ICF$_t$ term for default revenue assessment periods

For default revenue assessment periods (five-year periods), the value of the 'ICF$_t$' term shall be calculated in accordance with the following formula:

$$ICF_t = (1 + ODR)^x \times (1 + Inf) \times ICF_{ap}$$ **Equation 1**

The value of the 'Inf' term shall be calculated in accordance with the following formula, as specified in the project's licence:

$$Inf = \frac{PPPI_{sp}}{PPPI_{mp}} - 1$$ **Equation 2**

The other terms used in the formulae above have the following meaning:

Table 1: Terms used in the calculation of ICF$_t$

Term	Description
ICF$_{ap}$	is the 'Interconnector Cap and Floor Revenue Adjustment term for the Assessment Period' calculated in accordance with Special Condition 10
mmp	is the date representing the median of the measurement period mp[1]
mp	is the measurement period, i.e. the final period (normally the final year) of the relevant revenue assessment period over which ICF$_{ap}$ is calculated
msp	is the date representing the median of the settlement period sp[2]
ODR	is the 'Operational Discount Rate' term calculated as the weighted average of the cap return rate and floor return rate set for the project, with weighting based on the notional operational gearing level (currently 50%) – 3.88% for Nemo Link.
PPPI$_{mp}$	is the 'Purchasing Power Parity Index' term for the measurement period (mp), calculated in accordance with Special Condition 2; the relevant inflation index and exchange rate values used to calculate the value of the PPPI$_{mp}$ term are the arithmetic averages of monthly inflation index and exchange rate values over period mp[2]
PPPI$_{sp}$	is the 'Purchasing Power Parity Index' term for the settlement period (sp), calculated in the same way as the PPPI$_{mp}$ term, but using values relating to period sp instead of period mp
sp	is the settlement period, i.e. the period in which payment is made to or from the GB system operator (normally a CUSC year, commencing 1st April)
x	is the time gap, expressed in years, between the two dates msp and mmp, calculated in accordance with the following formula: $= \frac{msp - mmp}{365.25}$ with the result rounded to 2 decimal places

---

[1] As calculated using the MS Excel formula = *MEDIAN("period start date":"period end date")*.

[2] For calculating these averages of monthly values, the first month included in the calculation is the month containing the start date of the period and the last month is the month containing the end date of the period (e.g. if the start date of the period is the 31st of January, January figures are included in the average; if the end date of the period is the 1st of December, December figures are included in the average).

Where values for the relevant monthly inflation indices and exchange rate used to calculate the PPPI are not fully available at the time of calculation, a provisional calculation is performed combining actual values that are available with forecast values determined as follows:

- The annual inflation rate is determined for:

  - UK RPI as the percentage change in the 12-month arithmetic average of the monthly index number of retail prices in the UK[3]; and

  - Belgian CPI as the percentage change in 12-month arithmetic average of the monthly index number of consumer prices in Belgium[4].

- For both inflation rate calculations, the required UK RPI and Belgian CPI figures are the latest available[5] at the date of submission of the ICF_t value to the GB Electricity System Operator (ESO).

- The forecast inflation indices are then calculated by applying these annual forecast inflation rates to calculate forecast monthly inflation indices for all months within each relevant year.

- The forecast exchange rate is set equal to the 12-month arithmetic average of the monthly exchange rate[6], being the latest available[5] at the date of submission for the ICF_t value to the GB ESO.

Once all actual values required to calculate the PPPI terms for both periods mp and sp are fully available (after the end of the settlement period), the calculation is updated by replacing the forecast values that were previously used with the actual values, which are now available, and the difference between final and provisional ICF_t value is uplifted to reflect the time lag, expressed in years, between the year of the reconciliation payment determined to reflect the difference between final and provisional ICF_t and the year of the provisional ICF_t payment. The reconciliation payment shall be calculated in accordance with the following formula:

$$Reconciliation = (1 + ODR)^y \times (1 + InfRec) \times (Final\ ICF_t - Provisional\ ICF_t) \quad \textbf{Equation 3}$$

---

[3] As identified by the Office of National Statistics in the CHAW series, where the index on 13 January 1987 equals 100.
[4] As identified by Statistics Belgium, where the index in 2004 equals 100.
[5] Latest figures for which both inflation indices and the exchange rate are available for that month i.e. if one or more figure is unavailable at the date of submission, then the calculation should revert to the previous month for which all figures are available.
[6] XUMAERS for Euro to Sterling conversions as identified by the Bank of England.

The value of the 'InfRec' term shall be calculated in accordance with the following formula, as specified in the project's licence:

$$InfRec = \frac{PPPI_{rp}}{PPPI_{sp}} - 1$$

Equation 4

The other terms used in the formulae above have the following meaning:

Table 2: Terms used in the calculation of the reconciliation payment

Term	Definition
Final ICF_t	is the updated and final payment value calculated using only actual inflation index and exchange rate values for both measurement period mp and settlement period sp
mrp	is the date representing the median of the reconciliation period (rp)[7]
$PPPI_{rp}$	is the 'Purchasing Power Parity Index' term for the reconciliation period (rp), calculated in the same way as the $PPPI_{mp}$ term, but using values relating to period rp instead of period mp
Provisional ICF_t	is the provisional payment value calculated using a combination of actual and forecast inflation index and exchange rate values for the settlement period
rp	is the reconciliation period, i.e. the period in which reconciliation payment is made to or from the GB system operator (normally a CUSC year, commencing 1st April) to reconcile the difference between final and provisional ICF_t
y	is the time gap, expressed in years, between the two dates mrp and msp, calculated in accordance with the following formula: $$= \frac{mrp - msp}{365.25}$$ with the result rounded to 2 decimal places
ODR, msp, $PPPI_{sp}$, RPI_{sp}, sp	are the terms described in Table 1 above.

The forecast monthly inflation index and exchange rate values required to calculate the reconciliation payment are determined in the same way as those required to calculate the provisional ICF_t payment, as described above.

The reconciliation payment is paid to or from the GB System Operator in the earliest available settlement (CUSC) year. No further reconciliations are performed after this reconciliation payment (i.e. the inflation index and exchange rate forecasts used in the calculation of the reconciliation payment are not subsequently replaced with actual observed inflation index and exchange rate values).

---

[7] As calculated using the MS Excel formula *=MEDIAN("period start date":"period end date")*.

ICF$_t$ term for partial revenue assessment periods

For partial revenue assessment periods (i.e. where a revenue assessment is performed before the final year of the default assessment period), the value of the 'ICF$_t$' term shall be calculated using the same formulae, inputs and calculations described above for the default assessment period, with the only difference being that the ICF$_{ap}$ term is replaced by the ICF$_{pap}$ term, the 'Interconnector Cap and Floor Revenue Adjustment term for the Partial Assessment Period'.

Transferability to other projects

As part of the preparation of Nemo Link's ICF$_t$ methodology, Ofgem has explored the potential transferability of the methodology to other cap and floor regime interconnector projects. The methodology is sufficiently robust that, with the substitution of the following equations into Equations 1 and 2, respectively, the methodology could also be used for projects with single indexation:

$$Inf = \frac{RPI_{sp}}{RPI_{mp}} - 1 \qquad\qquad \textbf{Equation 5}$$

$$InfRec = \frac{RPI_{rp}}{RPI_{sp}} - 1 \qquad\qquad \textbf{Equation 6}$$

Example payment timeline

Figure 1: Default revenue assessment after Year 5 of operations