Annex 7 – CMP 418 Impact on Consumers

This annex examines the cost impact of **CMP418** on consumers. As explained in the main FMR, CMP 418 seeks to align the commercial treatment of DRCE cost with the onshore precedent. The proposed change will shift the recovery of OFTO DRCE costs from the offshore generator to final consumers.

Today, at OFTO transaction, the DRCE cost falls into the ‘’Local Circuit’’ element of offshore TNUoS, which is paid entirely by the offshore generator. The proposal is to move the DRCE cost to ‘’Onshore Substation’’ element of offshore TNUoS, this cost is socialized across TNUoS customers. However, for the purpose of CMP 418, we expect that moving the DRCE cost to the onshore substation element of offshore TNUoS is equivalent to moving this cost to final consumers.

It is expected that removing this cost from generators charges will directly impact consumers’ tariff, because, as confirmed by the ESO revenue team, charges for unshared offshore circuits (within which lie DRCE costs in appropriate cases, under baseline) will normally, in the case by case assessment that is made by NESO, be classified, for the purpose of EC838/2010 when calculating the generation adjustment charge, as physical assets required for connection (PARC), and therefore should be excluded when calculating how much revenue is being collected from Generators for the purpose of the EU Cap. This means that reductions in the offshore circuit charge for relevant generators, if this mod were approved, would normally, result in an increase the Transmission Demand Residual (TDR), rather than the generation adjustment tariff element.[[1]](#footnote-1)

Table 1 OFTO transaction offshore TNUoS cost allocation

A close-up of a list

Description automatically generated

The graph below illustrates the differences in financial flows for providing dynamic reactive power through DRCE across three scenarios:

* **Onshore Windfarms**: End consumers fund the reactive power service provided by onshore windfarms through BSUoS, which funds the ORPS payments.
* **Current Offshore Windfarms**: At OFTO transaction, the cost of the DRCE falls in the generator’s offshore TNUoS local circuit tariff, funded solely by the offshore generator
* **Proposed Solution (CMP 418)**: The DRCE cost is moved to the onshore substation tariff, and is expected to be recovered from the Transmission Demand Residual, which is funded by end consumers

Figure 1 DRCE cost financial flows

A diagram of a wind farm

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**Estimated Impact:**

To assess the cost impact of CMP 418, we first calculated the portion of costs related to **Dynamic Reactive Compensation Equipment (DRCE)** that is currently recovered from generators through the **offshore local circuit tariff**.

To estimate the impact of **CMP 418**, we first determined the number of **Static Var Compensators (SVCs)** required to meet offshore wind deployment targets through 2050. Next, we calculated the portion of the **Offshore Transmission Owner’s (OFTO)** regulated revenue attributable specifically to **Dynamic Reactive Compensation Equipment (DRCE)**. This amount represents the cost that will no longer be recovered from generators and is instead expected to be recovered from **final demand**, and it includes both the CAPEX and OPEX element of the SVC cost.

The UK has set an ambitious target of reaching 43-50 GW of offshore wind capacity by 2030[2,](#_bookmark1) and up to 125GW by 2050[3](#_bookmark2) As of December 2024, the UK has approximately 15 GW[4](#_bookmark3) of offshore wind capacity, which would mean 28 GW is required in the 6 years from 2025 to 2030. To meet the 2030 target, it is necessary to add approximately **4.67 GW per year**, while approximately **4.1 GW additionally capacity is required annually from 2030 onwards to meet the 2050 target**.

[.](#_bookmark2)

The number of DRCEs required to support this new offshore wind capacity has been estimated by considering Static Var Compensators specifically (the most commonly used kind of DRCE, as defined in Annex 6).

1 Confirmed by ESO Revenue Team in email to CMP 418 WG, available upon request. NESO guidance note on the identification of PARC can be found at download

2 Clean Power Action Plan announced on 13 December 2024

3 Climate Change Committee (2020), ‘The Sixth Carbon Budget: The UK’s path to Net Zero’

4 Wind Energy Statistic, Renewable UK

5 ETYS 2015 - Appendix E, 2015

6 Bank of England Inflation Calculator

7 Aurora Energy Research, 2022 Moray West Report. Available upon request on a confidential basis

**SVC Cost Estimates**

* Each SVC (100 MVar) costs approximately **£17.9 million** and can support **300 MW** of offshore wind capacity. This corresponds to a cost of **£59,667 per MW**.
* This cost estimate is based on mid-range figures from **ETYS 2015** and adjusted for inflation to pre-COVID 2020 prices.

**Using TRS/FTV Ratio to Calculate SVC Share of OFTO Revenue**

To calculate the amount that would need to be recovered from TDR, the TRS/Final Transfer Value (FTV) ratio was used to derive the TRS impact. The TRS/FTV ratio is a useful figure to compare the annual amount paid to OFTOs relative to the total offshore transmission CAPEX across Projects, and it helps us calculate the amount of SVC that falls into the circuit tariff compared to the total TNUoS value paid to the OFTOs.

1. **TRS (Tender Revenue Stream):**
   * The revenue that an OFTO bidder proposes to collect annually over the operational period.
   * This is determined through a competitive tender process and represents the cost to the system for the OFTO’s ownership and operation of the transmission assets.
2. **FTV (Final Transfer Value):**
   * The agreed-upon cost or valuation of the transmission assets being transferred to the OFTO from the developer.
   * This value is determined by Ofgem based on the efficient costs incurred during the development and construction of the transmission assets.
3. **The TRS/FTV Ratio:** 
   * The TRS/FTV ratio is a useful figure to compare the annual amount paid to OFTOs relative to the total offshore transmission CAPEX across Projects, and it helps us calculate the amount of SVC that falls into the circuit tariff compared to the total TNUoS value paid to the OFTOs.
   * The TRS/FTV ratio measures the relationship between the annual revenue requested by the OFTO (TRS) and the total cost of the assets being transferred (FTV).
   * An analysis of all TRS data available for wind OFTOs between 2011 and 2021 indicates a stabilisation of TRS/FTV ratio at 4% from Tender Round 6 onwards[7.](#_bookmark6)

𝑇𝑅𝑆 𝐼𝑚𝑝𝑎𝑐𝑡 =

𝑇𝑅𝑆

𝐹𝑇𝑉

𝑅𝑎𝑡𝑖𝑜 × (𝑂𝑊 𝑀𝑊 pa 𝑥 𝑆𝑉𝐶

£

𝑐𝑜𝑠𝑡 )

MW

𝑃𝑟𝑒 2030 𝑇𝑅𝑆 𝐼𝑚𝑝𝑎𝑐𝑡 = 4% × (4667 𝑥 × 59,667) = £11.14m per annum

𝑃𝑜𝑠𝑡 2030 𝑇𝑅𝑆 𝐼𝑚𝑝𝑎𝑐𝑡 = 4% × (4100 𝑥 × 59,667) = £9.78m per annum

In the following table 2:

* the ‘**’Cum. OW (MW)**’’ column represents the Cumulative Offshore Wind MW expected to be delivered by 2050.
* The ‘**’Cum SVC Cost**’’ column represents the Cumulative cost of SVC expected to be deployed in relation to the offshore wind MW,
* The ‘’**TRS Impact**’’ represents the £ cost in the TRS that is specific to the SVC, and it represents the amount that is expected to impact consumers via the TDR.

*Table 2 Estimated TRS impact of CMP 418*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Cum. OW (MW)** | **Cum. SVC Cost (£)** | **TRS Impact (£)** |
| **2025** | 19,667 | 1,173,444,444 | 46,937,778 |
| **2026** | 24,333 | 1,451,888,889 | 58,075,556 |
| **2027** | 29,000 | 1,730,333,333 | 69,213,333 |
| **2028** | 33,667 | 2,008,777,778 | 80,351,111 |
| **2029** | 38,333 | 2,287,222,222 | 91,488,889 |
| **2030** | 43,000 | 2,565,666,667 | 102,626,667 |
| **2031** | 47,100 | 2,810,300,000 | 112,412,000 |
| **2032** | 51,200 | 3,054,933,333 | 122,197,333 |
| **2033** | 55,300 | 3,299,566,667 | 131,982,667 |
| **2034** | 59,400 | 3,544,200,000 | 141,768,000 |
| **2035** | 63,500 | 3,788,833,333 | 151,553,333 |
| **2036** | 67,600 | 4,033,466,667 | 161,338,667 |
| **2037** | 71,700 | 4,278,100,000 | 171,124,000 |
| **2038** | 75,800 | 4,522,733,333 | 180,909,333 |
| **2039** | 79,900 | 4,767,366,667 | 190,694,667 |
| **2040** | 84,000 | 5,012,000,000 | 200,480,000 |
| **2041** | 88,100 | 5,256,633,333 | 210,265,333 |
| **2042** | 92,200 | 5,501,266,667 | 220,050,667 |
| **2043** | 96,300 | 5,745,900,000 | 229,836,000 |
| **2044** | 100,400 | 5,990,533,333 | 239,621,333 |
| **2045** | 104,500 | 6,235,166,667 | 249,406,667 |
| **2046** | 108,600 | 6,479,800,000 | 259,192,000 |
| **2047** | 112,700 | 6,724,433,333 | 268,977,333 |
| **2048** | 116,800 | 6,969,066,667 | 278,762,667 |
| **2049** | 120,900 | 7,213,700,000 | 288,548,000 |
| **2050** | 125,000 | 7,458,333,333 | 298,333,333 |

**Additional considerations:**

* SVCs were used as costs were readily available and because they are the most used by generators, but STATCOMs are also used as DRCE in offshore wind. Including different types of DRCE in the analysis would be expected to further improve the benefits of this proposed solution. This is because the same cost-saving calculations used for SVCs are applicable to the typically higher costs of other DRCE equipment
* Charges for unshared offshore circuits (within which lie DRCE costs in appropriate cases, under baseline) will normally, in the case by case assessment that is made by NESO, be classified, for the purpose of EC838/2010 when calculating the generation adjustment charge, as physical assets required for connection (PARC), and therefore should be excluded when calculating how much revenue is being collected from Generators for the purpose of the EU Cap. If, in the case-by-case assessment, these assets were not to be considered as physical assets required for connection, it is also expected that the consumer impact would be smaller, as the cost of DRCE would be recovered by all TNUoS users (including generators) instead of only final demand consumers (TDR).

Impact on Wind Farm Development Costs and CfD Levy

Offshore wind projects participate in the **Contracts for Difference (CfD)** scheme, which provides a long-term guarantee on the price per megawatt-hour (MWh) of electricity generated. By moving **DRCE** costs from offshore wind farms to the **Transmission Demand Residual (TDR)**, these projects would save the same amount they currently pay under the existing methodology.

However, these savings would be directly translated into a reduction into CfD bid prices and CfD levy recovered from end users for projects awarded CfD only after the implementation of CMP 418.

It is therefore assumed that the gross impact of £298m by 2050 would be largely netted off by a similar reduction in CfD levy with only a small residual component due to CfD tariffs locked by projects prior to implementation of CMP 418. This would create a small residual impact estimated at £35.8m per annum according to the methodology and assumptions presented here. In comparison to the £3,471.8m of TDR revenue collected from demand users in charging year 2023/2024 this would represent a 1.03% impact.

Table 3 Estimated CfD levy impact of CMP 418



Conclusion

The introduction of CMP 418 is expected to increase the Transmission Demand Residual (TDR) revenue collection by approximately £298 million by 2050. However this amount is expected to be offset by a reduction of £262m to the CfD levy, leaving a net impact of £35.8m, which represents a 1.03% increase to the current base.

Additionally, removing DRCE costs from offshore generators would create a more level playing field between offshore and onshore wind projects, supporting greater competition and encouraging the most cost-effective energy solutions.

1. [↑](#footnote-ref-1)