Electricity Transmission Network
Allowed Revenues for 2020
and
Demand Transmission Use of System (D-TUoS) Tariffs 2019/20

Information Paper
Public/Customer Impact Statement

The electricity transmission system is owned by ESB (Transmission Asset Owner or TAO)\(^1\) and operated by EirGrid (Transmission System Operator or TSO). It allows for the transport of large volumes of electricity from generators to supply points, where electricity is then sent to homes and businesses through the distribution system (some large businesses are connected to the transmission system directly).

The CRU’s role is to protect electricity customers by ensuring that the network companies, EirGrid and ESB Networks (ESBN), spend customers’ money appropriately and efficiently to deliver necessary services. The CRU does this through the Price Review process, which sets the revenues that the network companies will be allowed to recover during the next five years to safely operate, develop and maintain the transmission system. The revenues, which feed into the transmission charges, are updated by the CRU every year, as well as the tariffs.

This paper sets out the allowed 2020 revenues and 2019/20 charges necessary to allow EirGrid and ESBN recover the costs of safely operating, maintaining and developing the transmission system. These charges are referred to as Transmission Use of System (TUoS) tariffs and are divided in Generator TUoS (G-TUoS) tariffs and Demand TUoS (D-TUoS) tariffs, which are charged to generators and suppliers respectively. Currently D-TUoS tariffs make up approximately 8%\(^2\) of an average residential customer’s electricity bill. However, suppliers decide how to structure the tariffs they offer to consumers to recover their costs, including other non-network related costs.

The combined transmission and distribution adjustments will result in the average residential customer’s annual bill rising by €1.26 in October 2019\(^3\). However, customer’s annual bills depend, on other factors, such as wholesale market costs (which are in turn driven by factors such as international commodity prices), capacity market costs and other system costs. Further detail on these costs can be found in CRU’s annual Electricity and Gas Retail Markets Reports.\(^4\)

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1 ESB TAO acts through its business unit ESB Networks.
2 The Distribution Use of System tariffs account for approximately 25% of the average residential electricity’s bill.
3 If no other elements of the bill changed.
Executive Summary

This information paper sets out the update to the Allowed Revenues that the transmission network companies, EirGrid (TSO) and ESB Networks (TAO), will be entitled to recover during 2020. These revenues are required for the efficient operation, maintenance and development of the electricity transmission system to ensure that there is a reliable supply for electricity consumers.

Furthermore, the paper sets out the CRU’s decision on the associated Demand Transmission Use of System (TUoS) tariffs that will apply to demand customers from 01 October 2019 to 30 September 2020.

The transmission AUP for the 2019/2020 period is estimated to be €1.77c/kWh, which is a decrease of circa 2.21% relative to the current AUP.

The combined transmission and distribution adjustments will result in the average residential customer’s annual bill rising by €1.26 in October 2019. However, customer’s annual bills depend, on other factors, such as wholesale market costs (which are in turn driven by factors such as international commodity prices), capacity market costs and other system costs. Further detail on these costs can be found in CRU’s annual Electricity and Gas Retail Markets Reports.

Context

Allowed revenues for the TSO and TAO are set every five years by the CRU following a review of the specific underlying costs of the network companies. These allowed revenues are then updated each year and network tariffs are set to allow for those revenues to be recovered. The current Price Review period is “PR4” and was set in in 2015 for the period 2016 to 2020. This five-year approach is international best practice, and is widely used by regulators in Europe and around the world in the energy industry as well as in a number of other regulated sectors.

This year sees an average decrease in D-TUoS tariffs of circa 3% for a typical domestic customer. The System Services component of the D-TUoS tariffs have decreased considerably. This component is to recover costs such as DS3 system services, East West Interconnector (EWIC) costs, measures to improve local security of supply, etc; which have been forecasted much lower for 2020 (compared to 2019 allowances). The Network Capacity component has slightly increased, due to a small increase in network related costs.

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5 This is based on the total tariff year revenue amount/GWh sales.
6 If no other elements of the bill changed.
8 Using the most up-to-date information, allowed revenues are reviewed annually to account for updated inputs as inflation rates, forecast demand and adjustment to outturn and forecast costs.
9 PR4: Decision on TSO and TAO Transmission Revenue for 2016 to 2020: [CER/15/296](https://www.cru.ie/document_group/retail-markets-annual-report)
10 Based on transmission tariff group DTS-D2 and distribution tariff group DG1, i.e. Urban Domestic: Standard Meter and MWH charge urban 24 hour/kWh - Definition/ Interpretation as per EirGrid’s Statement of Charges 2018/2019.
The D-TUoS tariffs are charged to suppliers, who may choose how, or whether, to pass them on to their customers.

Please note that the allowed transmission revenues are established on a calendar year basis whereas the TUoS tariffs run from 01 October to 30 September. Therefore, the TUoS tariffs are set for periods that span two separate calendar years (i.e. October 2019 to September 2020).

**TSO and TAO allowed revenues for 2020**

The transmission revenues for the TSO and TAO for 2020 are detailed below:

| Table 1: Summary of revenue movements for 2020 (in 2020 prices) |
|------------------|------------------|------------------|------------------|
|                  | PR4 decision for 2020 | TAO/TSO updated 2020 revenue request | CRU updated 2020 allowance |
| € millions       |                         |                                |                                |
| TAO              | €297.20                 | €293.42                        | €291.01                      |
|                  | -3.78m                  | -2.41m                         |                                |
| TSO              | €315.83                 | €207.9                         | €208.04                      |
|                  | -107.9m                 | 0.14m                          |                                |
| Total            | €613.03                 | €501.3                         | €499.05                      |
|                  | -111.7m                 | -2.25m                         |                                |

The CRU’s review and consideration of updated key inputs has resulted in an adjusted figure of €499.05m for 2020. This is approximately 18% less than what had been included in the PR4 revenue model for calendar year 2020 and is in part related to the fact that some forecast costs were not available at the time of the PR4 decision.

The CRU allowance for the network companies for calendar year 2019 was €557.86m (2019 prices), which represents circa 11% more than the 2020 allowance. This 11% difference is primarily driven by a reduction of costs related to DS3 system services, EWIC and local security of supply; as well as a large 2018 k-factor return on the TSO’s side, which feeds into the 2020 revenues.

**Transmission AUP for 2019/2020 tariff period**

The CRU’s Average Unit Price (AUP), measured in c/kWh, is calculated by dividing the total allowed tariff year revenue, i.e. 2019/2020 by the forecast energy for the tariff year 2019/20.

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11 This includes costs approved subsequent to PR4 decision, i.e. DS3 and I-SEM related costs. At the time of the PR4 Decision, these costs were unknown, and no allowance was allocated to them. However, PR4 provided for these items to be recovered once the costs were known; and therefore, the DS3 and I-SEM allowances of 2019 have been included in the PR4 allowance of 2020.
The total allowed tariff year revenue 2019/20 is calculated by using the allowed revenues for calendar years 2019 and 2020, both figures representing 26.26% and 73.74% respectively.

The 2019/20 tariff year revenue is €514.48m, which represents circa 1.2% less than the 2018/19 tariff year revenue. The forecast demand for tariff year 2019/20 is 29,000GWh, which represents circa 1% more than the forecast demand for tariff year 2018/19.

The average unit price (AUP) for the period of 01 October 2019 to 30 September 2020, based on the 2019/20 tariff year revenue and forecast demand, is estimated to be 1.77c/kWh. This 2019/20 AUP is 2.21% lower than the current AUP.

**Tariffs Impact Analysis**

The combined transmission and distribution adjustments will result in the average residential customer’s annual bill rising by €1.26 in October 2019. However, customer’s annual bills depend, on other factors, such as wholesale market costs (which are in turn driven by factors such as international commodity prices), capacity market costs and other system costs. Further detail on these costs can be found in CRU’s annual Electricity and Gas Retail Markets Reports.

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12 Although the 2020 revenues are circa 11% lower than the 2019 revenues, the 2019/20 tariff year revenues are just circa 1.2% less than the 2018/19 tariff year revenues. This is because the tariff year revenues span two calendar years.
13 If no other element of the bill changed.
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# Glossary of Abbreviations and Terms

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<th>Abbreviation or Term</th>
<th>Definition or Meaning</th>
</tr>
</thead>
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<tr>
<td>TSO</td>
<td>Transmission System Operator (EirGrid)</td>
</tr>
<tr>
<td>TAO</td>
<td>Transmission Assets Owner (ESB Networks)</td>
</tr>
<tr>
<td>CRU</td>
<td>Commission for Regulation of Utilities</td>
</tr>
<tr>
<td>PR</td>
<td>Price Review. This is a five-yearly review of the transmission companies’ allowed revenues</td>
</tr>
<tr>
<td>Allowed Revenues</td>
<td>The sum of costs that the transmission companies are entitled to obtain in a given period, as approved by the CRU</td>
</tr>
<tr>
<td>TUoS tariffs</td>
<td>Transmission Use of System tariffs</td>
</tr>
<tr>
<td>G-TUoS tariffs</td>
<td>Generator TUoS tariffs – charged to generators</td>
</tr>
<tr>
<td>D-TUoS tariffs</td>
<td>Demand TUoS tariffs – charged to energy suppliers</td>
</tr>
<tr>
<td>DUoS</td>
<td>Distribution Use of System</td>
</tr>
<tr>
<td>Correction factor</td>
<td>An adjustment of revenue applied to rectify over or under recoveries</td>
</tr>
<tr>
<td>Euribor</td>
<td>Euro Interbank Offered Rate indicating the average interest rates at which Eurozone banks offer to lend to other banks</td>
</tr>
<tr>
<td>HICP</td>
<td>Harmonised Index of Consumer Pricing</td>
</tr>
<tr>
<td>GWh</td>
<td>Gigawatt hours</td>
</tr>
<tr>
<td>AUP</td>
<td>The Average Unit Price (AUP), that is, the total tariff year revenue divided by total kWh.</td>
</tr>
</tbody>
</table>
1. Introduction

1.1. Commission for Regulation of Utilities

The Commission for Regulation of Utilities (CRU) is Ireland’s independent energy and water regulator with a range of economic, customer protection and safety functions. Our mission is to protect the public interest in water, energy and energy safety.

Further information on the CRU’s role and relevant legislation can be found on the CRU’s website at www.cru.ie.

1.2. Background

The CRU is responsible for the economic regulation of the system operators and asset owners for the electricity transmission and distribution systems. Price Reviews, which limit the revenues that the relevant licensees can recover from electricity consumers are set every five years. The CRU’s five-year Price Review process is in line with international best practice.

In December 2015, the CRU published its Decision on the Price Review 4 (PR4) period for ESB Networks (ESBN) as Transmission Asset Owner (TAO) and EirGrid as Transmission System Operator (TSO). PR4 set the annual revenues for each of the years for the period 2016-2020 (both inclusive).

Annual revenues are reviewed and adjusted each year when setting Transmission Use of System charges (TUoS or network tariffs) that are also reviewed and adjusted annually. The annual revenue review includes adjustments to account for more up to date forecasts such as latest level of inflation or demand. It also captures adjustments that relate to the outcome of previous years through so called k-factors. This paper details the adjustments made to the 2020 annual revenue.

1.3. Legal background

Under the Electricity Regulation Act 1999, as amended, (“The Act”), the CRU is the independent body responsible for overseeing the regulation of Ireland’s electricity sector. Section 35 of the Act provides the CRU the legal basis to approve charges for the use of the electricity system in Ireland.

In accordance with Section 35 of the Act, the CRU’s electricity Price Review decision outlines the revenue that the TSO and TAO can recover from network customers through Transmission Use of System (TUoS) tariffs during a Price Review period. Consistent with Section 36 of the Act, the TSO’s Schedule of charges, prepared in accordance with Section 35, must be submitted to the CRU for approval and will not take effect until approved by the CRU. This approval takes place annually through the annual revenue review.
1.4. Purpose of this information paper

This paper outlines the CRU’s decision in relation to the allowed revenues for 2020 of ESB Networks as Transmission Asset Owner (TAO) and EirGrid as Transmission System Operator (TSO). Furthermore, the paper sets out the CRU’s decision on the associated Demand Transmission Use of System (D-TUoS) tariffs that will apply to demand customers from 01 October 2019 to 30 September 2020.

1.5. Other Related Documents

- CRU/18/195 Information Paper on 2019 TSO and TAO Revenue and 2018/19 D-TUoS tariffs
- CER/17/276 Information Paper on 2018 TSO and TAO Revenue and 2017/18 D-TUoS tariffs
- CER/16/248 Information Paper on 2017 TSO and TAO Revenue and 2016/17 D-TUoS tariffs
- CER/15/216 Information Paper on 2016 TSO and TAO Revenue and 2015/16 D-TUoS tariffs
- CER/15/296 Decision on TSO and TAO transmission revenue for 2016 to 2020 (PR4)
- CER/11/128 Decision on 2011/2012 Transmission Incentives
- CER/18/087 Decision on Reporting and Incentives under Price Review 4

1.6. Structure of Paper

This Paper is divided into five sections:

**Section 1** provides an introduction to the purpose of this Information note, the CRU tasks and also include related documents.

**Section 2** outlines CRU’s revenue setting process.

**Section 3** details the TAO and TSO revenues for 2020. This section includes information on the applicable revenue formula, the 2018 allowed outturn and the 2020 updated forecast.

**Section 4** details the D-TUoS tariffs approved for implementation from 01 October 2019 to 30 September 2020.

**Section 5** provides a summary of the CRU’s decision regarding the 2020 transmission network revenues.
2. Annual Revenue Review Process

In this section the revenue review process is described, which includes how adjustments are made to calendar year revenues and how calendar year revenues translate into TUoS tariffs.

2.1. CRU’s Revenue Setting Process

In 2015, the CRU published its PR4 decision on the current electricity transmission Price Review. That decision sets out the revenues that the TSO and TAO can collect from use of system customers over the 2016 to 2020 period, both inclusive. In line with that decision, the CRU collects and reviews cost information from the TAO and TSO on an annual basis in order to update the allowed revenues for each year from 2016 to 2020, see Table 2.

Section 13 of CRU’s PR4 decision paper sets out how the allowed revenues are to be updated annually within the five year period.

Table 2: Overview of price review timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Scope of Review</th>
</tr>
</thead>
</table>
| 2015 | Five year price review, PR4, including:  
|      | • Ex-post adjustments on the previous five years of expenditure (2011 to 2015).  
|      | • Ex-ante setting of revenues for the next five years of expenditure (2016 to 2020). |
| 2016 | CRU’s annual revenue reviews and updates to revenues and TUoS tariffs. |
| 2017 |  |
| 2018 |  |
| 2019 |  |
| 2020 | Five year price review, PR5, including:  
|      | • Ex-post adjustments on the previous five years of expenditure (2016 to 2020).  
|      | • Ex-ante setting of revenues for the next five years of expenditure (2021 to 2025). |

As part of the annual review process, existing forecast items are updated as appropriate. Furthermore, an opportunity is provided for the network companies to request revenue for additional items that were not envisaged or captured at the time of setting the five year allowances. This paper details the CRU’s decision on all such items and outlines the results of implementing the yearly update of 2020 revenues, including the associated D-TUoS tariffs for the period 01 October 2019 to 30 September 2020.
2.2. Determination of TUoS tariffs for each tariff period

The TUoS tariffs are composed by the Generator Transmission Use of System (G-TUoS) tariffs and Demand Transmission Use of System (D-TUoS) tariffs, passed on to generators and energy suppliers respectively. At present, TUoS tariffs make up approximately 8% of a residential customer’s bill\(^{15}\).

The CRU approves TUoS tariffs on an annual basis to cover the period from 01 October to 30 September. TUoS tariffs are set to recover 26.26\(^{16}\)% of the revenues associated with the first calendar year included in the tariff period and 73.74% for the second calendar year, as the revenues are set on a calendar year basis whereas the network charges are set on a tariff year basis (October to September).

This information paper focuses on the D-TUoS tariffs established for the tariff period from 01 October 2019 to 30 September 2020, and represent 26.26% of 2019 revenue and 73.74% of 2020 revenue.

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\(^{15}\) The Distribution Use of System tariffs account for approximately 25% of the average residential electricity’s bill.

\(^{16}\) This is based on the percentage of demand that relates to the relevant period of the year.
3. CRU’s Revenue Allowance for 2020

This section provides a summary of the TAO and TSO revenues which were allowed in the PR4 determination, the network companies’ updated request for 2020, the CRU’s decision on final 2020 allowances and the change from the 2019 approved revenues.

Following that summary, section 3.2 and 3.3 go into further detail on the costs associated with the respective network companies’ requests for 2020.

3.1 Summary of TAO and TSO Revenue

The TAO and TSO revenue for the 2020 calendar year have been separately updated according to the PR4 decision paper and based on the revenue submissions provided by the TAO and TSO. Table 3 below provides an overview of the revenue movements for 2020. Table 4 later in this section shows a comparison between the 2020 and the 2019 revenues.

Table 3: Summary of revenue movements

<table>
<thead>
<tr>
<th>€ millions</th>
<th>PR4 decision for 2020</th>
<th>TAO/TSO updated 2020 revenue request</th>
<th>CRU updated 2020 allowance</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAO</td>
<td>€297.20</td>
<td>€293.42</td>
<td>€291.01</td>
</tr>
<tr>
<td>-3.78m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSO</td>
<td>€315.83</td>
<td>€207.9</td>
<td>€208.04</td>
</tr>
<tr>
<td>-107.9m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>€613.03</td>
<td>€501.3</td>
<td>€499.05</td>
</tr>
<tr>
<td>-111.7m</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

= difference in revenue between one cell and the next

PR4 allowance for 2020 vs CRU updated allowance for 2020

The total transmission allowed revenue for the 2020 calendar year as per the annual update is €499.05m (2020 prices). This is a decrease of circa 18% relative to the €613.03m (2020 prices) that was allowed in the PR4 determination for 2020 and is illustrated in table 3.

17 This includes costs approved subsequent to PR4 decision, i.e. DS3 and I-SEM related costs. At the time of the PR4 Decision, these costs were unknown, and no allowance was allocated to them. However, PR4 provided for these items to be recovered once the costs were known; and therefore, the DS3 and I-SEM allowances of 2019 have been included in the PR4 pot of 2020.
The main drivers for the 18% decrease are on the TSO’s side and relate to the revenue provisions for DS3 System Services, EWIC and the 2018 TSO k-factor (which feeds into the 2020 allowances). This is further explained in this section.

**Companies’ updated 2020 revenue request vs CRU updated 2020 allowance**

The only drivers of mismatch between the network companies’ request and the CRU’s allowance for 2020 are summarised below and detailed later in this paper:

- The TAO’s incentive allowance for Investment and Delivery: the TAO requested its performance to be graded as “strong”, earning the full incentive payment, i.e. c.€2.5m (2020 prices). Due to the incentive metric still being revised at the revenues approval’s time, the CRU included an amount of €0.015m (2020 prices) in the 2020 revenues; this is, as indicated by ESBN, the reasonable cost of an audit. The allowance will serve as a placeholder until the outcome of the audit report is known, as further explained in later sections.

- The TSO’s incentive allowance for Stakeholder engagement: the TSO did not include a figure when it submitted its revenue request, as this incentive was dependent on a score (linked to a financial reward) given by the Networks Stakeholder Engagement (NSEE) Panel\(^\text{18}\) and to be completed at the time of the revenues’ request submission. The Panel has now completed its evaluation; and therefore, the CRU has allowed an incentive payment based on the score given. This is further explained in later sections.

- The TSO’s Strategic Incentives allowance: the TSO requested an amount of €0.32 (2018 prices) to be allowed. The CRU has allowed an amount of €0.25m (2018 prices), as further detailed in this paper.

**CRU updated 2020 allowance vs CRU updated 2019 allowance**

The CRU allowance for the network companies for calendar year 2019 was €557.86m, which represents circa 11% less than the 2020 allowance.

<table>
<thead>
<tr>
<th></th>
<th>CRU approved revenues 2019 (2019 prices)</th>
<th>CRU approved revenues 2020 allowance (2020 prices)</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAO</td>
<td>€255.22m</td>
<td>€291.01m</td>
<td>c. 14% increase</td>
</tr>
<tr>
<td>TSO</td>
<td>€302.64m</td>
<td>€208.04m</td>
<td>c. 31% decrease</td>
</tr>
<tr>
<td>Total</td>
<td>€557.86m</td>
<td>€499.05m</td>
<td>c. 11% decrease</td>
</tr>
</tbody>
</table>

The main drivers for this decrease relate to TSO costs adjustments and are detailed below:

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\(^{18}\) The NSEE Panel is a panel set up by the CRU and made by stakeholders who assess and score the TSO and DSO on its performance regarding stakeholder engagement. The Terms of Reference of the Panel can be found here.
- The TSO 2018 k-factor\(^{19}\), to be discounted from the 2020 revenues, is \(-€31.08m\). The 2017 k-factor, which was discounted from the 2019 revenues, was \(-€14.08m\). The main driver of change is that during 2018, the actual demand was 1.5% more than what was forecasted; and therefore, the TSO recovered more money than what was allowed – being this returned to customers now through the 2020 revenues.

- Funding for DS3 System Services\(^{20}\): these services will facilitate an increase of non-synchronous renewable generation over the coming years which will put downward pressure on wholesale market prices. The TSO request for 2020 is c. €30m less than last year’s approved allowance. The main reasons for decrease are the TSO experience post I-SEM Go-Live, and the 2018/19 outturn, which have helped EirGrid to estimate a prudent figure for 2020.

- EWIC: the TSO request for 2020 is c. €25m less than last year’s approved allowance.

  The TSO revenue requirement is based on an estimated requirement for EWIC for the next year, which includes costs for the infrastructure and the financing arrangements. These costs are offset by an estimation for income, which is the revenue earned from auctioning the available capacity. There is also a k-factor for year minus 2 (\(y-2\)), which corrects for any variance in the estimated requirement and the actual income in \(y-2\).

  During 2016/17 tariff year, which fed into the 2019 allowance, there was an unplanned outage, which meant that EirGrid did not take in as high capacity auction receipts as usual. Therefore, the revenue requirement was significantly higher than in tariff year 2017/18, which feeds into the 2020 revenues.

- Funding for a set of measures to improve security of supply in the Dublin region\(^{21}\): the TSO request for 2020 is c. €30m less than last year’s approved allowance. The reason is that last year’s allowance was based on TSO’s estimates for a range of potential mitigation measures; while for this year’s allowance, the TSO has greater certainty in relation to the overall costs of the mitigation measures that have been implemented.

\(^{19}\) The k-factor mechanism is explained in section 3.3.2.
\(^{20}\) This revenue item was not captured in PR4 but had provision to be recovered once the specific costs were known.
\(^{21}\) This funding was introduced for the first time in the 2019 revenues. This revenue item was not captured in PR4.
3.2 TAO Allowed Revenue for 2020

For the TAO, in 2020 prices, PR4 had provided for €297.20m for the year 2020. The updated 2020 figure following the CRU’s annual review process is €291.01m, which is approximately 2% less than the PR4 allowance and 14% more than the 2019 allowance22.

3.2.1. TAO Revenue review formula

The revenue review formula, which is used to keep the TAO’s revenue in line with allowed costs, is set out in detail in Section 13 of CER/15/296 (PR4) and presented as Equation 1 below. As part of the annual update to revenues, and to take account of the TAO incentive outturn in year t-2 (in this case the year 2018) that formula has been slightly modified as per Equation 2. Equation 2 takes the ‘base’ allowed TAO revenue (in 2014 prices), inflates that revenue into 2020 prices, and adjusts it for specific revenue parameters.

It is important to note that all the elements of equation 2 should be in the same year prices, i.e. 2020, to solve the equation. Although some elements are in different year prices in this paper, the final figures which fed into equation 2 to determine the final 2020 revenues, are in 2020 prices.

\[
R_t = \prod_{2014}^{t} \left[ \frac{1 + \text{Inf}_{t} - X}{100} \right] \times B_t + \text{INCENT}_t + \text{KINCENT}_{t-1} \Delta P_t + \Delta U_t + K_{t-1} + K_{t-2}
\]

Equation 1: Price review formula from CER/15/296 (PR4)

\[
R_t = \prod_{2014}^{t} \left[ \frac{1 + \text{Inf}_{t} - X}{100} \right] \times B_t + \text{INCENT}_{t-2} + \Delta P_t + \Delta U_t + K_{t-2}
\]

Equation 1: Price review formula from CER/15/296 (PR4) - annual update to revenues

The terms within Equation 2 are fully explained within CER/15/296 (PR4), apart from, \( \text{INCENT}_{t-2} \), which is defined below along with all the elements of equation 2.

Elements of equation 2:

- \( R_t \), the maximum level of TAO revenue allowed in 2020, is €291.01m (2020 prices);
- \( \text{Inf}_{t} \), when inflating from 2014 to 2020 prices, the relevant figures are inflated based on actual Irish HICP23 rates of -0.03% in 2015, -0.21% in 2016, 0.26% in 2017 and 0.72% in 2018; and forecast Irish HICP rates of 0.80% in 2019 and 1.30% in 2020;
- \( X \), the efficiency factor, is set at zero;

22 The 2020 PR4 allowance and the updated 2019 allowance were inflated to 2020 prices for comparative purposes. These figures are €297.20 and €255.22 million respectively.

23 Inflation rates for actuals are taken from the Central Statistics Office and for forecasts are taken from the Central Bank Quarterly Reports.
- Bt, the level of allowed revenue for the 2020 calendar year in 2014 prices as per the determination paper CER/15/296 (PR4), is €289.0m;

- INCENTt-2, is the value of incentives in year t-2, i.e. 2018 in this case, in € millions in respect of the penalties or payments. Further details in Section 3.2.4. This feeds into the Kt-2 figure below;

- \( \triangle P_t \), the change in TAO external costs (e.g. Local Authority Rates) for 2020 from those assumed in the determination paper CER/15/296 (PR4), there is no change to the forecast, therefore this is set to zero;

- \( \triangle U_t \), the change in TAO uncertain costs for 2020 from those assumed in the determination paper CER/15/296 (PR4), there is no change to the forecast, therefore this is also set to zero; and

- Kt-2, this is the correction factor (k-factor), which ensures that revenues for 2020 are adjusted to capture the 2018 allowed outturn. Note that this is a net k-factor figure which includes any incentive adjustment outlined above.

### 3.2.2. TAO 2018 k-factor

*(figures are in 2014 prices in this section, unless otherwise stated)*

This section outlines the difference between the PR4 allowance for 2018 (determined in 2015) and the allowed outturn of 2018 (as determined in this paper). The difference between these figures is known as the 2018 ‘k-factor’, which feeds into the updated 2020 TAO revenue allowance.

The k-factor for the TAO in 2018 is minus €6.11m (2014 prices, pre-interest). The TAO under spent will be accounted for by applying an equal downward adjustment to the TAO’s 2020 revenue allowance. The individual k-factor adjustments are shown in table 4 and explained below the table. All figures are in 2014 prices unless otherwise stated.
Table 5: Summary of adjustments to TAO 2018 allowed outturns and resulting k-factor

<table>
<thead>
<tr>
<th>2014 prices</th>
<th>PR4 allowance for 2018 (ex-ante)</th>
<th>CRU outturn allowance for 2018 (ex-post)</th>
<th>Adjustments (ex-post minus ex-ante)</th>
</tr>
</thead>
<tbody>
<tr>
<td>€ millions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pass Through Costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Authority Rates</td>
<td>28.30</td>
<td>24.55</td>
<td>-3.75</td>
</tr>
<tr>
<td>CRU Regulatory Levy</td>
<td>1.20</td>
<td>1.08</td>
<td>-0.12</td>
</tr>
<tr>
<td><strong>Incentives</strong>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018 Incentive allowance</td>
<td>2.25</td>
<td>2.69</td>
<td>0.44</td>
</tr>
<tr>
<td><strong>Inflation correction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difference in forecast and actual inflation for 2018</td>
<td>0</td>
<td>-2.12</td>
<td>-2.12</td>
</tr>
<tr>
<td><strong>Uncertain Costs – Non Capitalised</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUoS</td>
<td>-0.50</td>
<td>-0.27</td>
<td>0.23</td>
</tr>
<tr>
<td><strong>Uncertain Costs – Capitalised</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deprecation</td>
<td>0</td>
<td>-0.24</td>
<td>-0.24</td>
</tr>
<tr>
<td>Return</td>
<td>0</td>
<td>-0.56</td>
<td>-0.56</td>
</tr>
<tr>
<td><strong>Total k-factor adjustment (pre-interest) in 2014 prices</strong></td>
<td>-€6.11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Further details on the incentive allowance provided in section 3.2.4.

**Local authority rates (-€3.75 million)**

Rates are levied annually by local authorities around the country on the TAO. Following this year’s review, a downward adjustment of €3.75m has been applied to the PR4 allowance for 2018.

**CRU Regulatory levy (-€0.12 million)**

The CRU levy is applied annually and following this year’s review, a downward adjustment of €0.12m has been applied to the PR4 allowance for 2018.

**Inflation correction (-€2.12 million)**

The CRU’s calculation of annual revenue allowances comprises a forecast inflation adjustment. The 2018 ex-ante allowance was calculated using forecast inflation rates for 2017 and 2018. Correcting those rates to actuals results in a difference of minus €2.12m.

**Additional Use of System (AUoS) (€0.23 million)**

The Additional Use of System relates to use of the transmission system for purposes other than the electricity transmission, such as telecoms. In 2018, in line with the agreed methodology, ESB Telecoms Ltd returned €270k of AUoS to consumers through the TAO revenue. This results in an increase of €0.23m to the 2020 revenues.
3.2.3. Interest Provision for TAO 2018 k-factor

Once the k-factor is calculated, an interest adjustment is applied.

As stated in CER/15/296 (PR4), interest at the three-month average Euribor rate would be added to the relevant annual over/under recovery amount. The interest rate (I) that is applied to under and over-recoveries/ k-factors for transmission revenue for year t-2 is as follows:

- \( I_t \) is the mean of the twelve monthly average three month Euribor rate between April and March of the year t-2 (i.e. April of year t-3 to March year t-2) multiplied by the mean of the twelve monthly average three month Euribor rate between April and March of the year t-1 (i.e. April of year t-2 to March year t-1).

Applying an interest rate of minus 0.3% in 2018 and minus 0.2% in 2019 to the TAO 2018 k-factor of minus €6.11m, results in a net TAO k-factor of minus €6.08m (2014 prices). The TAO k-factor in 2020 prices is minus €6.25m.

3.2.4. TAO 2018 incentives outturn
(figures are in 2018 prices in this section, unless otherwise stated)

The incentive figure allowed by the CRU for 2018 (in 2020 prices) is 2.76m, this is explained within this section.

Based on the TAO’s performance in 2018, the CRU has allowed an amount of €2.71m, in 2018 prices, to feed into the TAO 2018 k-factor (which will feed into the 2020 revenues). The incentives metrics of the TAO for 2018 are described below. All figures are in 2018 prices unless otherwise stated.

In May 2018, the CRU published its Decision Paper on Reporting and Incentives under PR4, CER/18/087, setting out new incentives arrangements and reporting obligations. For 2018, the TAO incentives are made up by:

- Scheduled Outages
- Investment Delivery
- *Incentive outturn 2016: this incentive outturn was set to €0m by the CRU at the time of submission; the reason was that incentives were going to be separately consulted as part of PR4. Further details follow later in this section.

Regarding the two first bullet points of above, the maximum incentive allowance for 2018, i.e. €2.88m, is 5% of the total allowed TAO controllable opex for 2018, which is €57.6m. Within that 5%, a percentage of 17% is allocated to Scheduled Outages incentive and the rest to Investment and Delivery.

Scheduled Outages

In 2018, the number of scheduled outage days was 5,410 and the total actual outage days were 5,201. The CRU has allowed the full incentive payment available i.e. €0.49m (17% of €2.88m) to feed into the TAO 2018 k-factor. This is based on the TAO’s performance in outage management.
**Investment and Delivery**

As part of CER/18/087, it was decided that the TAO will be subject to a financial incentive on its performance in contributing to investment planning and delivery. The incentive payment will be based on performance against a Key Performance Indicators (KPI) framework proposed by the TAO and approved by the CRU.

It was agreed with the TAO that the CRU will set the incentive payment informed by an independent audit. The audit, which will be arranged by the TAO, will use the KPI framework to assess performance of the TAO.

Based on the audit report and other evidence deemed relevant, performance can be graded as:

- “Strong” = payment of 4.2% of TAO internal opex, i.e. c.€2.42m.
- “Acceptable” = payment equal to the reasonable cost of the audit.
- “Below acceptable” = penalty of 4.15% of TAO internal opex, i.e. c.€2.39m.

The TAO’s KPI framework was still in progress at the time of the TAO’s revenues request submission. Therefore, the CRU has included an amount of €0.015m (2020 prices) in the 2020 revenues, which is the reasonable cost of an audit, to feed into the TAO 2018 k-factor. The allowance will serve as a placeholder until the outcome of the audit report is known.

*Incentive outturn 2016 (figures in 2016 prices)*

Regarding the 2016 incentive outturn requested by the TAO in 2017 to be recovered in the 2018 transmission revenues, ESBN submitted a figure calculated against targets developed in accordance with PR3 mechanism. At that time, the CRU set the 2016 incentive outturn value to €0m as it was planned to consult on incentives separately as part of PR4. With the publication of PR4 Reporting and Incentives (May 2018), it was determined that the 2016 TAO incentive outturn would be assessed under the PR3 framework.

The incentive outturn was not included in last year’s revenues; and therefore, the CRU has allowed an amount of €2.18m to feed into the TAO 2018 k-factor, based on TAO’s performance on outage management and transmission delivery during 2016.

**3.2.5. TAO 2020 Forecast Adjustments**

There are no changes being made to the forecast expenditure for 2020.

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24 As indicated by the TAO.
25 PR4 Reporting and Incentives Decision Paper can be found [here](#).
3.2.6. Summary of TAO Allowed Revenue for 2020

A comparison of the PR4 ex-ante allowed TAO revenue for 2020\(^{26}\), and the ex-post adjusted allowed TAO revenue for 2020\(^{27}\) is provided in Table 5.

It can be seen that the revenue figure of €297.2m is adjusted downwards by €6.25m, to yield the total value of €291.01m for the TAO’s revenue for the 2020 calendar year. That downward adjustment captures changes to the TAO’s k-factor; incentives outturn and inflation rates as described above.

Table 6: Summary of TAO allowed revenue for 2020

<table>
<thead>
<tr>
<th></th>
<th>(2020 prices)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAO requested revenue for 2020</td>
<td>293.42</td>
</tr>
<tr>
<td>PR4 allowed revenue for 2020</td>
<td>297.2</td>
</tr>
<tr>
<td>Approved k-factor for 2018</td>
<td>-6.25</td>
</tr>
<tr>
<td>Approved forecast adjustments for 2020</td>
<td>0</td>
</tr>
<tr>
<td>Approved updated allowed revenue for 2020</td>
<td>291.01</td>
</tr>
</tbody>
</table>

3.3 TSO Allowed Revenue for 2020

For the TSO, in 2020 prices, PR4 had provided for €315.83m\(^{28}\) for the year 2020. The updated 2020 figure following the CRU’s annual review process is €208.04m, which is approximately circa 34% less than PR4 allowance and circa 30% less than 2019 allowance\(^{29}\). The key drivers for the change are described in this section.

3.3.1. TSO Revenue Control Formula

The revenue review formula, which is used to keep the TSO’s revenue in line with allowed costs, is set out in detail in Section 13 of CER/15/296 (PR4) and presented as Equation 1 below. As part of the annual update to revenues, and to take account of the TSO incentive outturn in year t-2 (in this case the year 2018) that formula has been slightly modified as per Equation 2. Equation 2 takes the ‘base’ allowed TSO revenue (in 2014 prices), inflates that revenue into 2020 prices, and adjusts it for specific revenue parameters.

It is important to note that all the elements of equation 2 should be in the same year prices, i.e. 2020, to solve the equation. Although some elements are in different year prices in this

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\(^{26}\) As determined in CER/15/296 (PR4)
\(^{27}\) As determined in this paper.
\(^{28}\) This includes costs approved subsequent to PR4 decision, i.e. DS3 and I-SEM related costs. At the time of the PR4 Decision, these costs were unknown, and no allowance was allocated to them. However, PR4 provided for these items to be recovered once they were known; and therefore, the DS3 and I-SEM allowances of 2019 have been included in the PR4 pot of 2020.
\(^{29}\) The PR4 allowance for 2020, i.e. €315.83m, and the 2019 allowance, i.e. €302.64m, were inflated to 2020 prices for comparative purposes.
21

paper, the final figures which fed into equation 2 to determine the final 2020 revenues, are in 2020 prices.

\[ R_t = \prod_{2014}^{t} \left[ 1 + \frac{\text{Inf}_t - X}{100} \right] \ast B_t + \text{INCENT}_t + \text{KCENT}_{t-1} \Delta P_t + \Delta U_t + K_{t-1} + K_{t-2} \]

Equation 1: Price review formula from CER/15/296 (PR4)

\[ R_t = \prod_{t} \left[ 1 + \frac{\text{Inf}_t - X}{100} \right] \ast B_t + \text{INCENT}_{t-2} + \Delta P_t + \Delta U_t + K_{t-2} \]

Equation 1: Price review formula from CER/15/296 (PR4) - annual update to revenues

The terms within Equation 2 are fully explained within CER/15/296 (PR4), apart from \( \text{INCENT}_{t-2} \), which is defined below along with all the elements of equation 2.

Elements of equation 2:

- \( R_t \), the maximum level of TSO revenue allowed in 2020, is €208.04m (2020 prices);
- \( \text{Inf}_t \), when inflating from 2014 to 2020 prices, the relevant figures are inflated based on actual Irish HICP\(^{30}\) rates of -0.03% in 2015, -0.21% in 2016, 0.26% in 2017 and 0.72% in 2018 and forecast Irish HICP rates of 0.80% in 2019 and 1.30% in 2020;
- \( X \), the efficiency factor, is set at zero;
- \( B_t \), the level of allowed revenue for the 2020 calendar year in 2014 prices as per the determination paper CER/15/296 (PR4), is €315.83m;
- \( \text{INCENT}_{t-2} \), is the value of incentives in year \( t-2 \), i.e. 2018 in this case, in € millions in respect of the penalties or payments. Further details in section 3.3.4. This feeds into the \( K_{t-2} \) figure below;
- \( \Delta P_t \), the change in TSO external costs (e.g. Inter TSO Compensation and Ancillary Services) for 2020, from those assumed in the determination paper CER/15/296 (PR4);
- \( \Delta U_t \), the change in TSO uncertain costs for 2020 from those assumed in the determination paper CER/15/296 (PR4), and
- \( K_{t-2} \), this is the correction factor, which ensures that revenues for 2020 are adjusted by an amount equal to the over or under recovery in 2018. Note that this is a net \( k \)-factor figure which includes any incentive adjustment outlined above.

3.3.2. TSO 2018 k-factor

\(^{30}\) Inflation rates for actuals are taken from the Central Statistics Office and for forecasts are taken from the Central Bank Quarterly Reports.
While the difference between the PR4 allowance for 2018 (determined in 2015) and the allowed outturn of 2018 (as determined in this paper) provided a k-factor in the case of the TAO, for the TSO the k-factor is calculated in a different manner:

a) The first step is the calculation of the difference between the CRU Tariff Decision for the 2018 revenues (as determined in 2017) and the approved 2018 updated actual costs (as determined in this paper).

b) The second step is the subtraction of the approved 2018 updated actual costs (as determined in this paper) minus the revenue collected by the TSO in 2018 through the Transmission Use of System (TUoS) tariffs.

The resulting figure is known as the 2018 'k-factor', which feeds into the 2020 TSO revenue allowance. The TSO 2018 k-factor (in 2020 prices) is minus €31.08m, this is explained within this section.

The 2018 k-factor calculation shows a total TSO over recovery of €30.22m (2014 prices) in 2018. That over recovery will be accounted for by applying an equal downward adjustment to the TSO's 2020 revenue allowance. The individual k-factor adjustments are shown in table 7:
Table 7: Summary of adjustments to the TSO 2018 revenue and resulting k-factor

<table>
<thead>
<tr>
<th>2018 prices € millions</th>
<th>CRU Tariff Decision for 2018 revenues</th>
<th>CRU approved updated actual costs of 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External Costs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRU Regulatory Levy</td>
<td>1.24</td>
<td>1.09</td>
</tr>
<tr>
<td>DUoS Costs</td>
<td>2.86</td>
<td>2.60</td>
</tr>
<tr>
<td>Interconnector Services</td>
<td>0.66</td>
<td>0.82</td>
</tr>
<tr>
<td>Inter TSO Compensation</td>
<td>1.28</td>
<td>1.69</td>
</tr>
<tr>
<td>CORESO</td>
<td>0.23</td>
<td>0.37</td>
</tr>
<tr>
<td>Ongoing Service Charge</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ancillary Services</td>
<td>5.16</td>
<td>3.01</td>
</tr>
<tr>
<td>DS3 System Services</td>
<td>85.05</td>
<td>80.63</td>
</tr>
<tr>
<td>RoCoF Implementation</td>
<td>1.5</td>
<td>0.59</td>
</tr>
<tr>
<td>TAO charge</td>
<td>232.43</td>
<td>232.2</td>
</tr>
<tr>
<td>EWIC charge</td>
<td>21.77</td>
<td>21.37</td>
</tr>
<tr>
<td><strong>Allowed TSO Operating Revenue</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allowed TSO Internal Opex costs</td>
<td>47.99</td>
<td>47.55</td>
</tr>
<tr>
<td>Depreciation</td>
<td>8.47</td>
<td>8.39</td>
</tr>
<tr>
<td>Stage 1 Side RAB – Working Capital</td>
<td>3.28</td>
<td>1.71</td>
</tr>
<tr>
<td>Working Capital (Other)</td>
<td>4.70</td>
<td>4.57</td>
</tr>
<tr>
<td>Return on RAB – CapEx non-network</td>
<td>1.36</td>
<td>1.24</td>
</tr>
<tr>
<td><strong>Approved adjustments</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guarantees of Origins</td>
<td>0.33</td>
<td>0.33</td>
</tr>
<tr>
<td>Constraints arrangement fee</td>
<td>0.09</td>
<td>0.089</td>
</tr>
<tr>
<td>PR3 Adjustment</td>
<td>-0.70</td>
<td>-0.69</td>
</tr>
<tr>
<td>Strategic project France-Ireland Interconnector</td>
<td>0.29</td>
<td>0.32</td>
</tr>
<tr>
<td><strong>I-SEM opex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-SEM operating revenues</td>
<td>4.44</td>
<td>4.44</td>
</tr>
<tr>
<td><strong>Incentives</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018 Incentive allowance</td>
<td>0</td>
<td>1.79</td>
</tr>
<tr>
<td>2016 Over recovery</td>
<td>-5.96</td>
<td>-5.96</td>
</tr>
<tr>
<td><strong>TOTAL (2018 prices)</strong></td>
<td>416.47</td>
<td>408.19</td>
</tr>
<tr>
<td><strong>TOTAL (2014 prices)</strong></td>
<td></td>
<td>405.22 (a)</td>
</tr>
<tr>
<td><strong>Total CRU approved updated actual costs of 2018 (2014 prices)</strong></td>
<td>(a) 405.22</td>
<td></td>
</tr>
<tr>
<td><strong>TUoS collected from TSO in 2018 (2014 prices)</strong></td>
<td>(b) 435.44</td>
<td></td>
</tr>
<tr>
<td><strong>Total k-factor adjustment in 2014 prices</strong></td>
<td>(b)-(a) = -€30.22m</td>
<td></td>
</tr>
</tbody>
</table>

*Further details on the incentive allowance provided in section 3.3.4.

The CRU has considered a k-factor of minus €31.08m in 2020 prices to be deducted from the 2020 allowed revenues.
3.3.3. TSO 2018 incentives outturn  
*figures are in 2018 prices in this section, unless otherwise stated*

The incentive figure allowed by the CRU for 2018 (in 2020 prices) is 1.84m, this is explained within this section.

Based on the TSO’s performance in 2018, the CRU has allowed an overall incentive amount of €1.79m (2018 prices) to feed into the TSO’s 2018 k-factor, which will feed into the 2020 revenues. The incentives metrics are described below. All figures are in 2018 prices unless otherwise stated.

In May 2018, the CRU published its Decision Paper on Reporting and Incentives under PR4, CER/18/087, setting out new incentives arrangements and reporting obligations.

For 2018, the TSO incentives are made up by:

- System Minutes Lost and System Frequency
- Investment Planning and Delivery  
  *(Operational and service level)*
- Stakeholder Engagement
- ECP-1

- Strategic incentives *in line with the TSO’s role in the low carbon future transition*
- Dispatch Balancing Costs (Imperfections) incentive *on an all island basis*\(^{31}\)

- *Grid Delivery 2016:* this incentive outturn was set to €0m by the CRU at the time of submission; the reason was that incentives were going to be separately consulted as part of PR4. Further details follow later in this section.

Table 8 provides a summary of the TSO’s performance against incentive targets, as set by the CRU, and also the incentives earned. Each incentive metric is described below the table:

\(^{31}\) Detailed in the SEM Committee’s Decision Paper SEM-12-033, which can be found [here.](#)
Table 8: Summary of 2018 incentive outturn allowed

<table>
<thead>
<tr>
<th>Incentive</th>
<th>€ millions 2018 prices</th>
<th>Targets</th>
<th>Performance</th>
<th>Incentive earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Minutes Lost (SML)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>1.0</td>
<td>Dead/Central</td>
<td>1.5 – 3.0</td>
<td>Upper</td>
</tr>
<tr>
<td>System Frequency in range 50Hz +/- 0.1Hz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>94%</td>
<td>96%</td>
<td>98%</td>
<td>99.65%</td>
<td></td>
</tr>
<tr>
<td>Investment Planning and Delivery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below acceptable = penalty of 2% of TSO internal opex</td>
<td>Acceptable = reasonable cost of an audit</td>
<td>Strong = 2% of TSO internal opex</td>
<td>Reasonable cost of an audit</td>
<td></td>
</tr>
<tr>
<td>Stakeholder Engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependent on a score (range from 1 to 10) given by the NSEE Panel and linked to a financial incentive</td>
<td></td>
<td></td>
<td>Score 7.14</td>
<td></td>
</tr>
<tr>
<td>ECP-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detailed below</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic Incentives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>€0m</td>
<td>-</td>
<td>€0.4m</td>
<td>Detailed below</td>
<td></td>
</tr>
<tr>
<td>Imperfections Costs Incentive (DBC Incentive)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ex-post adjusted baseline: €203.1m</td>
<td>Outturn costs: €184.3m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grid Delivery 2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report submitted to CRU (details below)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total incentive outturn</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**System Performance**

The TSO’s performance regarding SML was 0.411 SML in 2018, which is below the lower bound target set at 1 SML per year. The TSO’s performance regarding System Frequency was the maintenance of frequency within the target operating limits of 50 ±0.1 Hz for 99.65% of the time. This performance is above the upper bound target set at 98% of the time.

Based on the TSO’s system performance in 2018, the CRU has allowed an amount of €0.48m to feed into the TSO 2018 k-factor.

**Investment Planning and Delivery**

As part of CER/18/087, it was decided that the TSO will be subject to a financial incentive on the quality and rigour of its end-to-end processes for investment planning and delivery. The incentive payment will be based on performance against a Balanced Scorecard framework proposed by the TSO and approved by the CRU.

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32 Deviations outside the dead band are penalised/rewarded at €66k per 0.1 min. This maximum payment and penalty are 0.5% and 1% of the TSO internal opex respectively.
33 Deviations outside the central target are penalised/rewarded at €33k per 0.2%. This maximum payment and penalty are 0.5% and 1% of the TSO internal opex respectively.
34 The outturn Imperfection costs incurred over Tariff Year 2017/18 were €184.3m; €18.77m lower than the ex-post adjusted baseline i.e. €203.1m. The savings made meet the requirement for receiving a total incentive payment of €0.36m to be recovered on a 75:25 split basis between IE:NI as detailed in SEM-12-033.
35 See above footnote.
The CRU will set the incentive payment informed by an independent audit. The audit, which will be arranged by the TSO, will use the Balanced Scorecard framework to assess performance of the TSO.

Based on the audit report and other evidence deemed relevant, performance can be graded:

- **“Strong”** = payment of 2.0% of TSO internal opex.
- **“Acceptable”** = payment equal to the reasonable cost of the audit.
- **“Below acceptable”** = penalty of 2.0% of TSO internal opex.

The TAO’s KPI framework was still in progress at the time of the TAO’s revenues request submission. Therefore, the CRU has included an amount of €0.015m (2020 prices) in the 2020 revenues, which is the reasonable cost of an audit\(^{36}\), to feed into the TAO 2018 k-factor. The allowance will serve as a placeholder until the outcome of the audit report is known.

The TSO’s Balanced Scorecard framework is still in progress; and therefore, the CRU has included the reasonable cost of an audit, i.e. €0.1m\(^{37}\), to feed into the TSO 2018 k-factor. This will serve as a placeholder until the outcome of the audit report is known.

**Stakeholder Engagement**

The TSO did not include any figure in its revenue request, as the incentive was dependent on a score given by a Panel. The CRU has included an allowance for this incentive metric after the score was known in June 2019. The background of this incentive is described below.

As decided in CER/18/087, a Panel\(^{38}\) made up by stakeholders will annually assess and score the TSO’s performance on stakeholder engagement. The score, on a range from 1 to 10, will be linked to a financial incentive.

The Panel will assess and score the TSO, on a scale from 1 to 10, on three categories:

- (A): Quality of strategy: **20%**
- (B): Implementation of strategy: **40%**
- (C): Effectiveness: **40%**

The maximum incentive payment in place for the TSO, is 1% of its internal opex.

The final overall score, agreed by the Panel, is calculated by weighting the scores given in each of the three categories and adding them together to get a score between 0 and 10. The TSO must achieve at least a final score of 5.0 in order to receive any incentive payment. The incentive payment is calculated:

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\(^{36}\) As indicated by the TAO.

\(^{37}\) This has been informed by the TSO.

\(^{38}\) The Networks Stakeholder Engagement Evaluation (NSEE) Panel is made up by stakeholders who were selected by the CRU through a consultation process.
Incentive payment = z + (x – 5)*\left(\frac{\nu - \zeta}{5}\right)

Where:

x = the Panel's final score, i.e. 7.14.
y = maximum incentive payment, i.e. €0.47m.
z = 10% of maximum payment, i.e. €0.047m.

The Panel agreed on a final score of 7.14. On this basis, the CRU has allowed an amount of €0.23m to feed into the TSO 2018 k-factor.

**ECP-1**

The TSO will be subject to a financial incentive on its performance in issuing connection offers to all applicants being processed pursuant to the first batch of ECP.

The ECP-1 offer process takes place across 2018, 2019 and 2020 and performance can only be evaluated at the end of the process. The incentive payment for ECP-1 delivery will be +/- 0.5% of the TSO’s total internal opex between 2018 and 2020.

The CRU will evaluate the TSO’s performance after the ECP-1 offer process has concluded. However, it has been agreed that the CRU will separately engage with the TSO through the annual tariff process in relation to the appropriate treatment of the incentive payment.

The CRU has decided that no payment is considered for TSO's performance during 2018 as the connection offers process started late in 2018.

**Strategic incentive**

The Strategic Incentive was introduced as part of the CRU Decision paper on Reporting and Incentives under PR4, CRU/18/087. The maximum annual incentive pot, as indicated in CRU/18/087, is €1.25m.

For 2018, the TSO proposed a reduced incentive pot of €0.4m and three incentive indicators, which was accepted by the CRU. This was due to the CRU consideration of some of the initial indicators, as proposed by the TSO, being input based and/or not consistent with the guidelines laid out in CER/18/087. The TSO also proposed to carry forward €0.85m to the remaining PR4 years (i.e. 2019 and 2020), which was accepted by the CRU.

Following the CRU’s review of the TSO’s request, i.e. €0.32m, and its performance during 2018, the CRU has allowed an amount of €0.25m to feed into the TSO 2018 k-factor. The reason for the disallowance of €0.07m, relates to one of the incentive metrics, RoCoF, and the fact that most of the work on it was completed in 2017 rather than in 2018.

**Imperfection Costs incentive**

The outturn Imperfections Costs incurred over the Tariff Year 2017/18 were €184.3m; €18.77m lower than the ex-post adjusted baseline i.e. €203.1m. Based on the TSOs (EirGrid and SONI) ability to manage Imperfections costs, the TSOs are entitled to an incentive
payment of €0.354m. This is applied on a 75:25 basis between Ireland and Northern Ireland respectively, as detailed in the SEM Committee's Decision SEM-12-033.

Therefore, the CRU has allowed an amount of €0.27m to feed into the TSO 2018 k-factor.

**Grid Delivery 2016**

In 2017, the TSO submitted the 2016 joint TSO/TAO transmission delivery incentive outturn performance to be recovered in the 2018 transmission revenues. At the time, the CRU set the 2016 incentive outturn value attributable to transmission delivery to €0m as the CRU planned to consult on incentives separately as part of PR4. The PR4 Reporting and Incentives framework published by the CRU determined that performance during 2016 would be evaluated against the PR3 incentives framework.

The CRU has allowed an amount of €0.46m to feed into the TSO 2018 k-factor, based on TSO’s performance on transmission delivery during 2016.

**3.3.4. TSO 2020 forecast Adjustments**

This section outlines the difference between the TSO’s 2020 ex-ante revenue allowance (determined in 2015 as part of PR4) and updated ex-ante revenue allowance (as determined in this paper), i.e. the changes to forecast expenditure. The resulting figure represents the total adjustment to forecast revenues for 2020, which feeds into the updated 2020 TSO revenue allowance.

The updates to forecast figures show a total TSO adjustment for 2020 of minus €76.71m (2020 prices). The individual forecast adjustments are detailed in Table 9 and described below the table.

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39 The CRU Decision on Reporting and Incentives: CER/18/087.
Table 9: Summary of TSO 2020 forecast adjustments

<table>
<thead>
<tr>
<th>2014 prices € millions</th>
<th>CRU ex-ante (PR4) allowance for 2020</th>
<th>CRU ex-post (this paper) adjusted allowance for 2020</th>
<th>Allowed Adjustments (ex-post minus ex-ante)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter TSO Compensation</td>
<td>1.30</td>
<td>1.46</td>
<td>0.16</td>
</tr>
<tr>
<td>CORESO</td>
<td>1.00</td>
<td>0.52</td>
<td>-0.48</td>
</tr>
<tr>
<td>Interconnector Services</td>
<td>1.00</td>
<td>0.63</td>
<td>-0.37</td>
</tr>
<tr>
<td>CRU Regulatory levy</td>
<td>1.00</td>
<td>0.92</td>
<td>-0.08</td>
</tr>
<tr>
<td>DUoS costs</td>
<td>1.3</td>
<td>3.14</td>
<td>1.84</td>
</tr>
<tr>
<td>Ancillary Services</td>
<td>49.2</td>
<td>3.43</td>
<td>-45.77</td>
</tr>
<tr>
<td>DS3 System Services</td>
<td>127.2240</td>
<td>97.22</td>
<td>-30</td>
</tr>
<tr>
<td>East-West Interconnector (EWIC)</td>
<td>33.46</td>
<td>6.05</td>
<td>-27.41</td>
</tr>
<tr>
<td>Ongoing Service Charge</td>
<td>1.3</td>
<td>0</td>
<td>-1.30</td>
</tr>
<tr>
<td><strong>Uncertain costs/other allowances costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guarantees of origin</td>
<td>0</td>
<td>0.29</td>
<td>0.29</td>
</tr>
<tr>
<td>Constraints arrangement fees</td>
<td>0</td>
<td>0.21</td>
<td>0.21</td>
</tr>
<tr>
<td>France-Ireland Interconnector Strategic projects</td>
<td>0</td>
<td>0.58</td>
<td>0.58</td>
</tr>
<tr>
<td>Incremental opex</td>
<td>5.2141</td>
<td>4.89</td>
<td>-0.32</td>
</tr>
<tr>
<td>Return on stage 1 (Side RAB) working capital</td>
<td>2.55</td>
<td>0.94</td>
<td>-1.61</td>
</tr>
<tr>
<td>Return on other Working Capital</td>
<td>4.38</td>
<td>5.07</td>
<td>0.69</td>
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<tr>
<td>Return on non-network capital</td>
<td>3.25</td>
<td>3.25</td>
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<tr>
<td>Depreciation</td>
<td>8.20</td>
<td>8.20</td>
<td>0</td>
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<tr>
<td>PR3 adjustment</td>
<td>-0.70</td>
<td>-0.69</td>
<td>0.01</td>
</tr>
<tr>
<td>Unrecovered Stage 1 costs</td>
<td>0</td>
<td>3.15</td>
<td>3.15</td>
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<tr>
<td>DS3 Implementation Project</td>
<td>1.3842</td>
<td>1.28</td>
<td>-0.1</td>
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<tr>
<td>I-SEM Implementation Project</td>
<td>17.7543</td>
<td>17.83</td>
<td>0.08</td>
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<tr>
<td>Dublin Security of Supply</td>
<td>0</td>
<td>28.29</td>
<td>28.29</td>
</tr>
<tr>
<td><strong>Incentives</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020 Incentive allowance</td>
<td>2.44</td>
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<td>-2.44</td>
</tr>
<tr>
<td><strong>Total adjustments, additional to 2020 PR4 allowance (2014 prices)</strong></td>
<td></td>
<td></td>
<td>-€74.58</td>
</tr>
<tr>
<td><strong>Total adjustments, additional to 2020 PR4 allowance (2020 prices)</strong></td>
<td></td>
<td></td>
<td>-€76.71</td>
</tr>
</tbody>
</table>

- **External costs adjustments - \( \Delta P_1 \) (2020 prices)**

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40 The figures €127.22m, €1.38m and €17.75m, are the 2019 allowances for DS3 System Services, DS3 implementation project and I-SEM implementation project, respectively (2014 prices). The PR4 Decision provided for these costs to be recovered once they were known; and therefore, they have been included the PR4 allowance for 2020.

41 The incremental opex is a placeholder which was first introduced in the 2018 allowed revenues, subject to review at the end of the PR4 period. The 2019 allowance for the incremental opex has been included in the PR4 for 2020.

42 See footnote 32.

43 See footnote 32.
The CRU allows a total external costs adjustment of -€108.87m to the 2020 Revenue. The primary adjustments to the external costs are detailed below in 2020 prices. These costs will be subject to an ex-post review.

**Inter TSO Compensation (€0.16 million)**

Following this year’s review, an upward adjustment of €0.16m has been applied to the TSO’s 2020 revenue for costs attributable to Inter TSO Compensation.

This cost is established by ENTSOE for the purpose of compensating transmission system operators for the costs of losses incurred by national transmission systems as a result of hosting cross-border flows of electricity and the costs of making infrastructure available to host cross-border flows of electricity. This upward adjustment provides a total of €1.5m in the 2020 revenue allowance.

**CORESO (-€0.49 million)**

Following this year’s review, a downward adjustment of €0.49m has been applied to the TSO’s 2020 revenue for costs attributable to the membership of the Regional Security Coordinator. This adjustment provides a total of €0.54m in the 2020 revenue allowance.

**Interconnector Services (-€0.38 million)**

Following this year’s review, a downward adjustment of €0.38m has been applied to the TSO’s 2020 revenue for costs attributable to Interconnector Services.

These costs include Admin costs, Error Account and SO Trades, the latter makes up the bulk of the costs and are annually forecasted by EirGrid reflecting the agreed ROI 75%. This downward adjustment provides a total of €0.65m in the 2020 revenue allowance.

**Regulatory levy (-€0.08 million)**

The CRU levy is applied annually and following this year’s review, a downward adjustment of €0.08m has been applied to the TSO’s 2020 revenue to provide a total of €0.95m for regulatory levy costs.

**DUoS costs (€1.89 million)**

An increase of €1.89m has been applied to the 2020 revenue to reflect new customers connecting at 110kV on the DSO network or changes in MIC of connected parties. For the 2020 allowance, ESB Networks provided the TSO with a forecast DUoS charge for a number of additional DG10 110 kV accounts. The TSO is required to pay the DSO based on invoices received. To account for that, an upward adjustment of €1.89m has been applied to the TSO’s 2020 revenue, which gives a total of €3.23m for DUoS costs.

**Ancillary Services (-€47.07 million)**

Following this year’s review, a downward adjustment of €47.07m has been applied to the TSO’s 2020 revenue for costs attributable to Ancillary Services.
Provision for Ancillary Services in PR4 was on the basis of existing Ancillary Services requirements in 2015. Ancillary services have been phased into DS3 System Services and with that the PR4 forecast figure for ancillary services has been revised downwards by €47.07m to a total of €3.53m for 2020.

**DS3 System Services (-€30 million)**

Following this year’s review, a downward adjustment of €30m has been applied to the TSO’s 2020 revenue. This adjustment provides a total of €100m in the 2020 revenue allowance. The adjustment is the result of the TSO’s experience post I-SEM Go-Live and its expectations for 2020 in terms of increased services volumes and SNSP.

The DS3 system services will facilitate an increase of non-synchronous renewable generation over the coming years which will put downward pressure on wholesale market prices.

**East-West Interconnector (EWIC) allowance (-€28.19 million)**

The EWIC charge is treated in the exact same fashion as all the external TSO cost items listed above, i.e. this charge will be allowed as pass through in PR4 and the CRU will undertake an annual ex-post adjustment to take account of actual outturn costs and revenues earned by the EWIC.

The CRU included a forecast annual cost of €33.46m (2014 monies) in the PR4 decision to be included in the TUoS tariffs based on the estimated cost for the infrastructure and the financing arrangements. However, up to date forecasts from those used in the PR4 submission are submitted annually. These up to date forecasts capture the following items in the calculation: capacity auction receipts, ancillary services receipts and hosting income. There is also a k factor for y-2 which corrects for any variance in the estimated requirement and the actual income in year minus two.

Based on the CRU’s review of these updates, the CRU allows a downward adjustment of minus €28.19m to the TSO’s 2020 revenue. This results in a total allowance of €6.23m towards the EWIC 2020 allowance, which represent circa 79% less than the 2019 allowance, i.e. €30.12m (2019 prices). The main reason is that in 2016/17 tariff year, which was included in the 2019 allowance, there was an unplanned outage during the year which meant that EirGrid did not take in as high capacity auction receipts as usual. In 2017/18 tariff year, which feeds into the 2020 revenues, EirGrid was able to take in more income, which reduced the revenue requirement significantly.

- **Uncertain costs adjustments - \( \Delta U_L \) (2020 prices)**

The CRU allows a total uncertain costs adjustment of €32.16m to the 2020 Revenue. This is detailed below. The costs will be subject to an ex-post review.

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44 See footnote 32.
45 Please refer the CER Information Paper on the EWIC revenue requirement (CER/12/149) which can be found [here](#).
Guarantees of origin (€0.29 million)

In CRU’s decision paper CER/11/824 entitled ‘Supervisory Framework for Administration of Guarantees of Origin’ for renewable energy sources, it was set out that the operational costs and costs involved in setting up a charging infrastructure for Guarantees of Origin, would be recovered through EirGrid’s network charges.

Following this year’s review, the CRU allows an upward adjustment and total allowance of €0.29m to the TSO’s 2020 revenue towards these costs.

Constraints arrangement fees (€0.21 million)

The constraint arrangement fee is separate to the general working capital arrangements contained in the allowed TSO revenue and covers funding arrangements associated with the all-island Imperfections charge. The CRU allows an upward adjustment and total allowance of €0.21m to the TSO’s 2020 revenue.

France-Ireland Interconnector project (€0.59 million)

In 2014 the CRU approved the framework (CER/14/427) for the recovery of phase 1 (feasibility) of the Ireland France Interconnector project. In June 2015, the CRU approved the recovery of the efficiently incurred costs for this phase of the project. Following this year’s review, the CRU allows an upward adjustment and total allowance of €0.59m to the TSO’s 2020 revenue towards the Ireland France Interconnector project.

Incremental opex (-€0.32 million)

The TSO made a submission to the CRU on 8th June 2017 regarding the TSO’s incremental operational requirements that will apply under the new market arrangements, I-SEM, for the remainder of the PR4 period. This incremental opex consists of costs for additional staff resources to operate the system, IT support and maintenance, and professional fees.

Following this year’s review, a downward adjustment of €0.32m has been applied to the TSO’s 2020 revenues. This downward adjustment provides a total of €5.03m in the 2020 revenue allowance. This allowance will serve as a placeholder for costs attributable to operating the system under the new market arrangements, with the caveat that these are subject to review by the end of the price review period. For the avoidance of doubt these costs do not include any of the capitalised costs related to I-SEM implementation.

Return on stage 1 (Side RAB) working capital (-€1.66 million)

Following this year’s review, a downward adjustment of €1.66m has been applied to the TSO’s 2020 revenue for costs attributable to return on Stage 1 side RAB. This downward adjustment provides a total of €0.97m in the 2020 revenue allowance.

Return on other Working Capital (€0.71 million)

See footnote 33.
Following this year’s review, an upward adjustment of €0.71m has been applied to the TSO’s 2020 revenue for costs attributable to return on other Working Capital. This upward adjustment provides a total of €5.21m in the 2020 revenue allowance.

**PR3 adjustment (€0.01 million)**

Following this year’s review, an upward adjustment of €0.01m has been applied to the TSO’s 2020 revenue for costs attributable to PR3 adjustment. This upward adjustment provides a total of -€0.71m in the 2020 revenue allowance.

**Unrecovered Stage 1 Costs (€3.24 million)**

As part of its revenue request for 2020, the TSO included the recovery of €3.24m for costs attributable to unrecovered Stage 1 costs. The background is detailed below.

In 2008, the TSO provided a significant amount of connection offers to wind generators located in north Mayo. On this basis, the TSO identified a need for network development, commencing the development of the Grid West and North Connacht projects. By 2015, the need was reviewed and it was identified that just the Grid West was required.

Following CRU/EirGrid discussion, the TSO put the Grid West project on hold. Some generators did step back from their connection agreements, releasing some network capacity. The TSO terminated the Grid West project in September 2017, as it was determined that the Connacht project, as a smaller scale development, could meet the changed need.

The TSO carried out a review of Stage 1 Costs incurred under the Grid West Project. The total costs, as indicated by EirGrid, was €9.4m, of which €6.3m were transferable to the North Connacht project. The CRU has included the TSO’s estimate of €3.24m in the 2020 revenues, with the caveat that this cost will serve as a placeholder and will be reviewed by the end of the price review period.

**DS3 Implementation Project (-€0.1 million)**

Following this year’s review, a downward adjustment of 0.1m has been applied to the TSO’s 2020 revenue. This downward adjustment provides a total of €1.32m in the 2020 revenue allowance, with the caveat that these costs will serve as a placeholder and will be reviewed by the end of the price review period.

**I-SEM Implementation Project (€0.08 million)**

Following this year’s review, an upward adjustment of €0.08m has been applied to the TSO’s 2020 revenue. This adjustment provides a total of €18.34m in the 2020 revenue allowance.

The total costs of the I-SEM implementation project are being dealt with through the SEM Committee. The ultimate outturn costs will be subject to regulatory scrutiny after completion and close out of the project. In the meantime, the total forecast figure of €96.6m has been

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47 See footnote 34.
48 See footnote 35.
provided by the TSOs to the RAs and will be considered as a placeholder costs attributable to I-SEM Implementation project. This cost will be recovered by EirGrid and SONI (System Operator for Northern Ireland) during a next five years period\(^49\) on a 75:25 basis\(^50\).

The figure of €18.34m, which covers return on the WACC and depreciation, is the cost to be recovered by EirGrid in 2020.

**Dublin Security of Supply (€29.10 million)**

The Dublin region has seen demand growth in the last few years and this growth is expected to increase significantly over the next number of years.

The CRU included a figure of €58.65m (2019 prices) under the 2019 revenues to cover the costs of a set of measures to improve the immediate and long-term security of supply of the Dublin region, which included a provision for the possible introduction of locational signals.

In line with last year’s decision, the CRU has included a figure of €29.10m to be included in the 2020 revenues\(^51\). This represents a decrease of circa 50%, compared to the 2019 allowance. The reason is that last year’s allowance was based on TSO’s estimates for a range of potential mitigation measures; while for this year’s allowance, the TSO has greater certainty in relation to the overall costs of the mitigation measures that have been implemented. Differences between ex-ante allowances and ex-post actual spent will be corrected through the k-factor mechanism.

### 3.3.5. Summary of TSO Allowed Revenue for 2020

A comparison of the PR4 ex-ante allowed TSO revenue for 2020\(^52\), and the ex-post adjusted allowed TSO revenue for 2020\(^53\) is provided in Table 10. It can be seen that the revenue figure of €315.83m\(^54\) is adjusted downwards by the €31.08m k-factor and by the €79.18m forecast adjustment to yield a total value of €208.4m for the TSO’s revenue for the 2020 calendar year.

The adjustments capture changes to the TSO’s k-factor; incentives outturn and forecast adjustments as described above.

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\(^{49}\) Last year was the first year of recovery of these costs.

\(^{50}\) IE:NI.

\(^{51}\) This includes a provision for location scalars, in line with the CRU’s paper on Locational Scarcity Scalars for System Services in the Dublin Region (CRU/19/011).

\(^{52}\) As determined in CER/15/296 (PR4).

\(^{53}\) As determined in this paper.

\(^{54}\) The €315.83m figure includes, in 2020 prices, the 2019 allowance for DS3 System Services i.e. €130.85m, DS3 implementation project i.e. €1.42m and I-SEM implementation project i.e. €18.26m. The PR4 Decision provided for these costs to be recovered once they were known. Therefore, the “DS3 System Services”, “DS3 implementation project” and “I-SEM implementation project” costs adjustments (as explained above in this section) capture the difference between 2019 and 2020 calendar years: €30.86m, €0.10m and €0.08m respectively.
Table 10: Summary of TSO Allowed Revenue for 2020

<table>
<thead>
<tr>
<th>€ millions</th>
<th>(2020 prices)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSO requested revenue for 2020</td>
<td>207.9</td>
</tr>
<tr>
<td>PR4 allowed revenue for 2020</td>
<td>315.83(^{55})</td>
</tr>
<tr>
<td>Approved k-factor for 2018</td>
<td>-31.08</td>
</tr>
<tr>
<td>Approved forecast adjustments for 2020</td>
<td>-76.71</td>
</tr>
<tr>
<td><strong>Approved updated allowed revenue for 2020</strong></td>
<td><strong>208.4</strong></td>
</tr>
</tbody>
</table>

\(^{55}\) The incremental opex revenue item, i.e. €5.36m, is a placeholder which was first introduced in the 2018 allowed revenues, subject to review at the end of the PR4 period. The 2019 allowance has also been included in the PR4 allowance for 2020.
4. TUoS Tariffs for 2019/20

The combined transmission and distribution adjustments will result in the average residential customer’s annual bill rising by €1.26 in October 2019\(^{56}\). However, customer’s annual bills depend, on other factors, such as wholesale market costs (which are in turn driven by factors such as international commodity prices), capacity market costs and other system costs. Further detail on these costs can be found in CRU’s annual Electricity and Gas Retail Markets Reports.\(^{57}\)

Allowed revenues are set on a calendar year basis. However, TUoS tariffs are set for periods that span two calendar years (from 01 October in one year to 30 September the following year). This means that the TUoS tariffs are set to recover 26.26% of revenues associated with the first calendar year of the tariff period and 73.74% for the second calendar year\(^{58}\). For the D-TUoS (Demand Transmission Use of System) tariffs set out in this information paper, 26.26% of 2019 revenues and 73.74% of 2020 revenues have been allocated for recovery within the 01 October 2019 to 30 September 2020 tariff period.

The update of revenues detailed in the previous sections leads to a total revenue figure for the TUoS tariff period from 01 October 2019 to 30 September 2020 of €514.48 million. This represents circa 1.2% decrease relative to the €520.69 million that was approved for recovery during the equivalent period for the previous year (01 October 2018 to 30 September 2019).

This year sees an average decrease in D-TUoS tariffs of circa 3% for a typical domestic customer\(^{59}\). The System Services component of the D-TUoS tariffs have decreased considerably. This component is to recover costs such as DS3 system services, East West Interconnector (EWIC) costs, measures to improve local security of supply, etc; which have been forecasted much lower for 2020 (compared to 2019 allowances). The Network Capacity component has slightly increased, due to an small increase in network related costs.

While the transmission revenue is not collected on a per kWh basis, it is sometimes useful to compare the Average Unit Price (AUP), that is, the total allowed revenue for the relevant tariff year (2019/20) by the forecast energy for the relevant tariff year, measured in c/KWh.

The AUP calculation is a way of comparing average unit prices when moving from one tariff period to the next tariff period. Based on the 2019/20 tariff year revenue figure of €514.48m and the forecast demand of 29,000GWh, the AUP for the period of 01 October 2019 to 30 September 2020 is estimated to be 1.77c/kWh (2.21% lower than current AUP).

The resultant Demand Transmission Use of System tariffs are set out in Appendix A\(^{60}\).

\(^{56}\) If no other elements of the bill changed.
\(^{57}\) Electricity and Gas Retail Markets Reports - https://www.cru.ie/document_group/retail-markets-annual-report
\(^{58}\) This is based on the percentage of demand that relates to the relevant period of the year.
\(^{59}\) See footnote 51.
\(^{60}\) Tariff calculations are influenced by Large Energy User rebalancing, as per CER/10/198.
5. Summary of 2020 Review

The combined transmission and distribution adjustments will result in the average residential customer’s annual bill rising by €1.26 in October 201961. However, customer’s annual bills depend, on other factors, such as wholesale market costs (which are in turn driven by factors such as international commodity prices), capacity market costs and other system costs. Further detail on these costs can be found in CRU’s annual Electricity and Gas Retail Markets Reports.62

This information paper outlines the application of the PR4 annual update to the 2020 transmission revenue. This revenue is to be collected during calendar year 2020 and will cover the costs of the TSO and TAO.

The paper outlines:

- The TSO allowed revenue approved for the 2020 calendar year;
- The TAO allowed revenue approved for the 2020 calendar year; and
- The Demand TUoS tariffs approved for implementation during the tariff period from 01 October 2019 to 30 September 202063.

The total transmission allowed revenue for 2020 calendar year as per the annual update is €499.04 million (2020 prices). This is approximately 18% less than what had been included in the PR4 revenue model for calendar year 2020, inclusive of allowances made in 2019.

The total transmission allowed revenue for the TUoS tariff period from 01 October 2019 to 30 September 2020 is €514.48 million. This represents an decrease of circa 1.2% relative to the €520.69 million that was approved for recovery for the period from 01 October 2018 to 30 September 2019.

The transmission AUP for the 2019/2020 period is estimated to be €1.77c/kWh in 2020 prices64. This represents a decrease of circa 2.21% compared to the current AUP.

The Demand TUoS tariffs that have been approved for implementation during the period from 01 October 2019 to 30 September 2020 are contained in Appendix A of this paper65.

61 If no other elements of the bill changed.
63 The full Statement of Charges will be published by EirGrid under Section 36 of the Electricity Regulation Act 1999 before the commencement of the upcoming tariff period.
64 This is based on the total tariff year revenue amount/GWh sales.
65 Tariff calculations are influenced by Large Energy User rebalancing, as per CER/10/198.
Appendix A

- A.1 Demand TUoS Tariffs for the Republic of Ireland

In calculating the TUoS Demand Tariffs, which cover the twelve month period from 01 October 2019 to 30 September 2020, EirGrid has applied an energy based weighting to the tariffs derived from the transmission revenue for the calendar year of 2019 and the calendar year 2020. The Demand TUoS Tariffs are detailed in Table 11.

The following should be noted when reviewing the table:

- Large Energy Users (LEUs) are defined as Users in the DUoS tariff group DG7, DG8, or DG9; users connected to the 110kV network; or users connected directly to the transmission system.

- Non-Large Energy Users (Non-LEUs) are defined as Users in the DUoS tariff group DG1, DG2, DG3, DG4, DG5, DG5a, DG5b, DG6, DG6a or DG6b.

- DTS-T customers are those directly connected to the transmission system. DTS-T customers are classed as LEUs.

- DTS-D1 customers are those indirectly connected to the transmission system via the distribution system and have a maximum import capacity (MIC) of greater than or equal to 0.5MWs. DTS-D2 customers have the potential to be classed as either LEUs or non-LEUs.

- DTS-D2 customers are those indirectly connected to the transmission system via the distribution system and have a MIC of less than 0.5MWs. DTS-D2 customers have the potential to be classed as either LEUs or non-LEUs.

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66 Please refer to 2019 transmission revenue decision paper – CRU/18/195.
68 Ibid
69 Ibid
70 Ibid
71 Ibid
Schedule of 2019/2020 Demand TUoS Tariffs:

Table 11: D-TUoS tariffs 2019/20

<table>
<thead>
<tr>
<th>Schedule</th>
<th>TUoS Charge</th>
<th>Charges</th>
<th>% Variance</th>
<th>Charges</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>19/20 to be charged to non-LEUs</td>
<td>% change from 18/19 non-LEU tariffs</td>
<td>19/20 to be charged to LEUs</td>
<td>% change from 18/19 LEU tariffs</td>
</tr>
<tr>
<td>DTS-T</td>
<td>Network Capacity Charge</td>
<td>€ 2,163.9762/MW</td>
<td>4.61%</td>
<td>€ 1,821.1367/MW</td>
<td>4.98%</td>
</tr>
<tr>
<td>All Schedules</td>
<td>Network Transfer Charge</td>
<td>€ 3.3726/MWh</td>
<td>5.67%</td>
<td>€ 2.8382/MWh</td>
<td>6.05%</td>
</tr>
<tr>
<td>All Schedules</td>
<td>System Services Charge</td>
<td>€ 6.4990/MWh</td>
<td>-13.40%</td>
<td>€ 5.4694/MWh</td>
<td>-13.09%</td>
</tr>
<tr>
<td>All Schedules</td>
<td>DSM Charge</td>
<td>€ 0.0001/MWh</td>
<td>-1.53%</td>
<td>€ 0.0001/MWh</td>
<td>-1.53%</td>
</tr>
<tr>
<td>DTS-D1</td>
<td>Network Capacity Charge</td>
<td>€ 1829.7375/MW</td>
<td>4.58%</td>
<td>€ 1,539.8515/MW</td>
<td>4.95%</td>
</tr>
<tr>
<td>All Schedules</td>
<td>Network Transfer Charge</td>
<td>€ 3.3726/MWh</td>
<td>5.67%</td>
<td>€ 2.8382/MWh</td>
<td>6.05%</td>
</tr>
<tr>
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<tr>
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<td>DSM Charge</td>
<td>€ 0.0001/MWh</td>
<td>-1.53%</td>
<td>€ 0.0001/MWh</td>
<td>-1.53%</td>
</tr>
<tr>
<td>DTS-D2</td>
<td>Network Capacity Charge</td>
<td>€ 7.0316/MWh</td>
<td>4.73%</td>
<td>€ 5.9176/MWh</td>
<td>5.10%</td>
</tr>
<tr>
<td>All Schedules</td>
<td>Network Transfer Charge</td>
<td>€ 3.3726/MWh</td>
<td>5.67%</td>
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<td>-1.53%</td>
</tr>
</tbody>
</table>

*Demand Side Management (DSM)*

The full set of Demand tariffs and application of these tariffs will be set out in EirGrid’s Statement of Charges to be approved by the CRU and published by EirGrid under Section 36 of the Electricity Regulation Act 1999, before the commencement of the upcoming tariff period.

- **A.2. All-island Generator TUoS Tariffs**

The All-Island Generator TUoS Tariffs for the period 01 October 2019 to 30 September 2020 will be published on EirGrid’s website.

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72 Tariff rebalancing, implemented as per 2009 Government decision, allows for savings of €50m passed on to LEUs and funded by domestic network tariffs. That is the reason of why LEUs’ tariffs are slightly lower.

73 The Demand Side Management charge covers the Power Save scheme.