

Forum

Charging Futures Forum

March 2024







Opening Remarks

Eleanor Warburton





09:00 - 10:30

- > 09:00 Opening Remarks with Eleanor Warburton
- > 09:10 Connections Reform with Jack Presley Abbott
- > 09:40 Break
- > 09:50— REMA & Transmission Charging Reforms with Ollie Power [DESNZ] & Jonathan Bowes
- > 10:30 Break

10:40 - 12:30

- > 10:40 Transmission Charging Update with Harriet Harmon
- > 11:25 Break
- > 11:35 Distribution Charging Update with Andrew Malley
- > 12:20 Closing Remarks with Eleanor Wood

Q&A

> Eleanor Wood







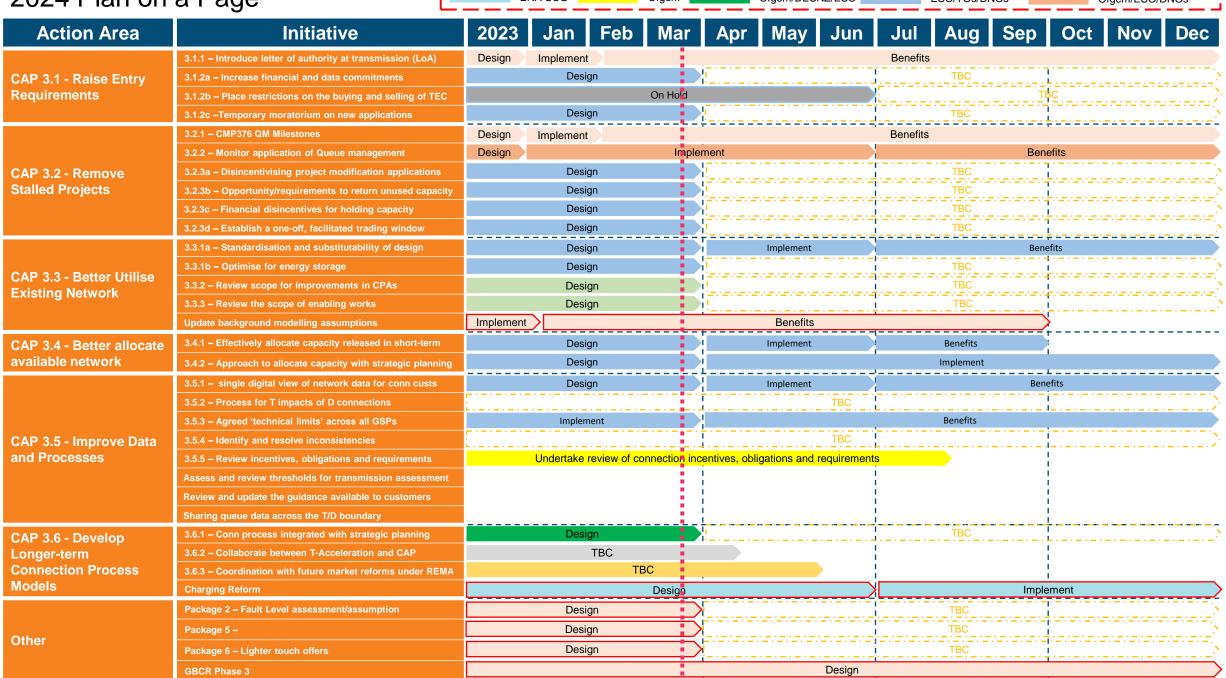
Connections Reform

Charging Futures Forum – March 2024





2024 Plan on a Page ESO DESNZ ESO/TOs DESNZ/Ofgem Additional to CAP Ofgem/DESNZ/ESO DESNZ/Ofgem ESO/TOs/DNOs Ofgem/ESO/DNOs





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Q and A

Comfort Break

Back at 09:50





REMA & Transmission Charging Reform Updates

Charging Futures Forum – March 2024







Review of Electricity Market Arrangements (REMA)

Overview

March 2024

What is REMA and why do we need it?

First announced in April 2022 in the British Energy Security Strategy, the Review of Electricity Market Arrangements (REMA) is a major review into the design of Britain's electricity market.

- **Objective:** To identify and implement the reforms needed to electricity market arrangements, to drive the necessary **investment** in, and efficient **operation** of, a secure, **low carbon electricity** system by 2035 whilst ensuring **affordability** for consumers and attractiveness for **investors**.
- Scope: REMA considers options for long lasting reforms to all electricity (non-retail) markets and covers policies including investment and market operation.



Cost-effectiveness



Security of supply



Decarbonisation



What progress have we made so far?

April 2022:

REMA announced in the British Energy Security Strategy

July 2022:

First public consultation launched

March 2023:

Summary of responses published

March 2024:

Second public consultation launched

<u>First consultation</u> set out **case for change**, invited views on our objectives and possible reform options. These varied from incremental change to novel mechanisms.

Second consultation narrows the reform options, identifies lead options where possible, and has a challenge-based format structured around four key issues.



Purpose of the second REMA public consultation



Outlines clear direction of travel for the future evolution of GB electricity market arrangements.



Structured around **four key challenges** in electricity markets, and considers their interactions with an integrated, whole-system approach.



Seeks stakeholder views on specific proposals and a short-list of remaining options.



Examines the impact on **Legacy Arrangements** and **Legacy Assets**, and strategies to mitigate new risks from reform options.



Partners with an **Options Assessment** that provides details of analytical framework used to support policy development process.



The four challenges of the second consultation



Challenge 1: Passing through the value of a renewables-based system to consumers: What is the role of marginal pricing within electricity markets and how best to decouple gas and electricity prices to pass through the benefits of low-cost renewables to consumers?



Challenge 2: Investing to create a renewables-based system at pace: How best to drive investment in low-cost renewables in future?



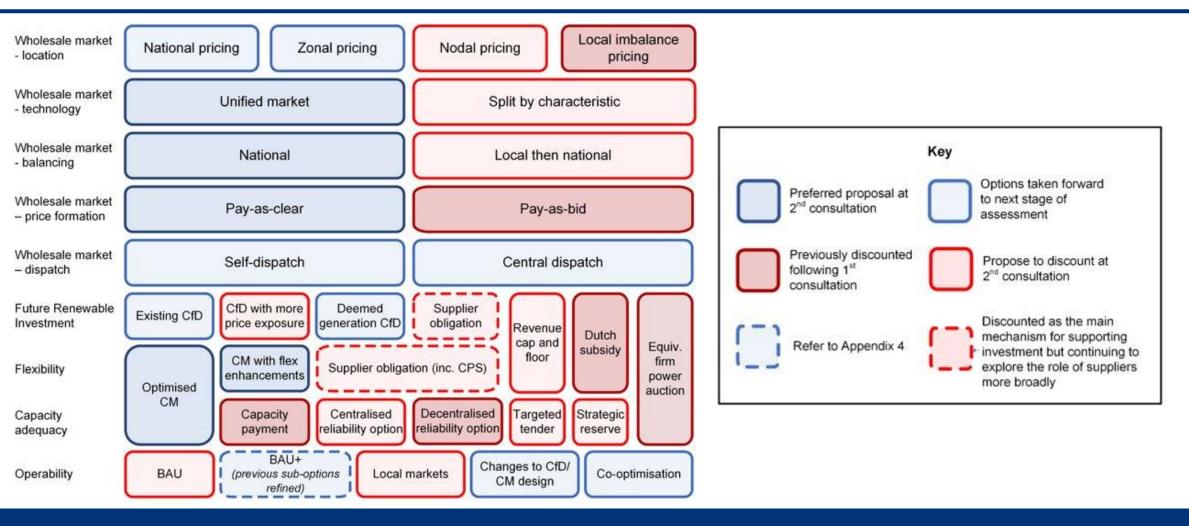
Challenge 3: Transitioning from an unabated gas-based system to a flexible, resilient, decarbonised electricity system: How best to replace unabated gas with low-carbon dispatchable technologies, while maintaining security of supply?



Challenge 4: Operating and optimising a renewables-based system, cost-effectively: How best to operate a renewables-based system to keep costs as low as possible, taking into account location?



How the options have progressed





Where to next?

- The consultation will remain open to responses for 8 weeks. It will close on 7 May 2024.
- We aim to publish a Summary of Responses in summer 2024. A White Paper type document and Full Impact Assessment will follow in mid 2025. This will set out final policy decisions on the remaining options and conclude REMA's "policy development" phase.
- In parallel, we will move the programme from policy to delivery where we have already narrowed down to a single policy option (e.g. Capacity Market reform).





Ofgem REMA next steps







Ofgem Priorities

- The next stage of REMA will have a deeper focus on combined packages of reforms to create coherent market designs for both national and zonal pricing
- Ofgem will lead work on network charging, access rights and competition and liquidity

Working with DESNZ

- Ofgem will work closely to support Support DESNZ and ESO on other work packages, including providing input to analytical modelling and policy development to ensure a joined up approach to developing market designs
- Ofgem will sit on the Operational, Wholesale and Locational (OWL) program board within the REMA structure and will regularly bring papers and briefings to REMA boards

Continued stakeholder engagement

- The second REMA consultation document will give opportunity to provide direct feedback all elements of the REMA program. This consultation closes at 11:59pm on 7 May 2024
- Ofgem will continue to engage industry stakeholders on the specific reforms around charging, access and connections in the wider REMA context through the Charging Futures Forum



What is Strategic Transmission Charging reform?

The STC reform open letter set out our initial thinking on the future role and design of electricity transmission network charging. The letter set out some key questions and welcomed stakeholder engagement on why reform may be required, how signal efficiency might be improved, and potential interactions with non-charging reform programmes.

Summary of Responses

We received over 40 responses from stakeholders across industry. Responses showed that stakeholders generally value:

- well-informed transmission charging reform
- improved signals and predictable charges to best enable transmission investment
- TNUoS charges that align with the future planned network (e.g., CSNP & NOA)
- strategic alignment with wider reforms and future planned network to enable investment certainty
- the frequency reset for TNUoS charges align with the reset of network plans (e.g., NOA or CSNP)
- a well-considered redesign of residual charges if they increase significantly.



What are the next steps?

We will use the feedback gathered to inform and support future policy development, this includes:

- Working closely with DESNZ and the ESO as part of REMA to consider the future role of transmission charging and the interactions with possible wider reforms to market design, including changes to access rights, dispatch arrangements, renewable support mechanisms and locational wholesale pricing.
- Supporting ongoing TNUoS Task Force discussions and the upcoming storage subgroup.
- Continuing to engage with industry through regular updates on the progress of Strategic Transmission Charging work through this Charging Futures Forum.



This session will focus on charging under national pricing

Work is ongoing on zonal design and the role of charging. This will be shared at a future forum

Aim of charging reform

- Send clear, investable, locational market signals to which market participants can respond
- Be fair and cost reflective
- Ensure compatibility with wider market reforms under REMA, in particular:
 - Access rights reforms
 - CfDs and support mechanisms
 - Strategic Network Planning

Principles across all options – informed by the STC open letter responses

- TNUoS will not send dynamic operational signals
- Aim to reduce volatility of TNUoS charges
- Consider future network representation to align charges with Strategic Network Planning



TNUoS may remain the key locational investment signal or may play a supporting role depending on other reforms

- Reformed CfDs, access rights, strategic planning and a range of other reforms outlined in the second consultation document will inform the role of charging
- This high-level shortlist will inform more detailed work on compatibility, packaging and detailed design in the next phase of REMA

High level shortlist

- Light touch reforms –reduce volatility and link charges to future network representation
- Reformed cost drivers Significant changes to the existing "transport model" to consider constraints or spare capacity
- Deeper connection charges predictable and locationally specific charges from deeper connections
- Postage stamp TNUoS Flat TNUoS charges suitable in scenarios with very strong locational signals from access, CfDs strategic planning or other sources



Reducing volatility of charges is desirable across all scenarios, but could be achieved in different ways

- Volatile TNUoS increases risk exposure for investors, increases cost of capital. This is passed onto consumers.
- Reset period for charges could be extended beyond a year, but this could result in less frequent but larger step changes in TNUoS
- TNUoS could be fixed at time of connection for a period up to the entire project lifetime.

These charges could also become more forward looking, acting as a vehicle to pass on signals from strategic network planning to the market

- Charges could consider future network representation based on a Strategic Network Plan.
 Depending on how it was implemented, this could:
 - Dampen the step-changes currently seen in charges driven by lumpy transmission investment by spreading these charges over a longer time period
 - Help shield generators from risk associated with non-delivery of transmission infrastructure



Changes to the cost drivers in the transport offer a flexible tool to send more effective locational signals

- The exiting cost model for determining wider TNUoS tariffs is known as the "transport model". It calculates the long run marginal costs of new network required to facilitate an additional unit of demand or generation at a given node.
- The current model assumes an unconstrained network in its "backgrounds", meaning the true cost to the system of new generation or demand is not captured

Various changes could better reflect costs and align with other locational market signals

- There is flexibility within the methodology to reflect a range of other costs. The methodology could be changed to reflect the long run average costs of constraints within a zone
 - This could achieve an investment signal analogous to the long run signal sent by zonal LMP, with lower charges for generators in the most constrained areas. This would not give the same operational benefits as zonal LMP
- Charges could be based on spare capacity to send signals to signal participants to connect in locations that would cause the least constraint

TNUoS charges	Connection charges	Other reforms	Intended outcomes
 Redesign cost model to reflect cost of constraints or spare capacity 	Retain shallow charges	 Compatible with reforms to reduce volatility and link charges to future network representations 	 Send locational signals that account for costs of constraints and complement other market signals



Connection charges are predictable and locationally specific, but are currently not sending a strong locational signal

- Very shallow charges currently mean that connecting assets pay for only a very small proportion of enabling works
- Connection charges are set at time of connection agreement, but paid over 15-25 years, making a deeper connection charge a highly predictable
- More locationally-specific than zonal TNUoS charges. Can help assets more effectively differentiate between different connection points in the same charging zone
- Can support the "one sided" signal sent by non-firm access

TNUoS charges	Connection charges	Other reforms	Intended outcomes
 Retain existing transport model Less revenue collected via TNUoS as more is connected via connection charges 	 Deeper connection charges create greater differentiation between locations with spare capacity and those without Connection charges are highly predictable – known at time of connection and payable over 15-25 years 	Compatible with reforms to reduce volatility and link charges to future network representations	 Connection charges provide long term, predictable investment signal More spatially granular that TNUoS charges based on current zoning methodology



- These two options are not mutually exclusive or exhaustive in detail
- Both changes to cost drivers and deeper connection charges could also be combined as part of a wider future market design
- We will continue working with DESNZ and ESO to further develop these options as part of wider packages of reform
- We will build on stakeholder response from the STC open letter and the ongoing REMA second consultation to inform ongoing work and ensure coherence between shorter and longer term TNUoS reform



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Q and A

Comfort Break

Back at 10:40





Transmission Charging

Charging Futures Forum – March 2024











Reflections on CFF October 2023





Over the last year, we have seen a considerable number of code modification proposals and increasing numbers of urgency requests raised by industry. We have highlighted some of the more significantly impactful modification proposals under each package of work below – some are with the Authority for decision, some are still within the industry process

BSUoS

CMP396: Reintroduction of BSUoS on Interconnector Lead Parties

CMP408: Allowing consideration of a different notice period for BSUoS tariff setting

CMP415: Amending the Fixed Price Period from 6 to 12 months

CMP420: Treatment of BSUoS Revenue Recovery, and Potential creation of BSUoS Fund

Offshore charging

CMP402: Introduction of AI principles within User Commitment Arrangements

CMP426: TNUoS charges for transmission circuits identified for the HND as onshore transmission

CMP428: User Commitment liabilities for Onshore Transmission circuits in the HND

TNUoS BAU

CMP430 & CMP431: Adjustments to TNUoS charging from 2025 to support MHHS

CMP413: Rolling 10-year wider TNUoS generation tariffs

CMP419: Generation Zoning Methodology Review

Task Force

CMP423: Generation Weighted Reference Node

CMP424: Amendments to Scaling Factors used for Year-Round TNUoS charges

CMP432: Improve Locational Onshore Security Factor for TNUoS Wider Tariffs





Modifications with us for decision	EDDs
CMP411 – Introduction of Anticipatory Investment (AI) with the S14 Charging Methodologies	28 March 2024
CMP286 – Improving TNUoS Predictability through Increased Notice of the Target Revenue using the TNUoS Tariff Se`tting Process	30 April 2024
CMP392 – Transparency and legal certainty as to the calculation of TNUoS in conformance with the Limiting Regulation	30 April 2024
CMP396 - Reintroduction of BSUoS on Interconnector Lead Parties	31 May 2024
CMP315 – Review of the expansion constant and the elements of the transmission system charged for	30 September 2024
CMP375 - Enduring Expansion Constant & Expansion Factor Review	30 September 2024
CMP408 – Allowing consideration of a different notice period for BSUoS tariff settings	TBC
CMP415 – Amending the Fixed Price Period from 6 to 12 months	TBC



Our TNUoS Task Force has been working on the following areas: Backgrounds (Generation/Demand), Locational investment Signals, Data Inputs, Reference Node, Absolute vs Relative, Technology types, Sharing, and Distributed Generation charging.

What has been discussed since October 2023?

- Demand charging in the context of MHHS, prior to the raising of CMPs 430 & 431;
- Whether the Security Factor of c.1.8 is appropriate, prior to the raising of CMP 432;
- Potential 'fixing' of charges to align with CfD/CM contract delivery periods;
- The appropriate TNUoS charging treatment of embedded generation;
- Identifying drivers of TNUoS charge volatility from current data inputs;
- Whether reforms to the Peak/YR split are required for demand;
- The extent to which TNUoS charges should reflect operational issues (i.e., system constraints) charges vs. markets

What is being discussed next?

- Further work required on 'fixing' options, as well as data inputs;
- Task Force to remit the embedded generation question back to Ofgem inconclusive;
- Further discussion on 'sharing' and Peak/YR backgrounds to agree case for change



What is the Market Wide Half Hourly Settlement Programme?

- In April 2021, Ofgem published a full business case for a market-wide transition to halfhourly settlement.
- This initiated the Market Wide Half Hourly Settlement (MHHS) Programme
- The MHHS Programme aims to expand the benefits arising from currently halfhourly settled sites across the entire demand market.
- Elexon is responsible (SRO) for delivering the MHHS Programme.
- The date for final implementation of the MHHS Programme is October 2026.
- However, as part of the MHHS Programme implementation an issue with the charging of sites during the migration period has been identified.
- NGESO has raised two code modifications to resolve this.



What are the relevant mods?

- CMP430 and CMP431 have been raised by NGESO to fix a data issue introduced to demand charging through the MHHS Programme.
- CMP430 makes changes to the charging methodology.
- CMP431 alters the definitions in the CUSC to facilitate CMP430 and the MHHS Programme.

What is the defect?

- Consumption Component Class (CCC) is a new data item created under the MHHS Programme to replace the current Measurement Class (MC).
- MC determines a demand sites' charging method (half hourly or non-half hourly).
- The new CCC data item does not contain a key variable used in the determination of MC maximum demand of each site.
- This would make significant changes to the charging methodology for many sites and could potentially lead to double charging.



What is the solution?

- CMP430 will attempt to maintain, as close to existing arrangements as possible, the current charging methodologies for demand sites.
- It will do so through using the new MHHS Design Data items Domestic and Connection Type Indicators.
- This would cause fewer demand sites to change methodology.

What is the timeline for CMP430 and CMP431?

- Workgroups are running until 30 May 2024.
- Workgroup Consultation will be issued on 17 April 2024.
- Code Administrator Consultation will be issued on 10 June 2024.
- FMR due 28 June 2024.
- Decision due in time for implementation in the 2025/26 charging year.



Recap:

We listened to your feedback at the October CFF where we had a positive response to a proposed storage subgroup. On Wednesday 14th of February, NGESO hosted a CFF Webinar advising on:

- Initial views on scope of the subgroup
- Timelines for the subgroup
- Application process to join subgroup

Next steps:

- Due to ongoing re-prioritisation across Charging and Connections, the ESO are devising a new subgroup timeline with a provisional commencement of this summer
- In the interim, work is currently underway to secure innovation funding to support the outputs of the subgroup
- Successful subgroup applicants will be contacted shortly, and asked to support in drafting the tender document in addition to drafting a terms of reference



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Q and A

Comfort Break

Back at 11:35

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Distribution Charging Updates

Charging Futures Forum – March 2024



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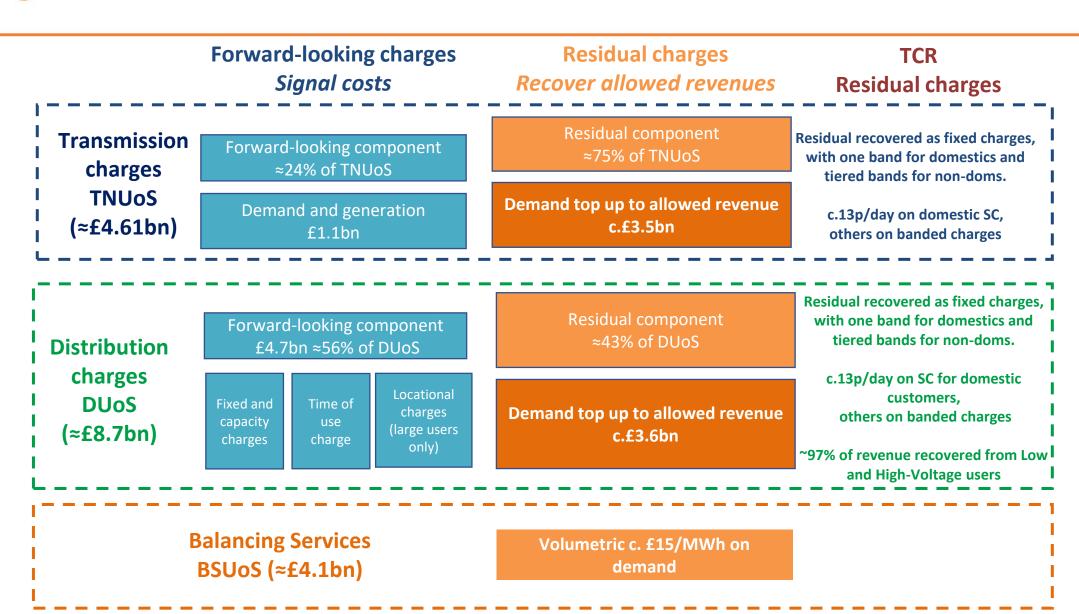
Distribution update

Agenda:

- Recap charging overview
- Standing charge review
 - Cost recovery history recap
- IDNOs
- EDCM Charging Directions
 - Why these were needed
- DUoS reform:
 - Our priorities & why they have changed in response to recent issues
 - Deprioritised areas
 - Quick view on changes from Oct-23 CFF update
 - Reform plan
- Workstream overview and timescales
- Next steps



Forward-looking and Residual Charges: 2024/25





Ofgem has committed to a review of standing charges. This includes joint work between the Charging team and Ofgem's retail directorate.

Transmission and Distribution residuals are a big driver of standing charges for all users. With allowed revenues growing with network investment, we are using this review as an opportunity to understand the possible trajectories of domestic and non-domestic fixed charges and consider how the current arrangements are likely to respond to the changing system.

We have commissioned some analysis with a consultancy to help us understand in detail some of the impacts of the current arrangements, and also consider potential impacts of alternative ways of recovering these very large sums of money. We aim to use this work to support discussions on standing charges, which we recognise are not popular with users, and put them into context with their effects on behaviour and investment. We expect to be able to share some insights this summer.

As well as our internal review, there are DCUSA change proposals looking at specific impacts of distribution residual charges on "peaky" sites and large EV charging sites, which stem from user concerns that charges are disproportionate for particular sectors or business models. We are interested to understand whether industry consider additional work to be needed with regard to transmission residuals in these areas.

We aim to give some consideration to these issues and others in our standing charge work.



2016	2017	2018 2	202	20 2021	2022	2023 20	024 Future
2016	2016-18	2017-19	2017-19 –	2019 - 21	2019-23	2022 & 2023	2024
DCP228 DUoS Scaling	Embedded benefit reforms	TCR Residual Reform SCR	TCR BSUoS Reform	TCR Workgroups	Wider BSUoS Reform	TCR implementation	Standing charge review
DUoS change to move cost recovery from peak units to all units.	Removed Triad distortions	Addressed broader cost recovery fairness concerns Approved by GEMA as fixed charge in 2019.	Removed BSUoS EB payments to generators. Other BSUoS work scoped by TF	CUSC and DCUSA workgroups mods to enact TCR decisions. Ofgem mod decisions in 2020 and 2021	Moving BSUoS to ex- ante flat charge based on volumes. Implemented 2023 with ongoing development w/r/t tariff setting	DUoS changes implemented for April 2022. TNUoS changes implemented for April 2023 Issue specific changes ongoing	Distributional and behavioural impact modelling, with wider systems CBA Assessment of industry specific issues "Quality of life" issues



We published an open letter on 19 October setting out some of our concerns around the IDNO charging arrangements and calling for input from stakeholders.

We noted that the IDNO industry had developed significantly in the last few years, with IDNOs connecting more customers, and connections happening in parts of the network that meant the traditional relative price control (RPC) arrangements weren't able to be applied.

IDNOs, responding to consumer demand, are now connecting EHV customers. While they have a host DNO, the non-transparent nature of EDCM charges currently prevents a practical RPC option. They are also making connection offers to users for IDNOs that don't have a host DNO and are instead directly connected to the transmission system.

The feedback we received suggests that customers value the IDNO regime. We want to act swiftly to address key areas of uncertainty, so the initial focus of our review will be targeted on EHV:

- Examining options to make EHV charging more transparent, and
- Clarifying charging arrangements for IDNOs connecting to the transmission network

Our letter seeks views on an appropriate delivery vehicle to take forward a review of EHV charges for transmission-connected LDNOs. Please share any views with electricitynetworkcharging@ofgem.gov.uk.



This winter we needed to direct changes to the EDCM - the DUoS charging methodology for EHV users - in response to DNO requests. These directions were needed to address issues DNOs encountered in the tariff setting process.

System investment and changes to the allowed revenues meant that in a small number of cases, the models were producing tariffs including negative standing charges for some users. At a time when all users are facing higher energy costs, we agreed with DNOs that this was not in consumers interests. Residual charges are there to recover costs in a non-distortive way, and should not be making payments to particular users at the wider user base's expense without a strong cost-reflective justification.

This was the right thing to do, but it has raised some areas of interest for further charging development. We have been discussing these with the DNOs and we will be taking some of this work forward as part of our DUoS Reform.

We want to ensure the models are responding to system changes is a predictable way and we aren't having to intervene in them. Predictability and stability for users is important to us, and we have a strong preference for arrangements that don't need case-by-case decisions or interventions

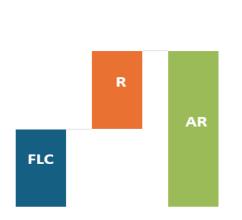
We'd welcome any feedback on these issues.





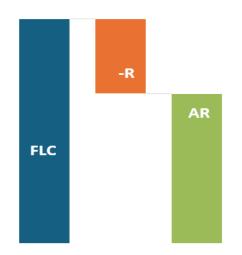
Case 1 = 'typical'.

- FLC under-recover
- Residual is **positive** to recover AR



Case 2 = 'high FLC'.

- FLC over-recover (e.g. due to increased load growth assumption)
- Residual is **negative** to meet AR



Case 3 = 'AR drop'.

- FLC over-recover due to reduction in AR.
- Residual is **negative** to meet AR.



Key	
FLC	Forward looking charges
R	Residual
AR	Allowed revenue

- DUoS charges can be divided into two elements: 'forward-looking' charges that are designed to ensure network users receive signals that are reflective of the costs of how and when they use the network, and 'residual' charges that are designed to recover the rest of the relevant network operator's allowed revenues once the forward-looking charges are levied.
- The EDCM (EHV) and CDCM (HV & LV) both have the potential to output negative residuals
- We have some concerns about the way the methodologies apportion negative residuals to users, and in particular do not think that negative fixed charges are appropriate



DUoS reform – update on prioritisation

We are changing our near-term priorities to respond to the issues seen over Winter 23/24.

As mentioned in the previous slides, we have had to intervene to ensure that some DNOs can use the EDCM to set appropriate charges for 25/26. On the CDCM, we have been made aware of some issues that DNOs have had in using the CDCM to produce tariffs for 25/26.

These issues have highlighted fundamental concerns with the CDCM & EDCM, both of which are related to how the methodologies manage a negative residual, and these issues may require intervention. We would like to give industry certainty over the inputs and process that DNOs will use to set charges, and how they will respond to issues like this in a consistent and transparent manner. We think it is important to work with industry to ensure the methodologies can continue to produce sensible tariffs.

Our near-term work will focus on assessing options for resolving the issues that have arisen on the EDCM & CDCM, respectively. We have produced problem statements on these issues with extensive input from DNOs, and we will be publishing these in the coming weeks. We welcome feedback on these statements, and further information on how to respond will be circulated when they are published.

We have decided to prioritise this work over the other issues identified for near-term reform. Our other near-term work will be to establish a framework for assessing long-term reform of DUoS charging.



DUoS reform – update on prioritisation

What is our current view on the previously prioritised issues*?

We continue to see both generator credits and EHV volatility as areas that require investigation, but we consider that we need to prioritise the EDCM and CDCM issues for now.

On the previous priorities:

- Generator credits: Whilst we think it is unlikely to identify the optimal future solution without clarity of the wider market arrangements, we think there is merit in reviewing the current arrangements to determine whether they remain applicable for the future.
- EHV volatility: It may be possible to progress this alongside our investigation related to the EDCM issue.





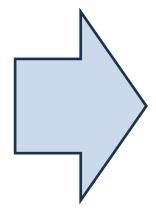
October 2023

Near term

- Issues with the stability of EHV charges
- The costs and benefits of DUoS credit arrangements for generation

Long term

- Inconsistencies in charging signals depending on voltage and location of connection across T&D
- The locational and temporal granularity of the DUoS charges at all levels



March 2024

Near term

- Issues with existing CDCM and EDCM related to negative residuals
- A framework for a longer term reform of DUoS charges

Long term

- Inconsistencies in charging signals depending on voltage and location of connection across T&D
- The locational and temporal granularity of the DUoS charges at all levels



DUoS reform – our current plan

Nearterm reform

Q1 - Q2 2024

- Issue discovery
- Work with ENA & DNOs to understand problems
 - Publish notes providing detail & obtain feedback from industry
 - Assess options
- Aim: informal consultation on options



Q3 - Q4 2024

- Review feedback
- Aim: minded-to position on solution for 2026/27 charges

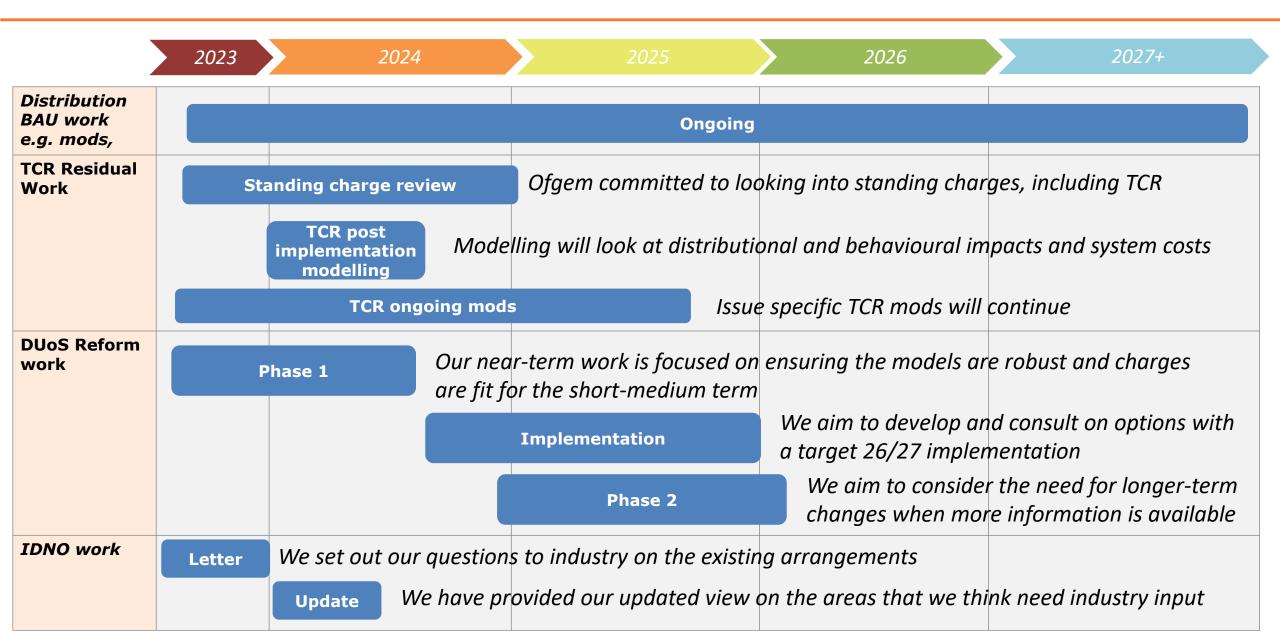
Longterm reform

Set out framework to form the basis of our review of DUoS charges under the DUoS SCR



Distribution and Residual charging

Workstream Overview





Next Steps

- We aim to consider your Slido feedback on the items we have discussed today.
- We also invite brief feedback from those who could not attend today to duos@ofgem.gov.uk until 12 April 2023.
- We would like feedback on the problem statements we will be publishing shortly.



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Q and A

Closing Remarks and Next Steps

Eleanor Wood



Ofgem is the Office of Gas and Electricity Markets. We are a non-ministerial government department and an independent National Regulatory Authority, recognised by EU Directives. Our role is to protect consumers now and in the future by working to deliver a greener, fairer energy system.

We do this by:

- working with Government, industry and consumer groups to deliver a net zero economy at the lowest cost to consumers.
- stamping out sharp and bad practice, ensuring fair treatment for all consumers, especially the vulnerable.
- enabling competition and innovation, which drives down prices and results in new products and services for consumers.