

Single Electricity Market Committee

**Directed Contracts –
Q1 2014 to Q4 2014
Quantification and Pricing for
September 2013 Auction - Round 6 of
Quarterly Directed Contract Auctions**

Information Paper

3rd September 2013

SEM-13-059

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1. Background

In June 2012 the Northern Ireland Authority for Utility Regulation (Utility Regulator) and the Commission for Energy Regulation (CER), together referred to as the Regulatory Authorities or RAs, published a decision paper (SEM/12/048¹) on the quantification and pricing for the initial “front loaded” Directed Contract (DC) auction. It covered DCs for the period from Q4 2012 to Q3 2013.

This followed the publication on 19th April 2012 of a SEM Committee² decision paper (SEM/12/026³) committing to a new rolling quarterly approach to the offering of DCs.

This paper follows the approach set out in the June 2012 decision paper (SEM-12-048) and provides information on quantities and pricing for the upcoming DC auctions covering the period Q1 2014 to Q4 2014. Suppliers will also receive notification from the RAs of their updated DC eligibilities for this round of auctions.

2. Directed Contract Quantities

Further to SEM/12/026 DC subscription windows are held every quarter, with DCs being allocated on a rolling basis up to 5 quarters ahead. The September 2013 DC Primary Subscription Window will be held from Tuesday 10th to Thursday 12th September inclusive, with the associated DC Supplemental Subscription Window on Thursday 19th September. DCs will be offered in quarterly segments for the period Q1 2014 to Q4 2014.

There are three DC products in the market: Baseload, Mid-Merit and Peak. Suppliers can elect to subscribe for any given product 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: 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.

As previously, the RAs used the Herfindahl Hirschman Index (HHI) to set DC quantities and have continued to use a target HHI level of 1,150 for the period Q1

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

² 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 CER and NIAUR (together the RAs) that, on behalf of the RAs, takes any decision as to the exercise of a relevant function of CER or NIAUR in relation to an SEM matter.

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

2014 to Q4 2014. NI Power PPB's market share does not warrant the offering of DCs. The DC quantities to be offered by ESB for Q1 2014 to Q4 2014 are set out below. The total DC quantities offered by ESB to date for Q1 2014 to Q4 2014 (including these Round 6 quantities) are also shown below.

ESB DCs for Q1 '14 to Q4 '14 in Forthcoming Round 6 Auction (Only), MW

QUARTER	BASELOAD	MIDMERIT	PEAK
Q1 2014	83	71	83
Q2 2014	87	25	N/A
Q3 2014	121	0	N/A
Q4 2014	96	0	25

Total DCs for Q1 '14 to Q4 '14 offered to date (including September 2013 auction), MW

QUARTER	BASELOAD	MIDMERIT	PEAK
Q1 2014	315	259	251
Q2 2014	269	64	N/A
Q3 2014	238	0	N/A
Q4 2014	96	0	25

Percentage of DCs offered to date (including September 2013 auction)⁴

QUARTER	BASELOAD	MIDMERIT	PEAK
Q1 2014	100%	100%	100%
Q2 2014	75%	75%	N/A
Q3 2014	50%	50%	N/A
Q4 2014	25%	25%	25%

The Concentration Model and the process set out above will continue to be conducted by the RAs on a quarterly basis in line with the rolling approach to DCs as per SEM-12-026.

3. Directed Contract Pricing

The prices of DCs are determined by regression formulae that express the DC strike 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 dependent variable in the regression formulae is the DC strike price; the independent variables are forward fuel and carbon prices.

The pricing formulae are updated every quarter in line with the new rolling approach to DCs as per SEM-12-026. Every 2nd quarter whole new pricing formulae will be derived, including the formulae constant and the coefficients, and every other quarter just the formulae constant is changed (as is the case in Round 6).

The DC seller, ESB, will apply the approved published fuel and carbon indices to the

⁴ Note the exact percentages shown in this table will vary depending on outturn DC volumes in future auction rounds.

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 strike price. ESB contracts will be priced in euro.

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 strike 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 DC strike 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 6 take the following form:

$$DCStrike_{q,p} = \alpha_{q,p} + \beta_{q,p} * Gas_q + \delta_{q,p} * Coal_q + \epsilon_{q,p} * CO2_q$$

where:

$DCStrike_{q,p}$ = Directed Contract Strike Price (in €/MWh) for the relevant quarter (q) and product (p), i.e., baseload, mid-merit and peak.

$\alpha_{q,p}$ = formula constant, which may vary by quarter (q) and product (p).

$\beta_{q,p}$, $\delta_{q,p}$, and $\epsilon_{q,p}$ = formula coefficients, which may vary by quarter (q) and product (p).

Gas_q = the price (in pence sterling per therm) for quarterly Intercontinental Exchange Natural Gas Futures for the relevant quarter, as published on www.theice.com as the “Daily Volumes for ICE UK Natural Gas Futures (Quarters)” ÷ (GBP/EURO Exchange Rate) / 100.

$Coal_q$ = the price (in US dollars per metric tonne) for quarterly Forward Coal API2 swap transactions, as reported by Argus Coal Daily International ÷ USD/EURO Exchange Rate.

$CO2_q$ = the settle price (in Euro per tonne of Carbon Dioxide) for the December month Intercontinental Exchange ECX EUA Carbon futures as reported on www.theice.com as “ICE ECX EUA Futures (monthly)” for the given calendar year. This data is available under the report section of this website once the following options are selected – Category “End of Day Report”; Market – “ICE Futures Europe”; Report – “ICE Futures Europe”. 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 table below.

Coefficients					
Multiply Gas coefficient by euro/therm Gas price, Coal coefficient by euro/tonne Coal price and CO2 coefficient by euro/tonne CO2 price.					
Contract (p)	Quarter (q)	Constant ($\alpha_{q,p}$)	Gas ($\beta_{q,p}$)	Coal ($\delta_{q,p}$)	CO2 ($\epsilon_{q,p}$)
Baseload	Q1 '14	17.90	57.927	0.0373	0.4313
Mid-Merit	Q1 '14	25.05	61.636	0.0318	0.4680
Peak	Q1 '14	92.81	39.816	0.0521	0.4789
Baseload	Q2 '14	10.27	58.527	0.0598	0.4461
Mid-Merit	Q2 '14	12.47	62.969	0.0712	0.4863
Baseload	Q3 '14	7.77	59.824	0.0585	0.4205
Mid-Merit	Q3 '14	8.82	70.242	0.0390	0.4171
Baseload	Q4 '14	18.75	49.012	0.0701	0.4141
Mid-Merit	Q4 '14	25.39	52.597	0.0679	0.4342
Peak	Q4 '14	71.16	37.921	0.1298	0.5331

4. Subscription Rules

The Subscription Rules 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 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 26th August 2013 are as follows:

	ESTSEM p,q		
	Baseload	Mid-Merit	Peak
Q1 2014	€70.52 /MWh	€80.62 /MWh	€131.41 /MWh
Q2 2014	€59.70 /MWh	€66.10 /MWh	n/a
Q3 2014	€57.67 /MWh	€65.19 /MWh	n/a
Q4 2014	€64.40 /MWh	€73.87 /MWh	€112.35 /MWh

Bank Holidays 2013 and 2014

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 1st January 2013 and 31st December 2014:

01 January 2013
18 March 2013
29 March 2013
01 April 2013

06 May 2013
27 May 2013
03 June 2013
12 July 2013
05 August 2013
26 August 2013
28 October 2013
25 December 2013
26 December 2013
01 January 2014
17 March 2014
18 April 2014
21 April 2014
5 May 2014
26 May 2014
2 June 2014
14 July 2014
4 August 2014
25 August 2014
27 October 2014
25 December 2014
26 December 2014

5. PLEXOS Model Updates

There are no updates to the PLEXOS Validated forecast model for Round 6, compared to Round 5.