

Offshore transmission developers,  
interconnector developers, and other  
interested parties

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Dear stakeholders

**Decision on Interest During Construction (IDC) rates to be applied during 2023-24 to offshore transmission projects and electricity interconnectors granted the cap and floor regime**

**Our decision**

This letter sets out our decision on the specific Interest During Construction (IDC) rates that will apply to i) offshore transmission projects and ii) electricity interconnectors granted the cap and floor regime, excluding those from our first application window (Window 1) that reach Final Investment Decision (FID) during 2023-24.

Based on the same methodology we followed last year and an updated reference date of 31 January 2023,<sup>1</sup> we decided the following:

- Offshore transmission IDC – to set the IDC cap rate at **9.12%**<sup>2</sup> (pre-tax, nominal) for those offshore transmission projects reaching FID during 2023-24 (it was 7.92% for projects reaching FID in 2022-23); and
- Interconnector IDC – to set the IDC rate at **3.93%**<sup>3</sup> (vanilla, real-RPI)<sup>4</sup> for those cap and floor interconnector projects reaching FID during 2023-24, excluding those from Window 1 (it was 3.06% for projects reaching FID in 2022-23).<sup>5</sup>

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<sup>1</sup> This is the relevant date to which the spot figures and averages used to estimate the parameter values underpinning the IDC rates refer to; for example, a spot yield is the yield on 31 January 2023 and a 1-year average yield is the average yield in the 12-month period finishing on 31 January 2023.

<sup>2</sup> The 9.12% IDC rate for offshore transmission projects is the mid-point of the 7.30%-10.95% nominal pre-tax WACC range; please refer to Annex 1 for a detailed breakdown of the values used to estimate this range.

<sup>3</sup> The 3.93% IDC rate for interconnectors is the mid-point of the 2.52%-5.34% real-RPI vanilla WACC range (excluding debt transaction costs); please refer to Annex 2 for a detailed breakdown of the values used to estimate this range.

<sup>4</sup> The rate for interconnectors is reported in vanilla, real-RPI terms because the Cap and Floor Financial Models (CFFMs) run with real inputs and include a separate tax allowance. For a like-for-like comparison of the IDC rates; please refer to Annex 1 and 2.

<sup>5</sup> IDC rates for interconnectors do not include a debt transaction cost allowance, as transactions costs are accounted for separately in the CFFMs. If a transaction cost allowance was included in the IDC rates (in line with offshore transmission projects), the IDC rate in 2023-24 would be 4.07% (from 3.19% in 2022-2023).

The section below summarises the steps involved in setting the value of the parameters that were updated relative to last year.

Annexes 1 and 2 set out the value of each individual parameter of the IDC rates for 2023-24 for offshore transmission projects and electricity interconnectors granted the cap and floor regime, excluding those from Window 1. For comparison, Annexes 1 and 2 include the IDC rates for 2023-24, as well as the relative change in the parameters' value between 31 January 2022 and 31 January 2023.

## **Overview of our IDC methodology**

The methodology used to set the values of the parameters of the 2023-24 IDC rates has remained unchanged relative to the methodology used for the 2022-23 IDC rates. However, we have reduced the number of comparators in the list from eleven to ten, as one of the eleven comparator firms was delisted from the London Stock Exchange. More detail is provided in the asset beta section.

The table in Annex 1 sets out the values at the low and high end of the ranges that we have set for each parameter of the IDC rates for offshore transmission projects for year 2023-24 and 2022-23, as well as the relative change year on year.

The table in Annex 2 sets out the values at the low and high end of the ranges that we have set for each parameter of the IDC rates for electricity interconnectors subject to the cap and floor regime for year 2023-24 and 2022-23, as well as the relative change year on year.

Relative to 2022-23, the values of five of these parameters (debt yield, risk-free rate, inflation, total market return and asset beta) have changed, while the values of all other parameters (debt transaction costs, gearing and corporation tax) have remained the same.

The remainder of this section provides an overview of our approach to setting the value of each of the five parameters of the IDC rates which have changed relative to the 2022-23 values.

### Cost of debt – Yield

The yield component of the cost of debt allowance is set based on the spot and 1-year average yields on three iBoxx GBP bond indices:

- A-rated Non-Financial Corporate (primary benchmark);
- BBB-rated Non-Financial Corporate (primary benchmark); and
- Infrastructure (secondary benchmark used as a cross-check).

The tenor of the indices is selected to match the approximate average length of the construction period of the different assets:

- Offshore transmission: tenor of 1-3 years, reflecting average construction period of 2 years; and
- Interconnectors: tenor of 3-5 years, reflecting average construction period of 4 years.

We set the bottom end of the ranges as a weighted average of the spot and 1-year average yields on the A-rated Non-Financial Corporate index, with weights of two thirds and one third respectively.

Similarly, we set the top end of the ranges as a weighted average of the spot and 1-year average yields on the BBB-rated Non-Financial Corporate index, with weights of two thirds and one third respectively.

To set the debt yields for the 2023-24 IDC rates, the underlying spot and 1-year average yields have been estimated using an updated reference date of 31 January 2023.

As a result of using the updated reference date, the debt yields set for 2023-24 have increased from those in the previous year.

- Offshore transmission – debt yields set for 2023-24 at 4.00% at the low end and 4.65% at the high end (relative to debt yields set for 2022-23 at 1.35% and 1.75% respectively); and
- Interconnectors – debt yields set for 2023-24 at 4.15% at the low end and 4.85% at the high end (relative to debt yields set for 2022-23 at 1.50% and 1.95% respectively).

#### Cost of equity – Risk-free rate

The risk-free rate is set based on spot, 20-day average and 1-year average yields on the 5-year UK Gilt.

Based on the updated analysis using a reference date of 31 January 2023, we have updated the risk-free rate range for the 2023-24 IDC rates to 2.40% at the low end and 3.30% at the high end. This is an overall increase relative to the range we estimated for the 2022-23 IDC rates (0.50% at the low end and 1.10% at the high end).

#### Inflation

To convert the ranges from nominal to real, we use two inflation assumptions, one for the Retail Price Index (RPI) and one for the Consumer Price Index (CPI).

The RPI assumption is set based on the 1-year average 5-year breakeven inflation (which is the inflation assumption implied in the difference between nominal and real 5-year UK Gilt yields).

Based on the updated analysis using a reference date of 31 January 2023, we have updated the RPI assumption for the 2023-24 IDC rates to 3.90%. This is an overall increase relative to the RPI assumption of 3.75% we used for setting the 2022-23 IDC rates.

The CPI assumption is set based on:

- Average of CPI forecasts from Office for Budget Responsibility, Bank of England, and HM Treasury's comparison of independent forecasters; and
- Estimates of historical RPI-CPI wedge from Bank of England, Pension Protection Fund and Moody's, deducted from the RPI assumption determined as described above.

Based on the updated analysis using a reference date of 31 January 2023, we have updated the CPI assumption for the 2023-24 IDC rates to 2.90%. This is an overall decrease relative to the CPI assumption of 3.00% we used for setting the 2022-23 IDC rates.

Although the IDC rates for offshore transmission projects and interconnectors are set, respectively, in nominal and RPI-real (CPIH-real expected for Window 3) terms, CPI-real ranges are also provided in Annex 1 and 2 to allow for comparison.

## Total Market Return (TMR)

The TMR range remains aligned with the range estimated for the RIIO-2 price controls for transmission and gas distribution networks, as confirmed at Final Determinations.<sup>6</sup>

Based on the updated analysis using a reference date of 31 January 2023, we have updated the TMR range for 2023-24 to 9.33%-9.85% to reflect the change in the CPI assumption from 3.00% for year 2022-23 to 2.90% for year 2023-24. This is an overall decrease relative to the nominal TMR range of 9.44%-9.95% we used for setting 2022-23 IDC rates.

## Asset beta

The baseline asset beta range is derived using two sets of comparators:

- at the lower end, applying a small uplift from 0.42 to 0.45 to the asset beta estimates used for construction-intensive regulated networks, such as the Scottish transmission companies in the RIIO-T1 price controls; and
- at the upper end, estimates of the asset beta pertaining to comparator firms in the construction and engineering sector.<sup>7</sup>

Based on the updated analysis using a reference date of 31 January 2023, we have updated the upper end of the baseline asset beta for 2023-24 IDC rates to 0.75. This is an increase relative to the upper end of the baseline asset beta of 0.70 we used for setting the 2022-23 IDC rates. The lower end of the baseline asset beta remained unchanged relative to the methodology used for the 2022-23 IDC rates.

Uplifts are then applied to the baseline range to reflect additional riskiness relative to the baseline scenario, for example due to additional exposure to the marine environment:

- Offshore transmission: no uplift at the low end, 0.05 uplift at the high end; and
- Interconnector: 0.05 uplift at the low end and 0.10 uplift at the high end.

The asset betas are then re-gearred into equity betas using the notional gearing level.

If you have any questions on this decision or would like more information, please contact David Bell ([David.Bell@ofgem.gov.uk](mailto:David.Bell@ofgem.gov.uk)).

**Yours sincerely,**



**Okon Enyenihi**

**Head of Interconnector Delivery**

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<sup>6</sup> In the Finance Annex to the Final Determinations, the TMR range (6.25% to 6.75%) is presented in real terms relative to CPIH inflation, with CPIH forecast to be equal to CPI. Applying the Fisher formula and the CPI inflation assumption used to set IDC rates (2.90%) to this range returns a nominal TMR range of 9.33% to 9.85%, as  $(1+6.25\%) * (1+2.90\%) - 1 = 9.33\%$  and  $(1+6.75\%) * (1+2.90\%) - 1 = 9.85\%$ .

<sup>7</sup> Our methodology for estimating the upper end of asset beta uses eleven comparator firms in the construction and engineering sector that are publicly listed on the London Stock Exchange. However, one of the eleven comparator firms was delisted from the London Stock Exchange. This comparator firm was subsequently removed from the dataset; therefore, the upper end of the asset beta for 2023-24 was instead calculated using ten comparator firms in the construction and engineering sector. We will keep these ten comparators going forward.

# **Annex 1: Value of input parameters of IDC rates for offshore transmission projects**

The table below sets out the values at the low and high end of the ranges that we have set for each parameter of the IDC rates for offshore transmission projects for year 2023-24 and 2022-23, as well as the relative change in the parameters' values year on year.

| Parameter              | Offshore transmission |        |             |        |                     |        |
|------------------------|-----------------------|--------|-------------|--------|---------------------|--------|
|                        | IDC 2023-24           |        | IDC 2022-23 |        | Change year on year |        |
|                        | Low                   | High   | Low         | High   | Low                 | High   |
| Debt Yield             | 4.00%                 | 4.65%  | 1.35%       | 1.75%  | 2.65%               | 2.90%  |
| Transaction costs      | 0.25%                 | 0.50%  | 0.25%       | 0.50%  | 0.00%               | 0.00%  |
| Cost of debt           | 4.25%                 | 5.15%  | 1.60%       | 2.25%  | 2.65%               | 2.90%  |
| Risk-free rate         | 2.40%                 | 3.30%  | 0.50%       | 1.10%  | 1.90%               | 2.20%  |
| Total market return    | 9.33%                 | 9.85%  | 9.44%       | 9.95%  | -0.11%              | -0.10% |
| Asset beta             | 0.45                  | 0.80   | 0.45        | 0.75   | 0.00                | 0.05   |
| Gearing                | 37.5%                 | 37.5%  | 37.5%       | 37.5%  | 0.00%               | 0.00%  |
| Equity beta            | 0.72                  | 1.28   | 0.72        | 1.20   | 0.00                | 0.08   |
| Cost of equity         | 7.39%                 | 11.68% | 6.94%       | 11.72% | 0.45%               | -0.04% |
| Vanilla WACC           | 6.21%                 | 9.23%  | 4.94%       | 8.17%  | 1.28%               | 1.07%  |
| RPI                    | 3.90%                 | 3.90%  | 3.75%       | 3.75%  | 0.15%               | 0.15%  |
| CPI                    | 2.90%                 | 2.90%  | 3.00%       | 3.00%  | -0.10%              | -0.10% |
| RPI-real WACC vanilla  | 2.23%                 | 5.13%  | 1.14%       | 4.26%  | 1.08%               | 0.87%  |
| CPI-real WACC vanilla  | 3.22%                 | 6.16%  | 1.88%       | 5.02%  | 1.34%               | 1.14%  |
| Tax rate               | 19.0%                 | 19.0%  | 19.0%       | 19.0%  | 0.00%               | 0.00%  |
| Pre-tax cost of equity | 9.12%                 | 14.42% | 8.56%       | 14.47% | 0.56%               | -0.04% |
| <b>Pre-tax WACC*</b>   | 7.30%                 | 10.95% | 5.95%       | 9.89%  | 1.34%               | 1.06%  |
| RPI-real pre-tax WACC  | 3.27%                 | 6.78%  | 2.12%       | 5.92%  | 1.15%               | 0.87%  |
| CPI-real pre-tax WACC  | 4.27%                 | 7.82%  | 2.87%       | 6.69%  | 1.41%               | 1.13%  |

\*The IDC rate for offshore transmission projects presented on page 1 of this letter (9.12%) is the mid-point of the 7.30%-10.95% nominal pre-tax WACC range.

## **Annex 2: Value of input parameters of IDC rates for electricity interconnectors subject to the cap and floor regime**

The table below sets out the values at the low and high end of the ranges that we have set for each parameter of the IDC rates for electricity interconnectors subject to the cap and floor regime for year 2023-24 and 2022-23, as well as the relative change in the parameters' values year on year.

| Parameter                     | Interconnectors |        |             |        |                     |        |
|-------------------------------|-----------------|--------|-------------|--------|---------------------|--------|
|                               | IDC 2023-24     |        | IDC 2022-23 |        | Change year on year |        |
|                               | Low             | High   | Low         | High   | Low                 | High   |
| Debt Yield                    | 4.15%           | 4.85%  | 1.50%       | 1.95%  | 2.65%               | 2.90%  |
| Transaction costs             | -               | -      | -           | -      | -                   | -      |
| Cost of debt                  | 4.15%           | 4.85%  | 1.50%       | 1.95%  | 2.65%               | 2.90%  |
| Risk-free rate                | 2.40%           | 3.30%  | 0.50%       | 1.10%  | 1.90%               | 2.20%  |
| Total market return           | 9.33%           | 9.85%  | 9.44%       | 9.95%  | -0.11%              | -0.10% |
| Asset beta                    | 0.50            | 0.85   | 0.50        | 0.80   | 0.00                | 0.05   |
| Gearing                       | 37.5%           | 37.5%  | 37.5%       | 37.5%  | 0.00%               | 0.00%  |
| Equity beta                   | 0.80            | 1.36   | 0.80        | 1.28   | 0.00                | 0.08   |
| Cost of equity                | 7.94%           | 12.21% | 7.65%       | 12.43% | 0.29%               | -0.22% |
| Vanilla WACC                  | 6.52%           | 9.45%  | 5.35%       | 8.50%  | 1.18%               | 0.95%  |
| RPI                           | 3.90%           | 3.90%  | 3.75%       | 3.75%  | 0.15%               | 0.15%  |
| CPI                           | 2.90%           | 2.90%  | 3.00%       | 3.00%  | -0.10%              | -0.10% |
| <b>RPI-real WACC vanilla*</b> | 2.52%           | 5.34%  | 1.54%       | 4.58%  | 0.99%               | 0.76%  |
| CPI-real WACC vanilla         | 3.52%           | 6.36%  | 2.28%       | 5.34%  | 1.24%               | 1.03%  |
| Tax rate                      | 19.0%           | 19.0%  | 19.0%       | 19.0%  | 0.00%               | 0.00%  |
| Pre-tax cost of equity        | 9.81%           | 15.07% | 9.45%       | 15.34% | 0.36%               | -0.27% |
| Pre-tax WACC                  | 7.69%           | 11.24% | 6.47%       | 10.32% | 1.22%               | 0.92%  |
| RPI-real pre-tax WACC         | 3.64%           | 7.06%  | 2.62%       | 6.33%  | 1.03%               | 0.73%  |
| CPI-real pre-tax WACC         | 4.65%           | 8.10%  | 3.37%       | 7.11%  | 1.29%               | 1.00%  |

\*The IDC rate for interconnectors presented on page 1 of this letter (3.93%) is the mid-point of the 2.52%-5.34% real-RPI vanilla WACC range (excluding debt transaction costs, as these are accounted for separately under the cap and floor regime; if transaction costs were included, the range would be 2.61%-5.52% and the mid-point 4.07%).