



SINGLE ELECTRICITY MARKET COMMITTEE

**Round 16 of Quarterly Directed Contracts
Q1 2022 to Q4 2022**

Information Paper

8th September 2021

SEM-21-072

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1. Introduction

This paper provides information on the quantities and pricing for the upcoming quarterly DC subscription round, Round 16, covering the period Q1 2022 to Q4 2022 inclusive. Suppliers will also receive notification from the Regulatory Authorities (RAs) of their updated DC eligibilities for Round 16 by Wednesday, 8th September 2021.

2. Directed Contract Quantities

DC subscription windows are typically held every quarter, with DCs being allocated on a rolling basis up to 5 quarters ahead. For the sixteenth round of the quarterly DC offerings under the revised SEM arrangements: Round 16, the Primary Subscription Window will be held from Tuesday 14th September to Thursday 16th September 2021 inclusive, with the associated DC Supplemental Subscription Window on Thursday 23rd September 2021. DCs in Round 16 will be offered in quarterly segments for the periods Q1 2022, Q2 2022, Q3 2022 and Q4 2022.

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 ESB PG DC Subscription Rules.

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.

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 Q1 2022 to Q4 2022.

The DC quantities to be offered by ESB for Q1 2022 to Q4 2022 in Round 16 are set out in Table 1 below.

Quarter	Baseload	Mid-Merit	Peak
Q1 2022	0	0	133
Q2 2022	0	0	N/A
Q3 2022	0	109	N/A
Q4 2022	0	43	10

Table 1: ESB DCs for Q1 2022 to Q4 2022 in forthcoming Round 16 Subscription, MW

The RAs note that changes to underlying market fundamentals including the growing share of wind generation, increases in commodity prices, changes to scheduled outage profiles in 2022 and volumes previously sold have resulted in reduced baseload and mid-merit running hours for certain ESB plant. This has contributed to zero baseload volumes being made available for DC Round 16 and zero mid-merit volumes in Q1 and Q2 2022.

The RAs note the SEM PLEXOS Validated model (2020-2025) used in Round 16 incorporated the updated Wind and Demand projections from the approved 2021 Generation Capacity Statement (GCS) which is due for publication shortly.

The cumulative (all rounds) percentage of DC quantities offered by ESB to date for Q1 2022 to Q4 2022 (including these Round 16 quantities) are also shown in Table 2 below.

Quarter	Baseload	Mid-Merit	Peak
Q1 2022	100%	100%	-
Q2 2022	75%	75%	N/A
Q3 2022	50%	50%	N/A
Q4 2022	25%	25%	-

Table 2: Percentage of DCs offered to date (incl. this Round 16 subscription)¹

As outlined in [SEM-21-065](#), the SEM Committee is implementing an amendment to the DC Eligibility model for Round 16. As per SEM-21-065, the RAs will re-allocate DCs from market participants who cannot participate in the DC round to suppliers with a Maximum Import Capacity (MIC) value less than 5% of the total market MIC. The SEM

¹ Note that the exact percentages shown in this table will vary depending on outturn DC volumes in future subscription rounds.

Committee is consulting on whether this amendment shall become an enduring amendment to the existing DC Eligibility model.

Per section 3.2.13 of the November 2017 decision paper ([SEM-17-081](#)), the SEM Committee has changed part of the Market Concentration methodology, such that a fixed fraction will be solely used in the first round that a product is offered. In subsequent rounds, up to the penultimate round, previous volumes sold are deducted from the annual total determined by the Market Concentration Model in that round; then the balance is multiplied by the remaining fixed fraction. In the final round, all the previous volumes sold are deducted from the annual total determined. There is no fixed fraction in the final round for which a product is on offer. A further clarification to this procedure was outlined in [SEM-19-030a](#) whereby in the event that a product was oversold in the first three rounds, the oversold volume will be deducted from downstream products.

If the volumes in the previous rounds for a particular product add up to more than the annual total volume determined by the Market Concentration Model in the last round, then the volumes for that product are set to zero.

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 Strike Price for each transaction will be set using the published formulae and associated forward fuel prices, as set out in the Subscription Rules [SEM-18-036d](#).

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.

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 RAs 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 DC regression formulae for the forthcoming round will 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_{q,p} = DC Fixed 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 stated in [SEM-21-005](#), the RAs notified industry of updates to the calculation of quarterly “ICE UK Natural Gas Futures – NBP” ÷ (GBP/EURO Exchange Rate).

Coal_q = the price (in US dollars per tonne) for quarterly ARA Coal Futures. As noted in [SEM-21-005](#), the RAs noted updates to the calculation of quarterly “Rotterdam Coal Futures – ARA” ÷ (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 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. As noted in [SEM-21-005](#), the commodity data provider, ICE, transitioned from a public to a fee-based subscription for access to Carbon data.

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 ₂ coefficient by euro/tonne CO ₂ price.					
Contract (p)	Quarter (q)	Constant ($\alpha_{q,p}$)	Gas ($\beta_{q,p}$)	Coal ($\delta_{q,p}$)	CO ₂ ($\epsilon_{q,p}$)
Baseload	Q1 22	23.11	50.578	0.0599	0.4755
Midmerit 1	Q1 22	32.16	55.667	0.0527	0.4860
Peak	Q1 22	52.43	61.236	0.0659	0.5613
Baseload	Q2 22	10.28	63.289	0.0392	0.4420
Midmerit 1	Q2 22	13.60	65.765	0.0500	0.4846
Baseload	Q3 22	8.77	62.899	0.0404	0.4344
Midmerit 1	Q3 22	11.28	65.407	0.0543	0.4789
Baseload	Q4 22	19.91	54.982	0.0377	0.4300
Midmerit 1	Q4 22	25.79	59.617	0.0359	0.4560
Peak	Q4 22	48.30	62.444	0.0420	0.5099

4. Subscription Rules

The Subscription Rules ([SEM-18-036d](#)) for the DCs have been made evergreen. To allow this to happen two items which require updating will be included in the Information Paper published by the RAs 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 12th August 2021 are as follows:

	ESTSEM p,q		
	Baseload per MWh	Mid-Merit per MWh	Peak per MWh
Q1 2022	€124.78	€140.58	€174.02
Q2 2022	€93.99	€102.86	N/A
Q3 2022	€89.21	€97.48	N/A
Q4 2022	€96.19	€107.53	€136.09

5. Directed Contract Round 17

The Primary Subscription Window of Directed Contract Round 17 will be take place in quarter four, 2021. An information note will be published to industry in due course, outlining the specific dates of the Primary Subscription Windows and Supplemental Subscription Windows for Directed Contracts Rounds 17-20 inclusive.

Public/Bank Holidays 2022

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 2022 and 31st December 2022:

03 January 2022
17 March 2022
15 April 2022
18 April 2022
02 May 2022
02 June 2022

03 June 2022
06 June 2022
12 July 2022
01 August 2022
29 August 2022
31 October 2022
25 December 2022
26 December 2022
27 December 2022