





CUSC Modification Proposal Form	At what stage is this document in the process?
<h1 data-bbox="119 353 560 443">CMP276:</h1> <p data-bbox="119 481 1013 622">Mod Title: Socialising TO costs associated with "green policies"</p>	01 Initial Written Assessment
	02 Workgroup Consultation
	03 Workgroup Report
	04 Code Administrator Consultation
	05 Draft CUSC Modification Report
	06 Final CUSC Modification Report

Purpose of Modification: This modification proposes a reduction in the demand residual element of the TNUoS £/kW (“Triad”) charge by creating two new charge lines for all demand offtakes: (i) with the level of charge based on a fixed charge per MPAN (or alternatively the import meter size of each consumer) and (ii) a simple per kWh charge on all consumers. Currently demand residual is the cost bucket which is left to capture all TO costs that cannot be otherwise allocated. Unless there is change the current methodology this is forecast to lead to high demand TNUoS payments at the time of Triads, which are widely recognised to be unacceptable and unsustainable. Mods CMP264 and CMP265 deal with a subset of the symptoms only, because they define the defect too narrowly. Their definition prohibits the full range of potential solutions being considered, and by excluding certain types of meter and treating some meters differently to others, this inevitably leads to a discriminatory outcome. This modification is defined to address the underlying cause of the escalation in demand residual and proposes a simple, non-discriminatory approach to its resolution which addresses equitable competition in ALL markets, domestic and international, reduces total cost to consumers and has the structure to form an enduring solution.



The Proposer recommends that this modification should be treated as urgent and should proceed as such under a timetable agreed with the Authority. The proposer believes that the modification should be available for decision by the Authority at the same time as CMP264 and CMP265. These mods have led to several alternative WACMs coming forward, but all of these require material BSC and supplier system modification (as they all require some move to gross metering), and owing to their restrictive definition of the defect they can only partially address the outcome of the design problems in the current TNUoS charging methodology.

The Proposer believes this mod meets the criteria for urgency set out by Ofgem. It certainly meets 1(a) – it is directly linked to an imminent or current issue that if not urgently addressed may cause a significant commercial impact on parties,

	<p>consumers or other stakeholders. This is evidenced in Ofgem's letter of 2/12/16- "Our current view is that taking early action to address rising demand residual payments is likely to be in consumers' interests."</p> <p>Alkane also believes that the proposal meets 1(b) as some WACMs for CMP264/5 recommended by the CUSC Panel will have a material impact on the delivery of new embedded capacity owing to changed investment economics as well as the operation of existing embedded capacity at times of system peak. The forecast system margins rely on contracted capacity market plant being delivered.</p> <p>By retaining the underlying principle of net metering, which has historically been widely supported across the industry despite numerous reviews, the modification is intended to enable considerably simpler implementation, reducing costs across the industry and enabling faster and more robust delivery than either of the original or any of the proposed WACMs for CMP264/5. The Proposer believes that its urgent consideration is appropriate as it is an alternative to CMP264/5 that was not possible to table during the CMP264/5 process owing to the restrictive CUSC rules. If it is subjected to a prolonged timetable of consideration this would defer its benefits to all those affected, including Elexon and suppliers as well as end users.</p> <p>This modification was raised <i>06 February 2017</i> and will be presented by the Proposer to the Panel on <i>dd month year (Code Administrator to provide date)</i>. The Panel will consider the Proposer's recommendation and determine the appropriate route.</p>
	<p>High Impact: This would have a material impact on the cost/revenue of those who manage demand during Triad periods, i.e. embedded generators and those half hourly metered consumers who respond to Triad.</p>
	<p>Medium Impact This would impact National Grid in modifying the calculations it adopts and data it needs to set TNUoS tariffs. The BSC systems would need slight alteration to allow the correct data flows to NG, but should not require new information to be collected or created. Suppliers' systems may need to provide additional data lines to bill their customers and be able to check the TNUoS bills, but the simplicity of the proposed charging proposals should limit the complexity. Embedded generators not currently benefiting from Triads in full or part (such as solar and wind farms) may see a small incremental increase in revenue from a credit of the per kWh charge element proposed. This modification would indirectly address concerns raised over the competitive position of transmission connected generators vis a vis embedded generation and DSR, most notably in the Capacity Market.</p>
	<p>Low Impact Non half hourly customers and half hourly customers who do not respond to Triad may see a slight change in their bills.</p>

Contact us: The Code Administrator is available to help and support the drafting of any modifications, including guidance on completion of this template and the wider modification process. If you have any questions or need any advice on how to fill in this form please contact the Panel Secretary: e-mail: heena.chauhan@nationalgrid.com or cusc.team@nationalgrid.com ; phone: 01926654028

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 Any questions?

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Timetable

The Code Administrator will update the timetable.

The Code Administrator recommends the following timetable:
(amend as appropriate)

Initial consideration by Workgroup	dd month year
Workgroup Consultation issued to the Industry	dd month year
Modification concluded by Workgroup	dd month year
Workgroup Report presented to Panel	dd month year
Code Administration Consultation Report issued to the Industry	dd month year
Draft Final Modification Report presented to Panel	dd month year
Modification Panel decision	dd month year
Final Modification Report issued the Authority	dd month year
Decision implemented in CUSC	dd month year

Mandatory for the Proposer to complete Please provide a summary of the modification proposed – i.e. **what** is the identified defect/change in the existing code that needs to be rectified, **why** this change needs to be made, and **how**.

1 Summary

What

The proposal is:

- (i) To set demand residual to be the positive of the greatest negative value calculated by the Transport and Tariff Model from 2020/21, so that the lowest demand locational charge in the 14 demand zones is zero; the other 13 zones would see a positive demand charge. This, and the proposed step down over time from 2017/18, takes an identical approach to WACM7 which was viewed as the best option for CMP264/5 by the one industry CUSC Panel member who was not from a TG¹ company, noting specifically it does not seek to distort the locational signal arising from the Transport and Tariff Model in contrast to all the other CUSC Panel supported alternatives. The current forecast gives a locational value of -£22.50/kW for south Scotland in 2020/21 and £7.91/kW for London (the highest charge): this mod would set the demand charge for south Scotland at £0 meaning London demand would pay (and London based EG would receive) £30.41/kW. ALL EG² whether new or existing, CM or CfD, would receive this as a payment at Triad; DSR³ that avoided taking power during Triad would save it. It would therefore continue to provide identical treatment for DSR or EG, each of which has exactly the same impact on the transmission system at the same node, as demonstrated by the analysis provided for CMP264/5. Based on NG forecast demand in 2020/21 this element of the charge would raise £1.064bn towards NG's allowed revenue recovery.
- (ii) To set the generator cap on transmission at or close to⁴ €0/MWh so that TG - considered as a whole - pays no transmission cost, i.e. all payments made by offshore TG would be paid to onshore TG, in addition to the locational tariff. Using the current 2020/21 NG forecast this would lead to a generator residual of -£15.19/kW. TG would thus be given comparable and equitable competitive treatment with both EG and DSR, recognising the cost advantage provided by EG compared with TG which has been estimated previously by NG⁵ to lie in the range of £6.50-£7.25/kW⁶. To ensure this reasonable competitive position was maintained over time (recognising it may alter because of changes to TG MW connected to the system) an additional protection could be built into the charging methodology that ensured the generator residual was set to lie no more than £7.50/kW lower than demand residual provided the Directive was met.

¹ Transmission connected generation

² Embedded generation

³ Demand side response

⁴ It may be desirable to set the cap a little above €0/MWh to ensure the Directive is met if there are slight changes in outturn compared with forecast data, so avoiding retrospective "true up" or reconciliation

⁵ National Grid

⁶ Presentation to TCMF October 2007 as quoted by Cornwall Energy p67 of report to ADE 11 May 2016

Note -£15.19/kW would give dispatchable onshore TG an additional income of £5.50/kW in 2020/21 compared with the current forecast of -£9.69/kW and this may be reasonably expected by force of competition to flow through directly into a lower CM clearing price for future years.

- (iii) The remaining cost recovery for the transmission system required by NG, on behalf of the GB TOs, would be achieved at its simplest by a combination of a flat charge on each MPAN and a per kWh levy.
- a. There is in theory complete flexibility over this split, but this base proposal seeks to hold a typical domestic consumer harmless from the change in charging methodology. There are about 27.5million domestic meters and 2.5million I&C meters⁷. The base proposal here would add a flat charge to each meter of £36.50/year (10p/day), which would raise ~£1.097bn towards NG's allowed revenue.
 - b. With no net recovery from generation this would leave a shortfall of about \$1.627bn. The gap would be filled by a simple per kWh charge. Based on 290TWh of supplier demand⁸ this would add £5.61/MWh or 0.561p/kWh to unit energy costs.

A typical domestic customer with ~1kW peak demand and 3,300kWh annual electricity consumption would be indifferent compared with the current charging regime: by 2020/21 they would save the equivalent of £49.53/kW in smeared Triad charge and £5.50/kW in CM cost (total £54.03) but would pay a £36.50/kW meter charge and 3.3MWh x £5.61/MWh = £18.51 in energy charge (total £54.01). Further cost savings may be reasonably expected to flow through from lower energy charges resulting from lower wholesale costs as all generators should have more predictable long term revenue streams, allowing achievement of a cheaper cost of capital.

(As an alternative to the energy charge we understand the BSC systems may collect additional data on size or type of meter/usage profile. This could provide some weight to I&C MPANs related to their typical consumption, increasing the proportion of charge recovered from that sector and reducing the energy charge and/or the meter charge on domestic consumers. A further alternative could be to seek to use the DNO databases of meter categories by charging the DNOs a gross amount and requiring DNOs to recharge this to customers based on the meter sizes. We ignore these alternatives in our original proposal on grounds of simplicity, but are happy to hear the views of those more versed in metering systems as to a different way to weight the charges to give an outcome parties feel is equitable. We would note that the weighting of cost recovery given to the per kWh charge and per meter charge could be adjusted over time, allowing some finessing of cost recovery within a stable structure.)

⁷ DUKES Chapter 5 Table 5E

⁸ DUKES Chapter 5 Table 5E: Total Great Britain less unallocated or Table 5.4 UK Electricity Sales

Why

CMP264 and CMP265 identify the charging defect as purely a competitive issue between independent firm (dispatchable) EG and TG, whereas in reality the problem is a spiralling demand residual charge resulting from a combination of an increase in transmission cost recovery of 40% over five years, coupled with increased EG much of which is must run renewable (which is also contributing to reduced demand from the transmission system at peak), and the increasing move to HH settlement of customers.

This proposal seeks to address the fundamental problem. This mod categorises the defect not as the Triad paid to EG but rather the way that transmission costs are categorised and passed through to consumers. It does NOT change the principle of net metering, which when considered by the industry has consistently been found to be the simplest and fairest means of looking at the use of the transmission system. By treating all EG the same, whether new or existing, firm or intermittent, behind the meter or exporting, and recognising it has exactly the same transmission system impact as DSR, this treatment means the same cost/benefit is received by each incremental kW change at a system level. It also retains the principle of Triads, which have been a tried and tested method to incentivise a reduction in the use of the transmission system at peak for over 30 years, whether by demand reduction or generation.

Although historically the UK has split its transmission costs 27% to generators and 73% to demand, in reality there is no reason to do this. All costs eventually find their way to the end consumer; directly or indirectly. The difference is purely the path the cost takes.

This historic split just increases the wholesale price arbitrarily and we think unjustifiably. It is demand that requires generation, not vice versa. Generation is not built to then seek new demand; generation satisfies demand that already exists. It is thus logical that demand meets the entire cost of the transmission system directly, and generators are net zero contributors, with locational effects passed from those generators whose location requires more transmission to those whose location needs less.

21 out of 35 European countries already recognise this⁹. This proposal sets the net contribution of generation to transmission system cost at zero. TG that connects away from demand pays; TG close to demand gets paid. In terms of a level playing field for competition the primary factor is relative cost. This proposal sets the competitive position equitably not only between EG and TG within GB, but also puts GB generation on the fairest competitive basis possible with its European neighbours.

The principle behind a fixed charge per MPAN is simplicity. But we would argue it is cost/benefit reflective. Everyone benefits equally from a robust reliable transmission system, regardless of the amount of energy they draw from it. Furthermore, it can be argued that the spiralling cost of the TO networks is a direct result of the government's "green policies", justified on the basis of the public and economic good that moving to a low carbon economy will deliver to the GB population and economy as a whole. A simple per MPAN charge recognises these public good elements of the evolution of the GB transmission systems. It rightly focuses attention on the magnitude of the charge in the bill that is paying for transmission over time, the increase in which is demonstrably

⁹ P20 Cornwall Energy Report *ibid*.

down to the connection of remote renewable generation promoted by Government policy. It retains some element of the charge in two avoidable forms (the Triad would be positive for most consumers which continues to drive positive behaviours to reduce demand at peak, and the energy charge increases the incentive towards energy efficiency at all times), but it forces all who connect to the system to pay something towards transmission. And since the meter charge is independent of capacity, its increase will not increase the locational incentive already rightly there for embedded generation. It is therefore more cost reflective than the current system.

A per kWh charge for transmission gives an added incentive to all demand to improve energy efficiency. It also gives a fairer distribution of embedded benefit to all EG. Baseload EG, such as high efficiency CHP, would benefit from this element more than peak generation, so driving an incentive towards this type of generation. Whilst the charging system should not discriminate, and under this proposal does not explicitly do so, this proposal has the beneficial side effect of further encouraging such EG to continue or expand, with obvious GHG benefits.

How

This proposal requires only minor changes to the existing methodology for calculating TNUoS charges. (Values in this paper have been calculated using the existing published NG spreadsheet.) It should require no new dataflows to/from Elexon (other than potentially with the possible alternative suggested there would need to be a “size of meter” id which should already exist). It requires only minor changes to supplier billing systems, with no new information required from suppliers that they do not already collect. It is therefore simple, relatively cheap and low risk to implement.

If there were supplier and/or Elexon systems issues identified with either of the two new charge elements, the step down approach from existing charge levels as proposed means it would be possible to defer implementation of one of these by up to two years (e.g. the per kWh charge could be introduced in 18/19 and the per MPAN charge deferred to 19/20, or vice versa). The proposer hopes Elexon and suppliers would respond to a consultation on this mod indicating their preferred implementation timetable i.e. whether staged implementation of the two elements, or a “one off” change with both introduced simultaneously, was best, and that the Authority would take this into account in its final decision.

2 Governance

Justification for Urgent Procedures

This modification is designed to replace the flawed (sic) alternative mods CMP264 and CMP265 and their WACMS, all of which are based on gross charging. To a greater or lesser extent these all introduce new distortions into the energy market, and in some cases would undermine the investment cases of new EG. This risks security of supply in the short and medium term, with higher costs to consumers and a likely increase in GHG emissions owing to older less efficient plant being retained to satisfy demand.

Requested Next Steps

This modification should be treated as urgent and should proceed as such under a timetable agreed with the Authority. It should be considered by the Authority alongside the CMP264 and CMP265 mods as it impacts the same parties and systems and seeks to address a similar issue to that which those mods identify, but does so more simply, quickly and cheaply and on a non-discriminatory basis.

Ofgem has already required an accelerated timescale to deliver CMP264 and CMP265. This proposal takes existing analysis and is required as a new proposal only because of the narrow definition of the defect in the two existing mods. The defect in this mod is more widely defined to enable a simpler more cost reflective solution to be offered.

3 Why Change?

The existing path of demand residual appears to be unanimously accepted as unsustainable and to be addressed with urgency. The two mods CMP264 and CMP265 fail to do this in a simple and non discriminatory way. CMP271 and CMP274 seek to retain net charging and only change the time periods and/or split between demand and energy based means of passing costs to net demand.

This modification aims to address the underlying problems with the charging methodology, recognising the public good nature of both transmission systems and the growth of remotely located, intermittent generation, rather than the symptom of one outcome of the existing methodology. The Proposer believes the per meter charge element, which reduces the total embedded benefit revenue to EG whilst retaining the simplicity of net metering, is a unique element not present in other mods to date.

4 Code Specific Matters

None that is not already present in the [CMP264/5 Workgroup](#)

Technical Skillsets

Common sense, pragmatism and a willingness on all parties to compromise.

As Alkane is not a CUSC party, while we can raise this change to the charging section of the CUSC, we cannot raise any related modifications to either the CUSC or the BSC if required for implementation. The related modifications will therefore need to be raised by National Grid as the Code Administrator or the relevant Panels.

Reference Documents

Existing reports and analysis delivered for CMP264/5.

5 Solution

Section 14 of the CUSC – similar sections to CMP264/5.

6 Impacts & Other Considerations

The BSC will be impacted by requiring Elexon to send the number of meters per supplier to NG for billing the MPAN charge to the suppliers. Supplier systems will require minor changes and the NG tariff setting methodology will require minor change at the back end to set a new tariff per MPAN to capture costs not recovered in the rest of the process.

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

No – although we would welcome Ofgem taking a full holistic look at the costs and benefits of EG including its difficulty in achieving non-discriminatory market access to forward peak prices by smaller scale EG.

Consumer Impacts

This should benefit consumers by (i) reducing the total level of embedded benefits, (ii) increasing the equitability of competition between all generators and (iii) reducing costs in the capacity market as generation economics are properly supported by cost reflective and stable forward looking transmission pricing.

7 Relevant Objectives

Mandatory for the Proposer to complete. Please delete the CUSC Objectives that is not applicable.

Impact of the modification on the Applicable CUSC Objectives (Standard):

Relevant Objective	Identified impact
(a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence;	Positive/ Negative / None
(b) Facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity;	Positive/ Negative / None
(c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European	Positive/ Negative / None

Commission and/or the Agency; and	
(d) Promoting efficiency in the implementation and administration of the CUSC arrangements.	Positive/Negative/None
Impact of the modification on the Applicable CUSC Objectives (Charging):	
Relevant Objective	Identified impact
(a) That compliance with the use of system charging methodology facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) facilitates competition in the sale, distribution and purchase of electricity;	Positive/Negative/None
(b) That compliance with the use of system charging methodology results in charges which reflect, as far as is reasonably practicable, the costs (excluding any payments between transmission licensees which are made under and accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard licence condition C26 requirements of a connect and manage connection);	Positive/Negative/None
(c) That, so far as is consistent with sub-paragraphs (a) and (b), the use of system charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses*;	Positive/Negative/None
(d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1; and	Positive/Negative/None
(e) Promoting efficiency in the implementation and administration of the CUSC arrangements.	Positive/Negative/None
*Objective (c) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).	

CMP264 and CMP265 identify and seek to remedy only one distortion to competition caused by the current TNUoS charging methodology: the effect of firm embedded generation on the Capacity Market.

By charging all demand MPANs the same, introducing a transmission cost charge on energy and so bringing charges for DSR and EG to a more appropriate, relative level to those for TG, this modification means competition is on the same basis for independent embedded generation, "behind the meter" embedded generation and demand reduction who all have the same net effect on the transmission system. The change would

therefore better achieve objective (a) than the other modifications on the table, with a more comprehensive approach to the problem identified by Ofgem.

As NG has been unable or unwilling to quantify the benefits/avoided costs that Triad behaviour delivers, it is difficult to know the value that has been attached to load management. However, it is clear from the WACMS that NG proposed to CMP264/5 that it believes that there is a material benefit from load management at peak. This modification would therefore better fulfil objective (b) by maintaining the signals given by Triads, but reducing the benefit. It is therefore trying to strike a balance between Ofgem's concerns about spiralling embedded benefits and NG's need to have peaking plant respond to the signals to run at peak.

This change does help meet objective (c) as the rebalance will help adjust charges in light of the increasing cost of the networks as they develop HVDC and offshore links.

The proposer believes that the proposal is neutral against applicable charging objectives (d) and (e).

8 Implementation

This should be easier to implement than any of the 40+ WACMs or the original proposals for CMP264/5 as it does not involve a move to gross metering, with associated system issues. It should also not require all PPA contracts be renegotiated between suppliers and EG.

9 Legal Text

The Proposer is welcome to put forward suggested legal text. If this is a proposed Fast Track Self-Governance modification then legal text and commentary must be provided. Otherwise the legal text will be provided in conjunction with the Workgroup Report to the CUSC Panel before progressing to the Code Administrator Consultation.

Text Commentary

Insert text here *In support of the legal text provided, the legal representative will provide a plain English explanatory note setting out the approach taken to converting the Solution into legal text, illustrating how the legal text delivers the intent of the Solution.*

10 Recommendations

Proposer's Recommendation to Panel

Panel is asked to: *[This section is mandatory for the Proposer to complete. Delete as appropriate]*

- Agree that Urgent governance procedures should apply
- Refer this proposal to a new Workgroup (but based on the CMP264/5 work group membership) for assessment.
- ~~Agree that this Fast Track Proposal should be implemented~~