



# **SINGLE ELECTRICITY MARKET COMMITTEE**

**Round 2 of Quarterly Directed Contracts  
Q3 2018 to Q2 2019  
under revised SEM arrangements**

**Information Paper**

**28<sup>th</sup> March 2018**

**SEM-18-014**

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## **1. Introduction**

In June 2012 the Northern Ireland Authority for Utility Regulation (Utility Regulator) and the Commission for Regulation of Utilities (CRU), together referred to as the Regulatory Authorities or RAs, published a decision paper (SEM/12/048)<sup>1</sup> on the quantification and pricing for the initial “front loaded” Directed Contract (DC) subscription. It covered DCs for the period from Q4 2012 to Q3 2013.

This followed the publication on 19<sup>th</sup> April 2012 of a SEM Committee<sup>2</sup> decision paper (SEM/12/026)<sup>3</sup> committing to a new rolling quarterly approach to the offering of DCs.

For the first four quarters of DCs under the revised SEM trading arrangements, arising from I-SEM implementation, the RAs have decided to follow the quarterly DC approach set out in the November 2017 decision paper (SEM-17-081).

This information paper provides information on the quantities and pricing for the upcoming quarterly DC subscription round, Round 2, covering the period Q3 2018 to Q2 2019 inclusive. Suppliers will also receive notification from the RAs of their updated DC eligibilities for Round 2 by Wednesday 28<sup>th</sup> March.

## **2. Directed Contract Quantities**

Further to SEM/17/081, DC subscription windows are to be held every quarter, with DCs being allocated on a rolling basis up to 5 quarters ahead. For the second round of the quarterly DC offerings under the revised SEM arrangements: Round 2, the Primary Subscription Window will be held from Tuesday 3<sup>rd</sup> April to Thursday 5<sup>th</sup> April 2018 inclusive, with the associated DC Supplemental Subscription Window on Thursday 12<sup>th</sup> April. DCs in Round 2 will be offered in quarterly segments for the periods Q3 2018, Q4 2018, Q1 2019 and Q2 2019.

There are three DC products in the market: Baseload, Mid-Merit and Peak. Suppliers can elect to subscribe for any given product for which they are eligible in any particular quarter from ESB. The definitions of the products are set out in the Master Agreement.

These are as follows:

- *Baseload Product*: For Trading Periods at the Contract Quantity arising in all hours.
- *Mid-merit Product*: For Trading Periods at the Contract Quantity during the hours beginning at 07:00 and ending at 23:00 on Business Days and for Trading Periods on days that are not Business Days at 80% of the Contract Quantity.
- *Peak Product*: For Trading Periods arising during the hours beginning at 17:00 and ending at 21:00 on all days during October, November, December, January, February and March at the Contract Quantity.

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<sup>1</sup> Decision Paper on Directed Contracts Version 2 – [SEM-12-048](#).

<sup>2</sup> The SEM Committee is established in Ireland and Northern Ireland by virtue of section 8A of the Electricity Regulation Act 1999 as inserted by section 4 of the Electricity Regulation (Amendment) Act 2007, and Article 6 (1) of the Electricity (Single Wholesale Market) (Northern Ireland) Order 2007 respectively. The SEM Committee is a Committee of both CRU and UREGNI (together the RAs) that, on behalf of the RAs, takes any decision as to the exercise of a relevant function of CRU or UREGNI in relation to an SEM matter.

<sup>3</sup> Directed Contracts Implementation for 2012/13 and Beyond - [SEM-12-026](#)

As is the case with Directed Contracts, the RAs used the Herfindahl Hirschman Index (HHI) to set DC quantities and continue to use a target HHI level of 1,150 for the period Q3 2018 to Q2 2019. NI Power PPB's market share does not warrant the offering of DCs.

The DC quantities to be offered by ESB for Q3 2018 to Q2 2019 in Round 2 are set out in Table 1 below.

Quarter	Baseload	Mid-Merit	Peak
Q3 2018	175	208	0
Q4 2018	97	118	N/A
Q1 2019	109	65	N/A
Q2 2019	90	54	0

**Table 1: ESB DCs for Q3 2018 to Q2 2019 in Forthcoming Round 2 Subscription (Only), MW**

The cumulative (all rounds) percentage of DC quantities offered by ESB to date for Q3 2018 to Q2 2019 (including these Round 2 quantities) are also shown in Table 2 below.

Quarter	Baseload	Mid-Merit	Peak
Q3 2018	100%	100%	50%
Q4 2018	50%	50%	N/A
Q1 2019	50%	50%	N/A
Q2 2019	25%	25%	50%

**Table 2: Percentage of DCs offered to date (incl. this Round 2 subscription)<sup>4</sup>**

### **3. Directed Contract Pricing**

The prices of DCs are determined by regression formulae that express the DC CfD Fixed Price in a given quarter and for a given product (Baseload, Mid-Merit or Peak) as a function of forward fuel and carbon prices.

The pricing formulae are updated every quarter in line with the established rolling approach to DCs as per [SEM-12-026](#) and [SEM-17-081](#).

The CFD Fixed Price for each transaction will be set using the published formulae and associated forward fuel prices, as set out in the Subscription Rules [SEM-17-085c](#).

The DC seller, ESB, will apply the approved published fuel and carbon indices to the regression formulae each day throughout the subscription window and notify suppliers who have elected to subscribe for DC products on that day of the calculated CfD Fixed Price. ESB contracts will be priced in euro.

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<sup>4</sup> Note that the exact percentages shown in this table will vary depending on outturn DC volumes in future subscription rounds.

It should be noted that if, between the publication date of the pricing formulae and a time at which it is applied during the subscription period, forward fuel or carbon markets move to a point outside the range of values for which there is sufficient confidence in the pricing formulae, the Regulatory Authorities reserve the right to suspend subscription and rerun the econometric pricing model or otherwise to amend the determination of the DC CfD Fixed Prices to correct any mispricing. The rerun would be done using the prevailing forward fuel and carbon prices as inputs. In this case, the resulting formulae would replace the original formulae and would be used to establish CfD Fixed Prices thereafter. The formulae may also be rerun if there is significant change to plant availability. The subscription window would reopen once the formulae have been revised.

The Directed Contract regression formulae for Round 2 take the following form:

$$\text{CfD Fixed Price}_{q,p} = \alpha_{q,p} + \beta_{q,p} * \text{Gas}_q + \delta_{q,p} * \text{Coal}_q + \epsilon_{q,p} * \text{CO2}_q$$

where:

**CfD Fixed Price**<sub>q,p</sub> = Directed Contract Fixed Price (in €/MWh) for the relevant quarter (q) and product (p), i.e., baseload, mid-merit and peak.

**α**<sub>q,p</sub> = formula constant, which may vary by quarter (q) and product (p).

**β**<sub>q,p</sub>, **δ**<sub>q,p</sub>, and **ε**<sub>q,p</sub> = formula coefficients, which may vary by quarter (q) and product (p).

**Gas**<sub>q</sub> = the price (in pence sterling per therm) for quarterly Intercontinental Exchange Natural Gas Futures for the relevant quarter, as published on <http://data.theice.com> as the “ICE UK Natural Gas Futures – NBP - (Quarters)” ÷ (GBP/EURO Exchange Rate) / 100.

**Coal**<sub>q</sub> = the price (in US dollars per tonne) for quarterly ARA Coal Futures as reported on [www.theice.com](http://www.theice.com) as “Rotterdam Coal Futures – ARA” ÷ USD/EURO Exchange Rate.

**CO2**<sub>q</sub> = the settle price (in Euro per tonne of Carbon Dioxide) for the December month Intercontinental Exchange ECX EUA Carbon futures as reported on <http://data.theice.com> as “ICE ECX EUA Futures – EUX - (monthly)” for the given calendar year. The December price for a given year will apply to all quarters falling within that year.

The values of the constants and the independent variable coefficients are set out in the following table.

Coefficients					
Multiply Gas coefficient by euro/therm Gas price, Coal coefficient by euro/tonne, Coal price and CO <sub>2</sub> coefficient by euro/tonne CO <sub>2</sub> price.					
Contract (p)	Quarter (q)	Constant ( $\alpha_{q,p}$ )	Gas ( $\beta_{q,p}$ )	Coal ( $\delta_{q,p}$ )	CO <sub>2</sub> ( $\epsilon_{q,p}$ )
Baseload	Q3 18	11.26	56.273	0.0455	0.4984
Midmerit 1	Q3 18	13.89	58.863	0.0584	0.5444
Baseload	Q4 18	13.46	47.738	0.0893	0.5539
Midmerit 1	Q4 18	17.11	57.335	0.0758	0.5619
Peak	Q4 18	27.44	80.958	0.0677	0.6694
Baseload	Q1 19	16.65	49.348	0.0994	0.5287
Midmerit 1	Q1 19	21.71	57.237	0.0993	0.5491
Peak	Q1 19	35.43	75.428	0.1391	0.6623
Baseload	Q2 19	11.59	55.170	0.0545	0.5291
Midmerit 1	Q2 19	13.92	58.828	0.0657	0.5787

#### 4. Subscription Rules

The Subscription Rules ([SEM-17-085c](#)) for the Directed Contracts have been made evergreen. To allow this to happen two items which require updating will be included in the Information Paper published by the Regulatory Authorities prior to each quarterly DC round. These are the details of the matrix of ESTSEM p,q prices for the purpose of credit cover calculations (i.e. margin) and Bank Holidays.

### ***Prices for Credit Cover calculations***

The matrix of ESTSEM p,q prices for the purpose of credit cover calculations based on closing fuel and carbon prices from 19<sup>th</sup> March 2018 are as follows:

	ESTSEM p,q		
	Baseload per MWh	Mid-Merit per MWh	Peak per MWh
<b>Q3 2018</b>	€47.63	€52.88	N.A
<b>Q4 2018</b>	€52.65	€61.05	€85.62
<b>Q1 2019</b>	€59.42	€69.62	€98.39
<b>Q2 2019</b>	€46.29	€51.54	N.A

## ***Public/Bank Holidays 2018 and 2019***

The following dates are those known at the time of execution to be bank and public holidays (in the Republic of Ireland and Northern Ireland) between January 2018 and 31<sup>st</sup> December 2019:

01 January 2018
19 March 2018
30 March 2018
02 April 2018
07 May 2018
28 May 2018
04 June 2018
12 July 2018
06 August 2018
27 August 2018
29 October 2018
25 December 2018
26 December 2018
01 January 2019
18 March 2019
19 April 2019
22 April 2019
06 May 2019
27 May 2019
03 June 2019
12 July 2019
05 August 2019
26 August 2019
28 October 2019
25 December 2019
26 December 2019



## **5. PLEXOS Model Updates**

The recently revised Baringa-validated and published PLEXOS model<sup>5</sup> ([SEM-18-010b](#)) for 2018-19 has been used for this round (Round 2) of the DCs under the revised SEM arrangements.

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<sup>5</sup><https://www.semcommittee.com/news-centre/i-sem-plexos-model-validation-2018-2019-information-paper>