the projects may be uneconomic. Then many of the projects can fail to obtain planning permission. If, for example, only half the projects proved to be economic, and only half the remainder achieved planning consent (assuming planning consent rates of 50 per cent) then only 25 per cent of the projects awarded contracts after the auctions would actually be developed. Certainly the implementation rate of projects given contracts under NFFO was low (Wiser 2002). The Government says that it will counter these problems by having a system of penalties for failure to complete the projects. However, given the nature of the British planning system, with its many requirements to be met at different stages even for projects that ultimately achieve planning consent, it is difficult to see how a penalty system could be realistically implemented and also without adding very considerably to the costs of the projects (which would defeat the object of the auction system in the first place).

In addition to this the Government proposes to include CfDs in the Levy Control Framework. This imposes a cap on spending on certain environmental policies levied on bills, within a defined period (eg five years: a government’s spending review period). The problem for developers under this is that they can invest time and money in a proposal which obtains planning consent and is economic according to the level of support, but is then denied a contract for, say, 18 months, because the budget for the period has been filled. This policy, designed by the Treasury, is indicative of a mindset that is mainly concerned with ensuring that there are strict limits on spending on renewable energy, with less priority given to fulfilling the EU legal target for renewable energy. Yet the Government can control the rate of deployment, and the costs, through means that do not disrupt investment plans as much as the proposed LCF. The Government controls consenting for offshore windfarms directly, and the onshore programme could be controlled through a policy of reducing Feed-in Tariff rates if deployment rates appear to be too rapid, as with the small-scale Feed-in Tariff. However, over-rapid deployment is not the problem with the UK renewables programme – rather, the opposite is the case.
What next for the Energy Bill?

Amending draft legislation to implement a Fixed FIT for renewable power at all scales

The Select Committee on Energy and Climate Change have suggested increasing the size of the small renewables Feed-in Tariff from 5 MW up to 10 MW or even 50 MW in size (Select Committee on Energy and Climate Change 2012a, para 70). If the small Feed-in Tariff could be expanded, with a Feed-in Tariff rate that was similar to that earned under the CfD, this would be a better option than doing nothing, but this is far from an ideal solution. This is because many independent renewable projects have been considerably bigger than 10 MW or even 50 MW in capacity. Indeed it would be far better to have a Fixed FIT that was designed to deal with all larger renewable energy schemes (ie above 5 MW) instead of the CfD. This could be simply introduced by building on the existing FIT legislation.

A Fixed FIT could be implemented through making suitable amendments to the 2008 Energy Act, the legislation which brought the small renewables Feed-in Tariff into being. Under this legislation electricity suppliers have to purchase the electricity generated by small renewable installations; and the payments made to the renewable generators by the electricity suppliers (one payment for all capacity they generate and another smaller payment for anything they don’t use themselves and export into the network) are levelised among all electricity consumers in a mechanism organized through Ofgem. In general, the same system could be used to organise larger renewable energy schemes. However, as argued earlier, we need to avoid electricity suppliers making excessive claims for compensation through a balancing medium – and large-scale renewable energy projects, so an independently organised system of issuing Fixed FIT contracts is necessary, rather than leaving it up to individual electricity suppliers to issue FIT contracts. Nevertheless there is scope to amend
the 2008 Energy Act to achieve such ends (HMG 2008). Section 41 (1) already gives power to the Government to alter the licences of the electricity suppliers, and a new version of Section 41 (2) could be added which differs from the present version only by leaving out the term ‘small-scale’. There could also be a version of the following clause (3) which could mandate the electricity suppliers to establish a ‘Feed-in Tariff Contracts Authority’ (FTCA) which would issue contracts on behalf of the electricity suppliers collectively, in much the same way that NFFO contracts were administered in the 1990s (Ofgem 2007). Ofgem could be involved in levelising the payments needed from electricity consumers to pay the generators, as in the case of the small renewables Feed-in Tariff scheme.

Common to any Fixed FIT approach is giving a body authority to issue FIT contracts. This body could be Ofgem, although it may be that a dedicated body could be established since Ofgem also has a policy-monitoring role which could be better kept separate. However, we assume that, say, a ‘Feed-in Tariff Contracts Authority’ could be established. This FTCA would issue contracts upon demand to any renewable energy developer and pay Feed-in Tariff rates applicable to that technology, as set by Government. The rates payable for the technology-specific Fixed FIT contracts could be set by Government following advice by a panel of experts about what prices were necessary to achieve the target level of installed capacity. The FTCA could sell the value of the electricity generated as a result of the Fixed FIT through a series of regular auctions like those organized by the NFPA to sell renewable NFFO contracts.

A further clause could be added giving the Government power to alter the licence of the System Operator in order to give them responsibilities for, and incentives towards, balancing the output of renewable energy schemes. This would fit in with suggestions made by David Newbery (Newbery 2011). If this was not done then the task of balancing would fall to the (electricity supplier) owners of Fixed FIT contracts sold in the auctions.

As is the case with the small renewables Feed-in Tariff, the amount payable for a particular renewable technology and the schedule of payments to renewable generators under the Fixed FIT could be set out through a separate order under delegated legislation, except that the payments would be made by the FTCA rather than individual electricity suppliers (DECC 2012b).

There is great concern among renewable energy developers that the EMR process is leading to considerable uncertainty about what will happen from 2014, when the transitional phase moving from the Renewables Obligation to CfDs starts, ending in 2017 with full implementation of EMR.

The Government should end this uncertainty. This can be helped by announcing its intention and swiftly bringing forward changes to the 2008 Energy Act to implement a Fixed FIT for medium and large scale renewable energy projects. However, if there is a chance that the Fixed FIT might not be operable from 2017, when the Fixed FIT could be expected to start, then the Government should use its powers of delegated legislation to issue a new Renewables Obligation Order. This Order would be extended so as to compensate for any delay in the timetable for introducing the new Feed-in Tariff arrangements. So, for example, if the implementation of the Fixed FIT was delayed until 2018, then the RO should be extended from finishing in 2037 to a 2038 finish.
Note: All web references accessed during September 2012


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Friends of the Earth England, Wales and Northern Ireland

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