

Title: Electricity Market Reform - Consultation on proposed amendments to the Supplier Obligation IA No: DECC0198 Lead department or agency: Department of Energy and Climate Change Other departments or agencies: N/A	Impact Assessment (IA)
	Date: 08/09/2015
	Stage: Consultation
	Source of intervention: Domestic
	Type of measure: Secondary legislation
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Summary: Intervention and Options	RPC Opinion: Not Applicable

Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present	Net cost to business per year (EANCB on 2009	In scope of One-In, Two-Out?	Measure qualifies as
£39m	-	-	Out of Scope	Tax & Spend

What is the problem under consideration? Why is government intervention necessary

Internal review and early stakeholder feedback on the operation of the CFD Supplier Obligation (SO) have revealed a number of issues which suggest that amending its the design would allow it to deliver on its objectives at a lower cost to consumers. DECC is therefore consulting on a set of proposed amendments to the SO that would improve the efficiency and transparency of the scheme, reducing both costs for suppliers (hence consumers) and the level of risk faced.

What are the policy objectives and the intended effects?

The SO underpins the Contracts for Difference (CFD) scheme by setting out the processes and rules determining collection and payment of monies between the CFD Counterparty (the Low Carbon Contracts Company or 'LCCC') and electricity suppliers. The design of the SO is intended to ensure that the LCCC has sufficient funds to be able to make payments to CFD generators and hence ensure that there is a credible counterparty to CFDs, whilst limiting the exposure of suppliers to both CFD payment volatility and the risk of over-payment, which will reduce costs to electricity suppliers and their consumers.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

This IA assesses the impacts on affected parties of implementing six proposed measures under one 'lead policy option' ('Policy Option 1') against a 'Do Nothing' option.

Four of the measures assessed directly impact the timing and amount collected and paid through the SO and have quantifiable financial impacts. These measures are:

- (i) A change to the calculation of the 'Interim Levy Rate' (ILR), so that the rate is based on expected net payments in respect of generation within the quarter, rather than payments expected to be made to CfD generators during a quarter.
- (ii) Making reconciliation payments more quickly after a quarter ends, rather than retaining them for 90 working days as presently.
- (iii) Changing the timing of forecast cash flows considered in the calculation of the Total Reserve Amount (TRA), to cover expected payments to generators for the period between the reserve payment due date of one quarter and the following quarter, rather than payments to generators within a single quarter.
- (iv) Allowing the LCCC to reduce the TRA and the ILR without notice.

Two further options which aim to improve the abilities of both the LCCC and suppliers to manage risk through greater transparency are assessed on qualitative basis. These are:

- (v) Requiring the LCCC to publish and update estimated CFD start dates in the CFD Register, and;
- (vi) Requiring that the LCCC publish regular projections of CFD costs for a further three quarters.

Further measures are proposed in the consultation published alongside this IA. Since these are considered to be technical or minor correctional measures, they are not assessed in this IA.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: 2019					
Does implementation go beyond minimum EU requirements?			N/A		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro No	< 20 No	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)			Traded: N/A	Non-traded: N/A	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister: *Andrea Leadson* Date: 10 September 2015

Description: Implementing changes (i) – (iv) described above.

FULL ECONOMIC ASSESSMENT

Price Base Year	PV Base Year	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low: 31.2	High: 46.3	Best Estimate: 38.7
2015	2015	5			

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low		0.31	1.6
High		0.47	2.3
Best Estimate		0.39	2.0

Description and scale of key monetised costs by ‘main affected groups’
 Under current regulations, suppliers need to post collateral to cover 21 calendar days of interim rate payments. It is expected that, on average, the daily interim levy rate (ILR) charged to suppliers will increase under this policy option. This will require higher amounts of collateral to be posted, resulting in an estimated annual **£390k** extra cost to suppliers in the form of financing cost (see key assumptions below).

Other key non-monetised costs by ‘main affected groups’
 Minor costs (associated with correctional/technical changes to pre-existing IT systems, and administrative processes) are expected to be borne by the LCCC.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low		6.5	32.7
High		9.7	48.6
Best Estimate		8.1	40.7

Description and scale of key monetised benefits by ‘main affected groups’
 Suppliers are estimated to make savings on financing costs of £8.1m per year. This follows from the lower Total Reserve Amount (TRA) required by the LCCC under measure 1, and the lower average amounts held in reserve as a result of measure 2, which would ensure that the remaining reserve balance is returned as soon as possible after a quarter ends rather than held for a further 90 days.

Other key non-monetised benefits by ‘main affected groups’
 It is expected that the publication of up-to-date information on CFD generator start dates and forecasts, allowing for improved foresight about future CFD costs, will improve the ability of suppliers to manage risk. This, in turn, should reduce risk premia built into consumer tariffs and overall costs to consumers. Increased flexibility in revising the ILR and TRA down (but not up) without notice, where previously the TRA could only be revised upward (if the LCCC considers it will collect more from suppliers than needed) will improve efficiency by reducing the probability of over-collection of funds by the LCCC.

Key assumptions/sensitivities/risks **Discount rate** 3.5%
 Costs and benefits estimated in this IA are based upon the estimated change in quarterly TRA sizes and ILRs as a result of the proposed changes for the period 2016 to 2020. In line with previous Supplier Obligation analysis (e.g. the June 2014 IA) reserves submitted to cover LCCC cash flow risks are assumed to attract an industry-weighted cost of finance of between 6.7%-10%.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OITO?	Measure qualifies as
Costs: 0.3-0.5	Benefits: 7-10	Net: 6.2-9.3	No	NA

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Overview

1. The CFD Supplier Obligation (SO) sets out the rules that determine how the 'Low Carbon Contracts Company' (the LCCC, the CFD Counterparty) collects payments from electricity suppliers in order to make payments for electricity produced by generators who hold Contracts For Difference (CFDs).
2. The SO is designed with the aim of providing CFD generators with a sufficient level of certainty of receiving payments due under their contracts whilst mitigating, as much as possible, any adverse impacts that CFD payment volatility may have on suppliers and consumers in terms of risk, competition and cost.
3. Based on an internal review and early industry feedback on the operation of the SO¹, DECC are consulting on a set of proposed amendments to the rules underpinning the SO, which will enable it to better meet its objectives.
4. The proposed amendments can be categorised as:
 - (i) changes to the way in which payments between suppliers and the LCCC are managed or calculated, in order to improve their efficiency;
 - (ii) changes to provide more transparency and information for suppliers about future CFD payment liabilities; and
 - (iii) additional minor and technical changes.

Costs and benefits considered in this IA

5. The current design of the SO was decided upon after an appraisal of options for its design set out in the June 2014 IA¹. This IA quantified the costs and benefits of implementing different design options by looking at their impacts on:
 - **Administration costs** incurred by the LCCC and electricity suppliers;
 - **Financing costs**, which were comprised of costs associated with collateral, risk premia, and the financing of reserve payments by electricity suppliers.
6. As is detailed further in this IA, the measures appraised under 'Option 1' (i.e. those in the first two of the three categories listed above) are not expected to have a significant impact on administration costs. In addition, sufficient data is not available to quantify the impact on risk premia charged by electricity suppliers of implementing the suite of measures proposed under Option 1. The cost impacts of these are therefore considered qualitatively within this IA.
7. It is anticipated that some of the changes proposed will directly affect the amount of cash paid by electricity suppliers to the LCCC and subsequently costs of financing incurred by suppliers to make these payments. We anticipate further that these savings will be passed on to consumers through reductions in tariffs levied on consumers and hence consumer bills, further contributing to DECC's affordability objective.
8. The financing cost impacts of implementing measures 1-4 (see below for further detail) which directly relate to the calculation and payment timings of the Interim Levy Rate (ILR) and Total Reserve Amount (TRA) are quantified.

¹ Whilst no payments are yet due under CFDs, the supplier obligation regulations are in force. The Total Reserve Amount (TRA) and Interim Levy Rate (ILR) for the second and third quarterly levy periods (July – September and October – December 2015) have been set at zero by the LCCC, reflecting their expectation that they will not be required to make payments to CFD generators during these periods.

Evidence used

9. To estimate the financing cost impacts of implementing the measures listed under Policy Option 1, we asked the LCCC to use their Supplier Obligation Forecasting Model (SOFM) to estimate the impact of each relevant proposed measure on the ILR, TRA, and average reserves held by the LCCC for potential CFD generation between Q1 2016 and Q1 2018, relative to a scenario where no measures are implemented. We then apply an estimated cost of financing to the difference in reserve amounts and collateral held by the LCCC resulting from each measure to estimate the difference in financing cost incurred by suppliers.
10. The absolute ILRs, TRAs, and collateral requirements in future years are uncertain, as they depend on the number of CFD contracts signed, the strike prices in those contracts, the amount of CFD generation, future wholesale electricity prices, and future electricity demand. This IA therefore focusses on the *relative* impact of the changes on potential ILRs and TRAs under a hypothetical scenario for the future value of these parameters, and the changes in financing costs that might result. The actual extent of changes in financing costs will depend on the actual level of CFD payments.
11. Note that the implementation date of the proposals, if taken forward, will be determined following the consultation in light of feedback from stakeholders and further analysis of the changes required to LCCC systems. Given legislative timelines and the system changes required, it is unlikely that the proposals will be fully implemented until mid-2016 or later. Therefore, the overall benefits to consumers may be somewhat lower than estimated in this IA, although the effect is likely to be very insignificant given the low level of CFD payments expected in 2015/16.

Structure of this IA

12. This IA is split into the following sections:
 - (i) **Current design and objectives:** describes key features of the current SO design relevant to this IA;
 - (ii) **Problems and options under consideration:** sets out key problems with the current design of the SO and the options proposed to address these;
 - (iii) **Cost benefit analysis:** presents the qualitative and, where possible, monetised impacts of implementing the measures proposed, and
 - (iv) **Conclusion:** summarises the key findings from the cost benefit analysis and this IA.

Current Design and objectives

13. The current design of the SO was chosen after extensive consultation and a final appraisal of several proposed options presented in a final Impact Assessment (IA) published in June 2014.²
14. In the current design, the Low Carbon Contracts Company (LCCC, the CFD Counterparty) collects money from electricity suppliers in order to make payments to CFD generators. The amounts and timing of payments to CFD generators are set out in the terms of their CFDs. The supplier obligation regulations ('ESO regulations')³ determine how the LCCC collects payments from electricity suppliers through the SO. These specify that the SO takes the following form.
- Suppliers are liable for actual CFD payments according to their market share on the day of generation to which the payment relates (or, for rare 'non-generation payments', for their market share during the quarter in which the payment was made);
 - As the amount of actual CFD payments cannot be known with certainty in advance (because it depends on the volume of CFD generation and market prices), suppliers are required to make 'pre-payments' against their eventual liability;
 - The amount of these pre-payments is determined by the LCCC. The ESO regulations require the LCCC to set a £/MWh 'Interim Levy Rate' (ILR) three months in advance of each quarter, on the basis of net payments to CFD generators that it expects to have to make in the quarter, divided by forecast supply during the quarter. The ILR is intended to be an estimate of the income from suppliers required to enable the LCCC to make CFD payments to generators during a quarter, if CFD payments are at the 'expected' level. Suppliers are required to make daily interim rate payments for each MWh supplied during the quarter;
 - To reflect the risk that payments to CFD generators could be higher than anticipated, the LCCC are also required to set a 'Total Reserve Amount' (TRA) for a quarter, at a level that, when combined with expected income from ILR payments, would provide the LCCC with sufficient cash to make payments to CFD generators over a quarter in 19 out of 20 scenarios⁴ (or with a 95% level of confidence). Suppliers are required to make lump sum 'reserve payments' on around the 7th working day of each quarter, representing their market share of the TRA (as determined three months before the payment is due);
 - Where the ILR is non-zero, the LCCC set the TRA by performing multiple runs of a stochastic model of the GB electricity system, the Supplier Obligation Forecasting Model (SOFM). This uses historic volatility in market prices, demand, and generation to estimate potential cash flow scenarios for the LCCC and the probabilities of these occurring. The TRA is set at a level that would enable the LCCC to make payments in 95% of all potential outcomes on the basis of CFD contracts it is, or expects to become, counterparty to;
 - After the end of the quarter, suppliers' interim rate and reserve payments (via the ILR and TRA respectively) are reconciled against their share of **actual** net CFD payments for the quarter; and

² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/35964/Supplier_Obligation_Impact_Assessment_-_June_2014.pdf

³ The Contracts for Difference (Electricity Supplier Obligations) Regulations 2014, No. 2014.
<http://www.legislation.gov.uk/ukxi/2014/2014/contents/made>

⁴ During consultation with industry on the design of the SO, it was decided that a 95% level of confidence of being able to make payment to suppliers would provide a level of certainty of payment to CFD generators.

- A 'reconciliation notice' is issued to each supplier informing them of any monies owed to the supplier (or to the LCCC in rare circumstances – i.e. where a supplier's shortfall exceeds their TRA payment). This payment is due 90 days after the reconciliation notice is issued, which is the same date that the reserve payment is due for the following quarter. This design was chosen because it provides suppliers with 3 months' certainty over future payments, making it easier for them to manage their cashflow.
15. By setting and announcing a fixed rate to be levied on suppliers, as well as a reserve amount to be posted by suppliers in this way, it is expected that suppliers will have better insight into future CFD payments and cash flows. The June 2014 IA determined that this would be important for competition, given smaller suppliers' lack of access to sophisticated hedging capability relative to larger suppliers, thus mitigating the adverse impacts on competition of CFD payment volatility.

Problems and options under consideration

16. This section describes the design of some of the core components of the SO, explains current issues with their design and sets out the proposed measures for dealing with these issues. The components discussed are:

- **Issue 1:** Calculation of the ILR;
- **Issue 2:** The retention of reconciliation payments for 90 days after issue of the reconciliation notice;
- **Issue 3:** Alterations to the period covered by the TRA;
- **Issue 4:** Flexibility in adjusting the TRA and ILR downward, where it is clear that there is likely to be an over-collection of funds through either.
- **Issue 5:** Transparency of information

Issue 1: Calculation of the ILR

17. The ILR is calculated by dividing net payments the LCCC expects to make to CFD generators in a quarter ('forecast payments') by forecast electricity supply in that quarter, as in the equation below.

$$(i)ILR = \frac{\text{Forecast Payments to generators in Quarter by the LCCC (£)}}{\text{Forecast GB Supply in Quarter (MWh)}}$$

18. 'Forecast Payments In Quarter' for CFD generation (the numerator of the above equation) is distinct from the payments expected to be owed in respect of generation in a quarter (i.e. forecast liability). This is because payments for CFD generation are made 28 days in arrears.

19. There are two potentially adverse consequences to these arrangements:

- First, where CFD generation is increasing quarter to quarter, on average (i.e. even if the LCCC's forecasts for CFD payments and electricity supply were perfect) insufficient cash would be collected over the quarter relative to the amount which would ultimately need to be paid for generation in the quarter because not all interim rate payments are collected by the end of the quarter (i.e. the ILR will be set too low to cover the suppliers' liabilities for a quarter).
- Second, the parameters used in reconciliation differ from the parameters used in setting the ILR (i.e. at the end of the quarter, suppliers' liability in respect of generation in the quarter is reconciled against their interim rate and reserve payments). This may lead to confusion, in particular when it comes to suppliers' communications with their customers.

20. These issues could potentially be addressed by changing the numerator of the ILR equation to payments expected to be made to CFD generations in respect of generation in a quarter ('forecast liabilities').

21. The distinction between forecast payments and liabilities, as well as the calculation of the ILR based on both of these, is drawn out in the example below.

EXAMPLE: Calculation of the ILR based on forecast payments in a quarter versus expected payments in respect of generation in a quarter (forecast liability)

The table below presents a hypothetical scenario in which the amount and value of expected CFD generation increases over three quarters, with respect to a fixed expected total GB electricity supply. This illustrates how calculations of the ILR will differ when calculated on a payments-based methodology versus the liabilities-based methodology.

	Q1	Q2	Q3
Expected daily payments to CFD generators for generation on each day in the quarter	£0.5m	£1.2m	£1.3m
(a) Forecast payments made to generators in quarter (payments 28 days in arrears)	<p><i>Payments made 28 days after generation so 90-28=62 days of generation are paid for in Q1</i></p> <p><i>Payments with respect to generation in current quarter</i> 62 x £0.5=£31m</p> <p><i>Payment for 28 days of generation from this quarter is paid for in the following quarter, since payments are 28 days in arrears</i></p>	<p><i>Payments with respect to generation in <u>previous</u> quarter</i> 28 x £0.5m = £14m</p> <p><i>Payments with respect to generation in <u>current</u> quarter</i> 62 x £1.2m = £74.4m</p> <p><i>Total payments made for quarter</i> £14m + £74.4m = £88.4m</p>	<p><i>Payments with respect to generation in previous quarter)</i> (28 x £1.2m=£33.6m)</p> <p><i>Payments with respect to generation in current quarter)</i> 62 x £1.3m = £80.6m</p> <p><i>Total payments made for quarter</i> £33.6m+£80.6m= £114.2m</p>
(b) Forecast liability in respect of generation in quarter	90 days x £0.5m = £45m	90 days x £1.2m = £108m	90 days x £1.3m = £117m
(c) Forecast GB Electricity Supply	90TWh	90TWh	90TWh
<u>ILR PAYMENTS BASIS</u> (a) / (c)	£31m/90TWh = £0.34/MWh	£88.4/90TWh = £0.98/MWh	£114.2/90TWh = £1.27/MWh
<u>ILR LIABILITIES BASIS</u> (b) / (c)	£45m/90TWh = £0.5/MWh	£108m/90TWh = £1.2/MWh	£117m/90TWh = £1.3/MWh

Measure 1. Changing the ILR calculation so that it is based on forecast CFD liabilities rather than forecast payments

22. It is proposed that the numerator of the ILR calculation be changed from an estimate of net payments to be made to generators during the quarter to an estimate of net payments in respect of generation within the quarter (forecast liabilities).
23. This would bring the ILR calculation into line with the calculation of each supplier's actual liabilities during reconciliation; the interim levy rate would be an estimate of those liabilities, increasing transparency.

24. Changing the calculation in this way will mean that, where CFD generation is expected to increase over time (e.g. as more generators commission), the ILR will on average be higher, since it will include expected payments in respect of the CFD generation on the last 28 days of the quarter (and conversely, will not include CFD payments expected to be made in the first 28 days of each quarter, which relate to CFD generation in the final 28 days of the previous quarter).
25. This will mean that the LCCC collects more money through interim rate payments in a quarter, and hence can set a lower TRA.
26. The June 2014 IA, in setting out the costs and benefits of SO design options showed that there are likely to be financing costs associated with requiring suppliers to make reserve payments to the LCCC, and that this might disproportionately affect smaller suppliers with less access to finance – thus creating a barrier to entry. It follows from this that reducing the TRA, whilst maintaining its objective of providing cash flow security with a 95% level of confidence, is desirable.

Issue 2: Reconciliation, Repayment and Collection of the Reserve

27. After the end of a quarter, the LCCC is required to carry out a reconciliation calculation, which compares the total 'pre-payments' made by a supplier for a quarter (interim rate plus reserve payments) with the supplier's liability for CFD costs relating to the quarter. The majority of the time, it is expected that this calculation will show that a payment is due from the LCCC to the supplier, because the supplier's reserve **plus** interim rate payments are expected to exceed its actual liability for CFD payments for that quarter.
28. A notice will be sent to each supplier detailing the reconciliation amount due to be paid to (or, in rare cases, by) the supplier. This payment is due to be made 90 days after the date the notice is issued, on the same day that reserve payments are due for the following quarter.
29. By retaining reconciliation payments for 90 days, LCCC could in effect hold two TRAs at the same time (since, if the average ILR is accurate in the long term, on average no TRA would be spent), which is not necessary to provide the 95% confidence of being able to make payments to CFD generators, deemed to be an appropriate level of coverage through industry consultation.
30. This creates an avoidable opportunity cost to suppliers. If reconciliation payments were made sooner, suppliers would be able to use these funds for other operations, have improved cash positions, and potentially make cost savings (assuming that raising the reserve amount incurs a financing cost).

Measure 2. Timing of reconciliation payments to be changed, so payment is made as soon as possible after quarter end

31. As outlined above, holding on to reconciliation payments for 90 days is unnecessary to provide the appropriate degree of protection and presents an avoidable opportunity/financing cost to suppliers.
32. It is proposed that reconciliation payments be made 5 working days after reconciliation notices are issued (so 13 working days after the end of a quarter), thus avoiding any unnecessary opportunity cost incurred by suppliers related to funding reserve payments.
33. The consultation document notes that in the rare cases where suppliers owe a reconciliation payment to the LCCC, this would give them less notice of the amount of payment due, and proposes two alternative options to mitigate this risk – making all reconciliation payments 10

working days after the notice is issued, or providing longer payment terms where suppliers owe the LCCC reconciliation payments. These options are not assessed quantitatively in this IA, but views from suppliers are sought on these points in response to the consultation.

Issue 3: Calculation of the Total Reserve Amount ('TRA')

34. As previously explained, the LCCC sets the TRA by simulating future cash balances from the first to the last day of a quarter across multiple simulations of a stochastic model. The TRA is set at a level that ensures that the LCCC would have sufficient money to pay generators in 95% of the scenarios modelled.
35. However, regulations currently specify that the TRA covers payments to generators made between the first and last day of the quarter, so does not take into account the fact that the reserve payments are not due to be paid by suppliers until the 7th working day of the quarter.
36. This means that the LCCC's cash flow risk over the first 7 working days of a quarter is not factored into the calculation of the TRA for the previous quarter, which could mean that the TRA set by the LCCC may not actually provide a 95% level of confidence that it can make payments to generators.

Measure 3. Adjustment in approach to calculation of TRA so that it covers cashflow risk up to the day the next TRA is collected

37. Measure 3 proposes that the calculation of the TRA be altered to reflect cashflow risk in the period between which reserve payments are actually received by the LCCC. This would mean that, in estimating cashflow risk, the forecasting model would look at simulations of cashflows from the 13th working day of a quarter (the day the TRA would be due to be paid to the LCCC if the proposal in Measure 2 is implemented) to the 12th working day of the following quarter. This will make the TRA calculation more accurate in ensuring that the LCCC can expect to have sufficient cash available to make payments to generators in 95% of instances.

Issue 4: Adjusting the TRA and ILR after they have been set

38. Whilst the intention is to maintain a degree of certainty over cashflows for suppliers (by having a fixed levy rate and reserve amount for each quarter), the regulations do enable the LCCC to make 'in-period adjustments' in exceptional situations.
39. Under current rules, the LCCC may adjust the ILR either up or down with **30 days' notice**, where it is of the opinion that either: there is a high degree of likelihood that they will not be able to make the payments to generators required for a quarter (from cash received through the ILR), or where there is a high degree of likelihood that they will collect significantly more than is necessary.
40. Similarly, the LCCC may adjust the TRA upward with a **minimum of 30 days' notice** where it considers that the TRA will be insufficient to cover cash flow risk with a 95% probability over a quarter. However, the TRA cannot be reduced downwards.
41. There is potentially unnecessary inflexibility in the requirement to give 30 days' notice before adjusting the ILR downward and the inability to reduce the TRA at all, which could result in unnecessary over-collections of payments from suppliers, and hence the imposition of unnecessary costs on suppliers and (by extension) consumers.
42. This situation has already occurred, since for the first quarter of the SO's operation (April-June 2015), the ILR and TRA had to be set before the results of the first allocation round were known, and therefore the LCCC had to make assumptions about what plant was likely

to commission during that period. After the allocation round was complete it was clear that no generators had Target Commissioning Windows covering this period, so the ILR was reduced to zero but the regulations prevented the LCCC from reducing the TRA to zero as well. As a result, the LCCC collected over £1m in reserve payments for the first quarter of operation, which were not required to pay generators.

Measure 4. Increased flexibility in revising the ILR and the TRA downward

43. Under this Measure, it is proposed that the LCCC should be able to reduce both the ILR and the TRA if it considers there is a high degree of likelihood that it will collect significantly more from suppliers than it requires to pay generators. It is proposed that the TRA can only be reduced up to the day that the reconciliation notice in respect of the preceding quarter is issued (i.e. the 7th working day of the quarter in which the TRA is due), and that the reductions in individual suppliers' reserve payments would be calculated based on their original market share at the time their share of the original TRA was determined.
44. We consider that this will prevent over-collection and unnecessary financing cost imposed on suppliers, which would ultimately feed through to consumers' bills.

Issue 5: Transparency of information which will allow better forecasting of CFD liabilities

45. In order to be able to manage risk appropriately, suppliers need to be able to estimate what their future costs might be. A key factor here is the expected level of CFD plant generation, which is uncertain for a number of reasons; in particular, when generators plan to start generating and receiving CFD payments.
46. Whilst a generator's nominated 'Target Commissioning Date' is required to be published in the CFD Register⁵, there is currently no obligation on the LCCC or generators to publish the estimated CFD Start Date. This means that suppliers have no visibility on when CFD plants expect to start generating and receiving CFD payments, so will be unable to optimise their management of risk, and suppliers may price this risk into their tariffs, increasing costs to consumers.

Measure 5. Require LCCC to regularly update CFD start dates in the CFD register

47. In order for suppliers to have access to necessary information that may affect their financial forecasts and management of risk, we are proposing to regulate to require the LCCC to publish expected CFD Start Dates in the CFD Register and update these on a quarterly basis.

Measure 6. Requiring the LCCC to produce projections of expected CFD costs for a further three quarters

48. Regulations require that the LCCC publish the ILR and TRA at least 90 days prior to the start of the quarter in which they apply. There are no requirements for the LCCC to issue further forecasts of CFD payments.
49. It is proposed that the LCCC be required through regulation to publish CFD cost projections for the three quarters beyond the latest quarter for which they have set and announced the ILR and TRA. This would mean that suppliers will have access to projections of CFD costs

⁵ <https://lowcarboncontracts.uk/CFDs>

for at least a year ahead, so that they can take a view on likely payments over the medium term.

50. Whilst the LCCC already intend to publish cost projections it is anticipated that there will be value in requiring this to set as a statutory obligation, in part because it will enable the LCCC to make use of information provided by CFD generators to the LCCC under the terms of their contracts, which would otherwise be prevented by confidentiality provisions in contracts.

Cost Benefit Analysis

51. We assess the costs and benefits of implementing the measures detailed above in this section.
52. **Financing Costs Impacts:** In submitting cash balances to be held by the LCCC, whether it is for collateral or for maintaining the TRA, an *opportunity* cost is incurred by suppliers who would otherwise be able to use these funds for alternative profit-generating activities. If these funds are raised through finance, they may also incur a financing cost for the time these funds are held by the LCCC.
53. For the analysis in this IA, as in the June 2014 IA, we assume that the cost incurred by suppliers for posting collateral and maintaining a cash reserve with the LCCC is equal to the amount of cash tied up in reserve or posted as collateral multiplied by an industry-weighted cost of finance, detailed further below.
54. Changes to financing costs represent the only monetised costs/cost savings in this IA, as impacts on other cost/benefit categories are either negligible or not possible to quantify given available data.
55. **Bill Impacts:** The June 2014 IA on the SO assumed that costs incurred by suppliers were passed on to consumers through higher bills. The financing cost impact on bills is estimated by using DECC's in-house Prices and Bills Model⁶.
56. **Administration Costs:** Administration costs in the June 2014 IA were largely related to costs of set-up and operation incurred by suppliers and the LCCC. The LCCC will estimate the costs of implementing these changes in their modelling and settlement systems. We would welcome evidence from suppliers on whether the proposed changes would have impacts and costs on their systems. The final decisions on the implementation of these measures will take into account estimates of these implementation costs.
57. **Risk and Transparency Impacts:** Other proposed changes will influence the ability for suppliers to manage risk. This will largely occur through the amount of transparency or information available to suppliers to facilitate decision-making, and improved foresight on future cash flows.
58. Thematically the measures could be set under two broad headings;
 - (i) Measures 1-4, which deal exclusively with amendments to the rules underpinning the management of payments between parties in the SO, and
 - (ii) Measures 5-6, aimed at ensuring sufficient information is afforded to parties in the SO such that their ability to manage risk improves.
59. The costs and benefits of implementing the lead policy option are considered under these two headings.
60. This IA considers the cost/benefit impacts on market actors:
 - Electricity suppliers
 - CFD generators
 - Consumers

⁶ <https://www.gov.uk/government/publications/estimated-impacts-of-energy-and-climate-change-policies-on-energy-prices-and-bills-2014>

Measures 1-4 – Amendments to rules underpinning the management of payments between parties in the SO

61. In the June 2014 IA, DECC used a probabilistic analysis of payment volatility under CFDs (based on uncertainty in gas prices, wind levels and electricity demand produced by Baringa) to estimate financing and risk premium costs under different SO modelled scenarios. This was conducted using a third-party electricity dispatch model, which ran a number of stochastic simulations of daily CFD generation, CFD payments (from the LCCC to generators) and GB electricity demand for financial years 2017/2018 and 2020/2021. This provided a view on the potential reserve sizes, collateral requirements, insolvency risk payments and fixed levy rates which would arise in SO payment models.
62. Three types of financing costs were calculated; collateral, risk premium and reserve fund financing cost. The rationale for these is that suppliers are expected to incur financing costs for posting funds as collateral and that a risk premium would be priced into tariffs by suppliers to cover inaccurate forecasting of daily CFD payments, either internally or by the LCCC, through the predetermined interim rate(s) over the course of a year.
63. This IA only considers the financing cost impacts of proposed measures on collateral and reserve fund financing costs, as it is not possible to estimate risk premium impacts with a sufficient level of robustness based on data available.
64. Measures 1-4 should have measurable impacts on financing costs, arising from changes to the amounts of cash reserves and posted collateral being required at any given time, due to the changes proposed in these measures. We consider these first here before looking at unquantified impacts.
65. Using outputs from the SOFM, the tool used by the LCCC to set the TRA and ILR, we have been provided with indicative estimates of relative changes in ILRs and TRAs for Q1-2016⁷ to Q1-2018 as they would be under the lead policy option (compared to a baseline of current arrangements), and under a situation where individual measures are implemented (again, compared to a baseline of current arrangements).
66. We can therefore apply industry-weighted financing costs to generate quantified impacts of implementing measures 1-4 arising from:
 - Reserve financing cost impacts, which arise due to the change in the estimated amount of reserve cash to be held or collected by the LCCC at any given time and;
 - Collateral financing cost impacts, which arise from changes to the ILR calculation.
67. It should be noted again that this analysis is based on the *relative change* in TRAs and ILRs, and that the absolute financing costs savings that are experienced will depend on the actual level of CFD payments.

Reserve and ILR changes resulting from Measures 1-3

68. By directly affecting the calculation of the ILR, and the amount of reserve which is held by the LCCC at any given time, Measures 1 and 2 will have a clear impact on financing costs.
69. Under **Measure 1**, on average ILR estimates are expected to be higher (under a general assumption that CFD generation is increasing over the period under analysis, so that the CFD generation generally increases quarter-on-quarter). Table 1 shows that from Q1 2016 to Q1 2018, the average increase in ILR resulting from the changes is 5%.

⁷ As noted earlier in this IA, it is unlikely that the proposals would be in force until mid-2016 at the earliest, so there is unlikely to be any impact on the ILR or TRA for Q1 or Q2 2016. However, for simplicity in modelling it has been assumed that the changes were implemented from the start of the period modelled.

Table 1. Impact on ILR of changing from Payments Basis (Baseline) to Liabilities Basis (Measure 1)⁸

	Q1 16	Q2 16	Q3 16	Q4 16	Q1 17	Q2 17	Q3 17	Q4 17	Q1 18	Annual Average
% Difference between Baseline and Measure 1	57	0	1	1	0	7	9	4	-2	5

70. In terms of reserve sizes, higher ILRs will increase interim rate payments made by suppliers to the LCCC. By increasing the amount of expected interim rate payments, the probability of a cash shortfall is lower, meaning that the reserve required to cover the LCCC with a 95% degree of certainty (TRA) also falls. As a result we would expect TRA financing costs to be lower under Measure 1.
71. Table 2 shows that Measure 1 is expected to reduce average TRAs by 22% on average over the 9 quarters simulated.
72. **Measure 2** proposes that reconciliation payments be made by the 13th working day of the quarter, rather than 90 days after a reconciliation notice is issued (as under the current SO rules). In order to measure the impact on average reserves held by the LCCC, we simply assume that any surplus TRA is returned at the quarter end; this has the effect of approximately halving the time which reserves are held for. We also assume that the full TRA is returned, which if forecasts are correct should on average be the case over time. Table 2 shows that this measure is expected to reduce total reserves held by the LCCC by an average of 47% over the 9 quarters modelled.
73. **Measure 3** would change the calculation of the TRA from one that considers daily cash balances from the first to the last working day of a quarter, to a calculation which looks at cash flows from the 13th working day of a quarter to the 12th working day of the following quarter (i.e. from the day the first TRA is received up until the day the TRA is received for the following quarter).
74. Under the assumption that CFD generation and consequently CFD costs are increasing, shifting the period that the TRA calculation covers forwards by 12 working days should, on average, marginally increase the amount of TRA required to cover LCCC cashflow risk. Table 2 shows that this measure is expected to increase the average TRA by 4% over the 9 quarters modelled.
75. Taken together. Measures 1 – 3 are expected to reduce the average TRA over the 9 quarters modelled by 56%.

⁸ The large percentage impact on Q1 2016 is due to the fact that in the model, CFD generation is assumed to start part way through this quarter, so changes to the period covered by the ILR calculation makes a big proportional impact on the level of the ILR. However, since modelled CfD payments are low, the absolute impact of the change is small.

Table 2. Impact on average reserves held by LCCC of different measures⁹

% Difference from Baseline	Q1 16	Q2 16	Q3 16	Q4 16	Q1 17	Q2 17	Q3 17	Q4 17	Q1 18	Annual Average
(i) Measures 1-3	-86	-56	-63	-47	-43	-61	-63	-55	-51	-56
(ii) Measure 1	-100	-52	-12	-3	-1	-15	-31	-27	-11	-22
(iii) Measure 2	0	-41	-55	-48	-53	-43	-48	-43	-56	-47
(iv) Measure 3	+65	+11	-20	-4	+12	+8	+5	+2	-2	+4

Financing Costs

76. As stated previously, we have applied an industry-weighted financing cost to changes in both reserve and collateral amounts under a baseline and alternative scenarios where all measures are implemented, and where measures are implemented individually. These were produced in line with commercial intelligence at the time of the June 2014 IA since more up to date information has not been available at the time of writing; we would welcome information on financing costs incurred by electricity suppliers in funding payments under the SO.
77. For the June 2014 IA, DECC used an industry-weighted average of between 6.7% and 10%. This has been applied to changes in amounts held by suppliers, for the purposes of payment toward collateral and TRAs, in order to measure the cost impact on suppliers of implementing the above measures.
78. As already stated, DECC asked the LCCC to use the SOFM to estimate the relative impacts on TRAs of implementing the above measures. The SOFM outputs enabled us to calculate relative changes in TRA and ILR amounts from Q1 2016 Q1 2018. To estimate cost impacts of implementing measures 1-4 up to 2021, we calculate reserve and collateral financing up to Q1 2018 (applying our industry-weighted cost of capital assumption to estimates of reserve amounts and average yearly collateral amounts) and then project these forward to 2020.
79. The approach taken to projecting costs beyond Q1 2018 is to calculate reserve and collateral financing costs as a percentage of the latest, published¹⁰ forecast annual CFD spend in 2016 and 2017. By calculating the average percentage of total CFD spend and applying it to forecast CFD spend estimates beyond 2017, we assume that this percentage remains consistent. However, this is an inevitable simplification and may not always be the case.
80. Collateral amounts posted under different scenarios are not provided through the SOFM. In order to estimate variations in posted collateral under different ILR calculations, we take forecast daily electricity demand provided by the LCCC and multiply these by corresponding ILRs for a given quarter, in order to estimate the amount of collateral posted, on any given

⁹ The large percentage impact on Q1 2016 is due to the fact that in the model, CFD generation is assumed to start part way through this quarter, so changes to the ILR calculation and period covered by the TRA makes a big proportional impact on the level of the TRA. However, since modelled CfD payments in this quarter are low, the absolute impact of the change is small.

¹⁰ <https://www.gov.uk/government/news/controlling-the-cost-of-renewable-energy>

day from Q1 2016 to Q1 2018. We then calculate the average annual collateral posted under each ILR calculation (applying annual financing cost assumptions), and project these forward to 2020 using the approach outlined above.

Reserve Financing Costs

81. Assuming that reserves attract a central financing cost estimated to be half way between our high (10%) and low (6.7%) industry-weighted financing cost assumptions, we calculate the high, central and low estimates of reserve financing cost savings in Table 3.

Table 3. Reserve Financing Cost Saving – Policy Option 1 (all measures)

£m, PV, 2015 prices	2016	2017	2018	2019	2020	Total	Annual Average
Central	2.32	3.03	6.17	12.36	16.81	40.69	8.14
Low	1.87	2.44	4.96	9.94	13.52	32.73	6.55
High	2.78	3.62	7.37	14.78	20.10	48.65	9.73

82. According to the analysis, implementing measures 1-3 could generate reductions in financing costs for suppliers of approximately £41m over the five years from 2016-2020 (Present Value (PV), 2015 prices), driven most substantially by earlier return of the TRA (i.e. Measure 2).

Collateral Costs

83. As explained previously, Measure 1 is expected, on average, to increase the ILR which will result in higher collateral requirements for suppliers. By comparing the average amount of collateral posted under each calculation, we find a cost increase in terms of collateral financing cost of approximately £2m over the five years up to 2020 (on average £390k annually (PV, 2015 prices)) – High, Central and Low case estimates are presented in Table 4.

Table 4. Collateral Financing Cost increase from ILR change (Measure 1)

£, PV, 2015 prices	2016	2017	2018	2019	2020	Total	Annual Average
Central	184,977	151,179	242,632	459,570	917,211	1,955,568	391,114
Low	148,801	121,613	195,180	369,691	737,831	1,573,115	314,623
High	221,153	180,745	290,084	549,449	1,096,591	2,338,022	467,604

84. Together, collateral and reserve financing costs present a net saving to suppliers of **£39m (NPV, 2015 prices)** over the period under analysis (i.e. 2016-2020).

Bill Impacts

85. Since it is expected that any cost increases or savings would be passed directly onto consumers, using DECC's in-house modelling we estimate a **small reduction in consumer bills of £0.40-£0.60 over the total period under analysis (2016-2020)** resulting from the cost saving outlined above (2015 prices).

Unquantified costs and benefits (Measures 1-4)

86. There are a number of unquantifiable costs and benefits of implementing the measures discussed in the consultation, published alongside this IA.
87. Measure 4, for instance, will allow the LCCC more flexibility in reducing (but not increasing) TRAs or ILRs, which will lower the probability of over-collection from suppliers, thus avoiding unnecessary financing costs.
88. Respondents to the 2013 consultation IA stated that, under a fixed rate levy design, smaller suppliers could be disadvantaged, relative to larger suppliers, by the need to commit potentially high cash balances to be held in reserve. This could create a potential barrier to entry, having an adverse effect on competition. Measures 1, 2 and 4 help to reduce the reserves held, and thereby mitigate any potential negative impacts on competition.
89. There are several costs of implementing the above measures which have not been quantified as there is either a lack of sufficient data, or the impacts are expected to be negligible based on evidence available at the time of writing this impact assessment. We will be working with the LCCC over the consultation period to estimate the costs of any required changes to their systems, and invite further evidence on the costs that suppliers might experience in the consultation published alongside this IA.

Measures 5-6 – Changes to information provision for suppliers, to improve their ability to manage risk

90. **Measures 5-6** relate to ensuring that sufficient information is made available to suppliers about future CFD costs. There are likely to be financial benefits for instance, arising from improved foresight on future CfD cashflows provided to suppliers. However, given a lack of data and evidence, this section focusses on a qualitative discussion of the costs and benefits of implementing measures 5 and 6.

Risk and Risk Premium Impacts

91. The cashflow risk arising from uncertainties around CFD start dates and future generation may be priced into tariffs charged to consumers in order to hedge against uncertain increases in CFD costs. It is expected that measures 5-6 will act to reduce the risks faced by suppliers and consequently reduce risk premia (which are ultimately levied on consumers through bills).

Administrative cost impacts

92. It is expected that minor administrative costs will be incurred by the LCCC through the additional publication of information. However, based on information available at the time of this consultation, it is considered that this cost impact will be minor.

Conclusion

93. This IA has considered the quantitative and qualitative costs and benefits of implementing a number of amendments to the Supplier Obligation (SO), as compared against a 'do nothing' option (i.e. current policy). The impacts of measures proposed are highly interlinked, and so are presented under a single policy option.
94. Based on experience and available evidence, we expect that the administrative/legal costs impacts of implementing these measures are likely to be small. Therefore, in terms of monetised impact, we focus on the impacts of electricity suppliers' financing costs, related to changes in cash reserves and collateral amounts posted to the LCCC by suppliers. Measures 1-3 (in particular) deal with alterations to calculation and timings of payments, which directly impact the amounts which suppliers have to pay to the LCCC for CFD generation.
95. We estimate a potential net cost saving over 5 years to electricity suppliers of **£39m (NPV, 2015 prices)**. This is due to a net reduction in financing cost (associated with reduced reserve payments to the LCCC), and a reduction in the amount of time which the LCCC is allowed to retain excess reserve or interim rate payments (before paying these back to suppliers). This leads to an estimated **reduction in consumer bills of £0.40-£0.60 over the total period under analysis (2016-2020) (2015 prices)**.
96. Measure 4 (which introduces flexibility allowing the LCCC to adjust the ILR and TRA down without notice) would help to avoid costly scenarios where over-collections in either the TRA or the ILR result in avoidable financing cost to suppliers. It is not possible to predict the frequency with which this might happen based on the evidence available, hence the cost saving that this might entail. However, the need for this measure is supported anecdotally through early experience with the SO.
97. Measures 6 and 7 require that certain information already available to the LCCC be made available to suppliers. This includes both updated CFD start dates in the publicly-available CFD Register and extended projections of future CFD costs. In terms of benefits, we should expect that an improved level of certainty from extended forecasts will ultimately reduce the risk incurred by suppliers and have a knock-on effect on any risk premium levied on consumers related to CFD costs.