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# TNUoS Task Force

## Meeting 10

15th November 2023

# Agenda

**10:00 – 11:30**

- 10:00 Introduction & Welcome
- 10:10 Action Review
- 10:30 Technology Types
- 11:00 Taskforce Engagement
- *11:30 Break*

**11:45 – 12:45**

- 11.45 OTNR sub group report
- 12:15 Distributed Generation sub group
- *12:45 Lunch*

**13:45 – 14:45**

- 13.45 Backgrounds sub Group
- 14:15 Signals sub group
- *14:45 Break*

**15:00 – 16:00**

- 15.00 Data Inputs sub group
- 15.30 AOB & Close



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# Action Review

## Chris Parsons

# Summary of actions

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 6<br>18/08 | 7 | Draft modification proposal to be raised. | JT | | Mid-Oct<br>(JT to advise) | Open |
| 1<br>11/10 | 3 | Feedback an update to Task Force on the SQSS review outlined in the 2021 Business Plan and any differences to the review required for the Backgrounds work. | JWe, CP | | Nov mtg | Open |
| 15<br>11/10 | 7 | CP to discuss Transmission Owner (TO) data with the Revenue team to share how it's used in the model and arrange discussions with the TOs themselves. | CP | | December | Open |
| 3<br>18/08 | 4 | Ownership and timings defined for the OTNR Sub-Group closure report | JS | Closure Report to be shared with TF once complete (NP @ESO) | October | Open |
| 17<br>11/10 | 7 | Arrange calls to discuss the pressing questions on Data Inputs and agree next steps ahead of Nov meeting. | CP | | Nov mtg | Open |



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# Technology Type sub group: Update & Timeline

## Aled Moses

**The objective of this session is to provide:**

- Identify issues and provide a recommendation and timeline

# Issues Table

| Issue | Review of Issue/Defect | Initial View of Principles | Recommended approach and timescales | Additional considerations |
|---|---|---|---|---|
| Is it still appropriate to treat different technology types differently? (Link to YRNS/YRS) | On what basis would we say yes/no?<br>Why are they treated differently now?<br>Are we being asked to figure out whether sharing is valid under YRNS/YRS?<br>Does this depend on the backgrounds work?<br>Do we have any options for change? | In first instance technology should be aligned or be guided by other parts of the TNUoS TF or methodology<br>Treating different technology types differently can be justified / consistent with the methodology (e.g. backgrounds) | Views on treating technology types differently should be guided by how the backgrounds and signals consider different technology types in the first place | Are there other areas of the methodology where technology types are relevant?<br>Treating technologies different is fundamental to the current methodology |
| Do we have the correct generation categories? | Align with SQSS? TEC register? Which generators are connecting? | Methodology should aim to capture what is connecting (reflecting it might play catch-up) – tx-connected solar is a clear example<br>Technologies need to be charged regardless of how they've been previously considered, this can lead to distortions<br>Not clear whether current buckets are reflective of technologies<br>Within buckets, esp. low carbon, there is significant diversity – does there need to be more delineation for considering in sharing and backgrounds? | Identify technologies on TEC register | |
| Any additional defects? | Storage? Demand? Interconnectors? Anything for peak? | Interconnectors – are they still homogeneous? Storage is not homogeneous<br>Lack of demand differentiation seems to be a big gap<br>Not sure how to treat co-located sites – is it for another workstream? | Check and consider interconnector assumptions<br>Consider whether demand should be homogeneous<br>Consider principles of co-located charging | |



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# TNUoS Task Force Engagement

## Harriet Harmon

**The objective of this session is to provide:**

- Review and action feedback from the Charging Futures Forum

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# Break

## Next session starts at 11:45

# OTNR sub group report

## Nitin Prajapati

**The objective of this session is to provide:**

- Provide a summary of the final OTNR sub group report.

# Overview of the Sub-Group

## Background and Context

- The Holistic Network Design (HND) and Early Opportunities projects within the Offshore Transmission Network Review (OTNR) initiated a need for changes to industry codes and standards.
- This was further supported by decisions on asset classification on the HND from the Authority, prompting a need to review the charging methodology to ensure it could facilitate offshore coordination.

## Purpose and Scope

- This Sub-Group was set up to support the ESO in developing changes to the TNUoS charging methodology within section 14 of the Connection and Use of System Code (CUSC) related to OTNR, prior to changes being formally proposed via the standard industry governance process.
- The overall focus of the Sub-group was to consider, discuss and provide input into the development of methodology changes to support the ESO in creating a set of code modifications with a level of User support to facilitate offshore coordination.

## Industry members

- Members of the Sub-Group included subject matter experts on transmission network charging arrangements from the industry, with Ofgem providing a standing member.

## Frequency

- 9 meetings were held between February and September (approximately every 3-4 weeks).

# Feedback and overview of the Summary Report

## Feedback from Sub-groups

- After each meeting, minutes and actions were published summarising the discussions, feedback along with preferred solutions.
- Feedback from the Subgroup members suggested the minutes were useful, but it was important to summarise discussions on defects and possible solutions in a cohesive and structured manner so they can be referred back to in the future.

## Overview and key sections of the Summary Report

- The Summary Report provides an overview of discussions during the meetings including the methodology challenges, the options for a solution, the views and consensus on proposed solutions along with the CUSC modifications raised/due to be raised. The key sections of the summary report are outlined below:
    - Terms of Reference
    - Sub-group members
    - Introductions and summary of defects/methodology challenges discussed
    - Summary of discussions
        - Options for solutions discussed
        - Feedback including rationale (where outlined) on proposed solutions
        - Overall consensus on solutions
    - Interactions with the TNUoS Task Force
    - Actions and updates
    - Conclusions and associated CUSC modifications raised/due to be raised

# Summary of the methodology challenges discussed and outcomes

## The Holistic Network Design (HND) and the principles of assigning a generation zone for Wider Tariff Purposes

- Modification CMP419 was raised in August which reviews the Generation Zoning Methodology and creates new offshore zone/s so the Wider Tariff can be applied to offshore generators.

## Application of the wider tariff when a Generator can connect to two or more MITS Nodes

- CMP419 aims to utilise the existing principles of locational signals to create new offshore zones. Currently an onshore Generator's zone is aligned to the relevant MITS Node, and this principle will be utilised to determine the offshore generation zone (once created) to apply the Wider Tariff.

- Once new offshore zone/s are created as part of CMP419, this existing principle can be applied to align with the relevant MITS node.

## Review of Onshore Generator charges for use of, or access to non-radial offshore transmission

- With CMP419, new offshore zone/s will be created for offshore users and wider circuits in the HND will be incorporated into the transport and tariff model. A cost-reflective methodology is to be developed as part of CMP419 to determine the MW flows over the HND wider circuits, to be compatible with the TNUoS methodology (the £/MWkm expansion-based ICRP charge calculation method).

# Summary of the methodology challenges and outcomes

## Consideration of distinct MITS Node definition for assets located in the sea along with its principles

- The MITS Node definition in its current form is generic (not exclusive to "onshore" assets), therefore the criteria for a MITS Node can and will by default be applied to the assets in the HND.

## Payment arrangements between offshore Generators related to the Generator Commissioning Clause (GCC)

- This is a contractual discussion between the two Generators and not specifically a TNUoS Charging related methodology consideration.
- Therefore, it was determined this methodology consideration falls outside the remit of the Sub-Group.

## Consideration of HND Bootstrap and principles for cost recovery

- Agreed the costs of the HND bootstrap should not be allocated to a specific user but recovered through wider users to align with the purpose of the circuit which is boundary reinforcement.
- A modification is due to be raised shortly on basis of changing that circuit from a local to a wider circuit to ensure it is recovered by wider users.

# Interactions with TNUoS Task Force and the Sub-Group

## TNUoS Task Force interactions with the Subgroup may include:

- **Security Factor**
  - We expect to review the way the Security Factor is calculated
- **Reference Node**
  - This could substantially change the relative impact on offshore generator tariffs of the two proposed methods for calculating charges
  - If the two methods resulted in materially different tariffs, then it would be important to consider in the wider context which would be more cost reflective

## Sub-group interactions with the Task Force may include:

- **Treatment of DC circuits as part of CMP419**
  - Some of this offshore grid may be classed as wider, which could interact with the way the onshore wider load flow model calculates tariffs
  - (Transport model load flow, vs manual pro-rata approach)
  - Security Factor for offshore and onshore local and wider circuits: different and incorrect treatment of Security can result in large non-cost reflective and unpredictable swings in generator charges depending on how circuits are classified

# Next Steps with Summary Report

- Finalise and feedback any actions from the last Sub-group meeting.
- Finalise Summary Report, review internally and circulate to Sub-group members for input to ensure it reflects the discussions and views of the Sub-group meeting.
- Review and consider feedback from Sub-groups members and finalise Summary Report.
- Publish the Summary report.

# Distributed Generation sub group: Update

## Grace March

**The objective of this session is to provide:**

- Raise a discussion within Taskforce to move the sub group forward.

# Questions/Issues regarding the charging of DG

- How would DG be charged if they don't have TEC. If we were to introduce TEC for DG, how far down the network is possible & practical to do this?
- What rights would TEC confer on DG – should DG pay on same basis as TG if they don't have the same access rights (financially firm)?
- How do we reconcile DG access rights at transmission with non-firm connection rights at distribution?
- Should DG pay the same charge as TG if they have different connection charging regimes (deeper for DG, including concerns around exposure to GSP infrastructure costs)
- Is it desirable/possible/practical to include all DG in the transport model? (If yes, what would be the burden on small generators (e.g. <5MW) and DNOs to provide this information?)



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# Questions/Issues regarding the charging of DG

- If we were to charge DG, would AGIC still apply for generation dominated zones?

- Limiting Regulation only relates to transmission connected generation. If TG receives limiting regulation credit and DG doesn't, this would be a significant and growing distortion. How would we address this? If we also gave DG the credit then it would be an unnecessary consumer cost.

- Could we simply remove the current collar on Embedded Export Tariff?
  - Collar was primarily justified on security of supply concerns i.e. charging DG for exporting during Triad peak demand. These security of supply concerns would remain.
  - Embedded export tariff based on 14 demand zones – not aligned to generation zones, and difficult to assign correct generation zone to DG due to network being more meshed.

- Whilst out of scope of TF, would removal of DUoS red 'credits' in generation dominated areas for LV and HV be a potential simpler quick win.



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# Questions/Issues regarding the charging of DG

- If network flow is increasingly bi-directional – what is the fundamental reason why DG should contribute to transmission network, but TG should not contribute to distribution network?

- Would DG (especially smaller DG) be able to understand and respond to investment signals in the same way as Transmission-connected? Would the signal be useful?



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# Lunch

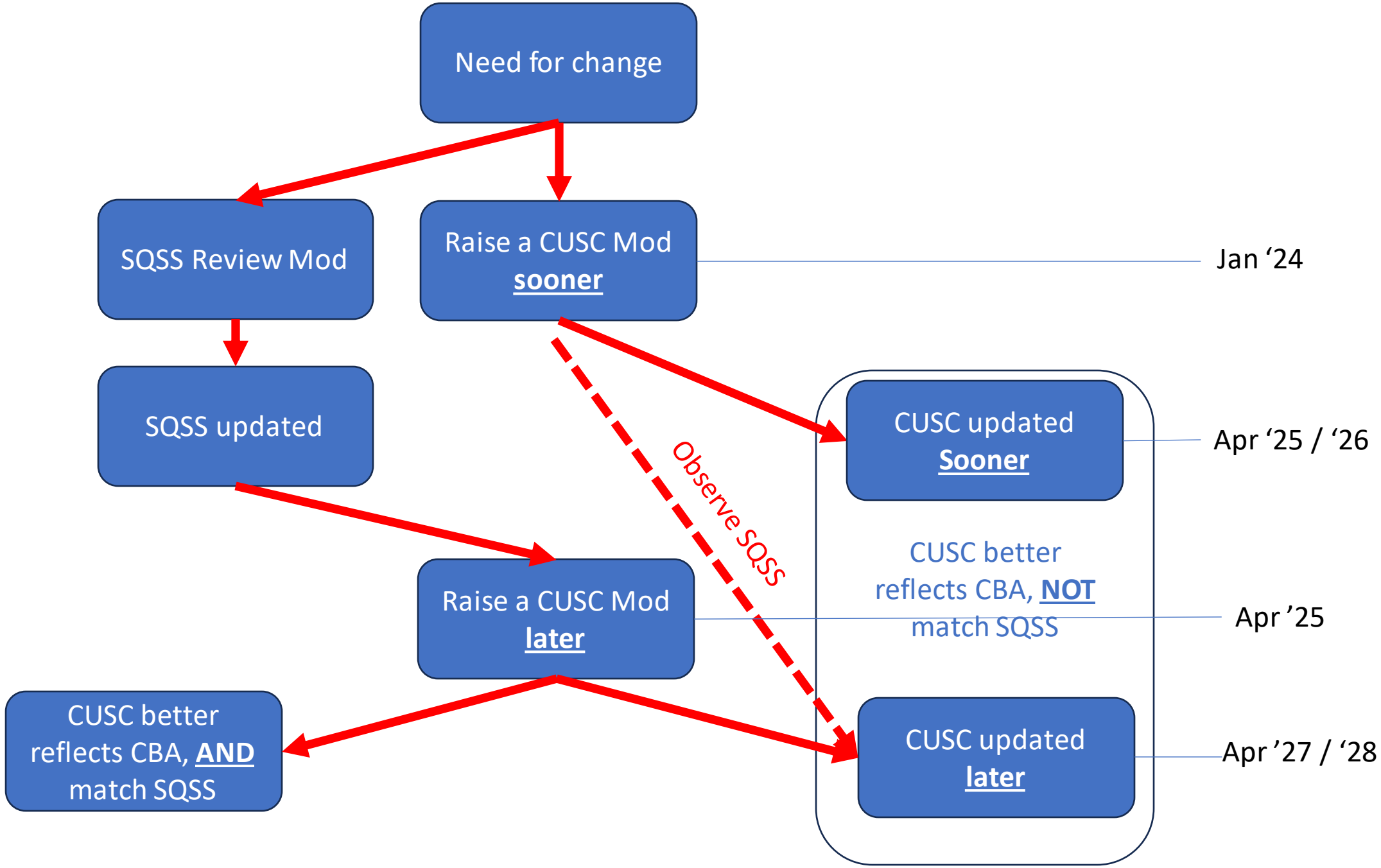
## Next session starts at 13:45

# Backgrounds sub group: Update & decision

John Tindal

**The objective of this session is to provide:**

- An update on progress so far and next steps.


Need for change
SQSS Review Mod
Raise a CUSC Mod sooner
Jan ‘24
SQSS updated
CUSC updated Sooner
Apr ‘25 / ‘26
Observe SQSS
CUSC better reflects CBA, NOT match SQSS
Raise a CUSC Mod later
Apr ’25
CUSC better reflects CBA, AND match SQSS
CUSC updated later
Apr ’27 / ‘28

# Frontier Economics and LCP modelling

## Current SQSS scaling factors

| Generation Plant Type | Peak Security Background | Year Round Background |
|---|---|---|
| Intermittent | Fixed (0%) | Fixed (70%) |
| Nuclear & CCS | Variable | Fixed (85%) |
| Interconnectors | Fixed (0%) | Fixed (100%) |
| Hydro | Variable | Variable |
| Pumped Storage | Variable | Fixed (50%) |
| Peaking | Variable | Fixed (0%) |
| Other (Conventional) | Variable | Variable |

CUSC - SECTION 1 (nationalgrideso.com)

- **Round 1**: Year Round scenario with high demand
- **Round 2:** Peak Security scenario with highest demand
- **Round 3**: Additional Year Round scenario with low demand
  - Flexible assets act as a sink for generation e.g. Interconnectors exporting surplus energy storage importing to store surplus energy

## Frontier/LCP modelling

| | Most representative backgrounds (2025, NGESO FES ST scenario) | | |
|---|---|---|---|
| *Technology* | *Round 1* | *Round 2* | *Round 3* |
| Biomass | 68% | 68% | 3% |
| OCGT | 0% | 77% | 0% |
| CCGT | 21% | 95% | 0% |
| Hydro | 64% | 64% | 0% |
| Interconnectors | 48% | 59% | -80% |
| Nuclear | 100% | 100% | 100% |
| Wind Offshore | 87% | 4% | 87% |
| Wind Onshore | 81% | 4% | 77% |
| Pump Storage | 0% | 92% | -73% |
| Battery Storage | 0% | 24% | -49% |
| Demand (MW) | 50,547 | 50,770 | 26,508 |
| Cumulative % represented | 59% | 67% | 76% |
| NGC % represented | 44% | 60% | 72% |
| SP % represented | 82% | 85% | 88% |
| SSE % represented | 62% | 62% | 71% |

| Defect area | Case for change | Case against change | Initial recommendations and observations |
|---|---|---|---|
| **Improve the Year Round generation background ?** | **<u>Improve scaling factor</u>: more cost reflective of CBA**<br>Year-Round background reflects economic trade-off between congestion vs network reinforcement across all periods. Potential improvements:<br><br>**Renewables**: current 70% is much higher than ALF<br>**Conventional**: need a floor at zero %<br>**Interconnectors**: more likely to be float, or exporting<br>**Storage**: more likely to be importing<br>**Demand turn-down**: Not in year round conditions<br>**Demand turn-up**: Should turn up in year round conditions | Changing scaling factors would be inconsistent with SQSS. Charges should reflect how the network is planned.<br><br>Need better transparency regarding network planning between SQSS Economy criteria, NOA, new strategic planning | 1) Charges reflect incremental flows and already do not match background scaling factors. Charges are already different e.g. shared/non-shared split and station specific ALF<br><br>2) Use a CBA to review scaling factors for generation and flexible demand<br><br>3) Year Round maximum flow is not an appropriate proxy for CBA flows, because maximum flow will be systematically greater than CBA flow<br><br>4) SQSS needs reviewed as well |
| **Improve the Peak Security generation background ?** | **<u>Improve scaling factors:</u> better reflect usage**<br>**Renewables**: Often use network in peak demand periods. TNUoS scaling could be consistent with Capacity Mechanism derating.<br>**Interconnectors**: | For network security, the SQSS is the key driver of network investment, so Peak Security charges should reflect SQSS. Contrasts with Year-round, where CBA takes precedence over the SQSS for economy investments.<br><br>Charges reflect contribution to network investment cost, not network usage alone<br><br>SQSS models system with zero wind to identify network investment in a specific security stress-test scenario, not an "average" scenario | Consider if SQSS Demand Security criteria should align with Capacity Mechanism de-rating factors, especially for renewables and interconnectors |
| **Different treatment of demand between the backgrounds** | **<u>Change Year Round demand</u>**<br>Peak Security should reflect Peak conditions, while Year Round should be more reflective of bulk energy flows | It is relative gen and demand that matters for load flows.<br><br>Scaling factor values were chosen given the demand assumption to match a CBA. Different demand would require different scaling factors to still be consistent with CBA, which may cancel out the effect of changing demand | Large overlap with "Signals" workstream. Consider overlaps before concluding |
| | Less backgrounds would be simpler | Additional cost reflectivity likely to be small, not material to investment decisions and complexity of more backgrounds would be disproportionate | Consider if it is more sufficient to appropriately update a single Year Round background, or if there would be a benefit in using additional Year-Round backgrounds e.g. |

# Signals sub group

Lauren Jauss

**The objective of this session is to provide:**

- Provide update and next steps.

# Work package 1 - Characteristics and definition of timely, useful, cost reflective investment signals for different users

| Taskforce Question | Workstream Action |
|---|---|
| Is it appropriate to have negative locational charges for generation? | **Complete** - Subgroup have concluded yes |
| Is it appropriate to have negative locational charges for demand? Should the floor at zero be reviewed? | **Complete** – Subgroup believe that this is a yes provided no overall negative cost in any period. Will be incorporated into design of recommendations |
| Should charges reflect SQSS, NOA, optimal transmission investment or something else? | **Complete -** out of date SQSS isn't ideal but subgroup is minded that it shouldn't "hold back" charging. We do not know what the drivers are for network planning, so next best option is best view of reality. *But this would not be consistent with Transmit JR* |
| What does a meaningful signal look like for different users? | **Tabulate characteristics of users and signals and identify gaps/defects in current arrangements including how use of the system is measured**<br><br>**Workstream has considered and agreed with Frontier Demand Charges Analysis proposal** |
| What signals should demand TNUoS send, and how? Investment? Operational? Signals for different size users | |
| Are triads fit for purpose? | |
| How should complex sites be represented? | |
| What is the current strength of signal – is it too strong and how this links to absolute charges? | **Workstream to have further discussion to define the problem** - why / how is the signal too strong/weak? What is the definition of just right? **Can we measure the strength**? What does "How does it link to absolute charges" mean? |

# What does a meaningful signal look like for different users?
## Initial View of Principles

- **The most important characteristic of a useful TNUoS Signal is at the point in time of an investment decision, there can be a high level of certainty of charges over a time horizon which is relevant for that investment decision.**
- There is the cost of the actual signal and there is an additional risk capital cost of the signal
- Given that there is a higher cost of capital for users than Transmission licensees, there is greater benefit overall in users being able to fix in earlier years than later years
- Project investment decisions might be taken in stages (i.e. for one project there could be a number of gates), and some will not be in the public domain (e.g. commercial contract)
- There should be an option but not an obligation to fix (if a user has a view that the fixed price is high, and remain on a floating tariff that they think is lower then they will be able to bid in relevant auctions/markets more competitively than if forced to fix)
- If a User has committed to fix their tariff then they have the obligation to pay that tariff for the defined period
- "Fixing" involves a fixing of the relevant background and methodology of the locational signal (e.g. peak, year round shared and year round not shared fixed for each relevant year, and tariff model is fixed)
- It is proposed that the Adjustment remains outside the scope of the fix. If an increasing number of users completely fix their tariffs, the Adjustment is applied to an increasingly small number of users, and the £/MW Adjustment will need to increase to account for the smaller charging base.

# What does a meaningful signal look like for different users?

## Topics for further consideration (in CMP413)

- When is most useful for a network user to fix their charges? What are the milestones? Should the instrument to fix be:
  1. Bundled together with relevant auctions e.g. CFD, Capacity Market, Balancing Service? Is this an option to fix?
  2. Administered by ESO but opportunity only open to eligible parties? Would there be an eligibility window?
  3. Open to all who pay charges to fix if they want?

- At what point is a site “released” from the obligation to fix if a project was abandoned? (avoid “gaming” the system)
  - Should User Commitment obligations apply as per normal (if insufficient notice of closure)?
  - Should any 'new' project in the same place just go to the back of the queue - i.e. you can't just cancel a project to unfix

- Review whether the Adjustment can also be fixed
  - at least until a limit of users / capacity fixed is reached?
  - In the shorter term?
- Is it appropriate to be able to lock in negative charges (credits)?
- What happens if an additional technology is co-located at a site? Or TEC is changed in some way? Does a co-located technology have to be metered and charged completely separately?
- Can a user partially fix if they want (e.g. apply for 100MW TEC connection, fix 50MW only)?
- Can fixed TNUoS be thought of as a shared deeper connection charge based on existing forward plans?

> What further work should the Signals Subgroup do on this topic? Would example decision timelines be of use?

# Next Steps

## What is the current strength of signal – is it too strong?

- What are the background assumptions to the TNUoS projection? Can ESO share more information about this?
- Stranded assets – is this really going to be an issue anyway given the extent of network expansion required?

> Any further suggestions by the Taskforce for consideration by the Subgroup?

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# Break

## Next session starts at 14:45

# Data Inputs sub group

## Frontier

**The objective of this session is to provide:**

- An overview of analysis that Frontier & LCP will be working on

# List of inputs provided by ESO

| Type of charge | Data input | Description of the data input | Proposed tasks | Data requirement / Questions to the ESO |
|---|---|---|---|---|
| Locational | DNO/DCC Demand data | DNO/DCC Demand data consist of annual demand forecasts at a nodal level.<br>These "week 24" forecasts are used in the Transport Model as part of the backgrounds to assess peak flows. | We propose to undertake two tasks:<br>1) Assess the year-on-year volatility of the historical "week 24" data i.e. variation at national, regional and nodal level.<br>2) Model the impact of the observed year-on-year variations on charges for archetype plants. | No data is needed. Historical Week 24 data is available in historic Transport Model which we have going back to 2019/20. |
| | Contracted TEC | Contracted TEC is the volume of TEC with connection agreements. It feeds into the Transport model to calculate MW flows, and is the basis on which individual charges are set. From the perspective of individual charges TEC is unlikely to vary for individual plants and is therefore unlikely to be a source of variation. However, changes to TEC due to new plants locating nearby may be a source of volatility. | We propose to test:<br>1) the impact of changes in the distribution of generation capacity affect charges in particular zones.<br>2) the impact of new generation in different zones where previously there was no generation.<br>This could be based on actual TEC historic changes, or simulate "what-if" examples | No data needed. Historic TEC data available in historic Transport Models |
| | Network model | This input refers to the shape of the network contained in the Transport model.<br>Reinforcements of existing network elements do not affect outputs of the model, but new links can change flows, and impact on charges. | We propose to test the impact of new network elements on charges, in particular the addition of new HVDC links.<br>To test this, we will add some of those HVDCs proposed in NOA7r at different levels of cost, reflected in different link expansion factors. | No data is needed. Representative expansion factors from historic T&T models and future HVDCs publicly available. |

# List of inputs provided by ESO

| Type of charge | Input | Description of the data input | Proposed tasks | Data requirement / Questions to the ESO |
|---|---|---|---|---|
| Locational | Inflation | Inflation impacts the expansion constant, which in turn directly affects the value of locational TNUoS charges.<br>However, the €2.50/MWh cap is not adjusted for inflation, meaning that overtime it will increasingly bind. | We propose to assess the impact of changes in historic inflation on the expansion constant and hence charges. | No data is needed as inflation data is available. |
| Non-locational | Generation ALFs | Shared and non-shared elements of the Year-Round tariffs are multiplied by the generator's specific ALF. The ALFs should vary slowly because its calculation methodology considers a 5-year average, but could be a source of variation for an individual plant's charges. | We propose to undertake two tasks:<br>1) Assess the year-on-year volatility of historic ALF data for individual plants.<br>2) Model the impact of the observed year-on-year variations on charges for individual plants. | No data is needed. Data on plant specific ALF values is published by the ESO. |

# List of inputs provided by ESO

| Type of charge | Input | Description of the data input | Proposed tasks | Data requirement / Questions to the ESO |
|---|---|---|---|---|
| Non-locational | G/D split risk margin | The EUR2.50/MWh cap on average G TNUoS is implemented by adjusting the D and G residuals. However, this is done in expectation and with a risk margin built in. | We propose to undertake research and analysis in three phases:<br>1. Review publicly available documentation on how these data inputs feed into the charge setting process<br>  1. CUSC, charging statements (interim and final)<br>2. Discuss with the ESO revenue team the process and timings for updating TNUoS charges for each of these data items.<br>  1. We will seek to identify separately drivers of between year charge volatility and within year charge volatility (differences between draft and final)<br>3. Based on initial qualitative research, we will propose possible further quantitative analysis to illustrate the scale of volatility impacts each data item creates | A session with the ESO revenue team to explain the charge setting process will be a key input for this workstream |
| | TO Data | This refers to data provided by Transmission Owners to ESO (other than MAR) which are used in the charge setting process. | | |
| | TO Allowed revenue/MAR | Allowed Revenue/MAR is the revenue earned by Transmission Owners for their onshore transmission activities. This is set periodically (every 5 years) as part of the RIIO regulatory process and is a key determinant of residual charges. | | |
| | K Correction Factor | K is set in accordance with part H of TO special license conditions. It is used to adjust allowed revenues in the current year to make up for (plus interest) differences between allowed revenue and recovered revenue for the previous year. | | |

# Next Steps and Close

Jamie Webb

# AOB

- New year meeting dates and locations.

| Date | Location |
|---|---|
| 10/01/2024 | West Midlands |
| 21/02/2024 | |
| 20/03/2024 | |

- TCMF rota.

| Date | TF Rep |
|---|---|
| 02/11/2023 | John Tindal |
| 23/11/2023 | Binoy Dharsi |
| 04/01/2024 | No update |
| 01/02/2024 | Grace March |
| 29/02/2024 | |
| 04/04/2024 | |

- Innovation feedback.



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# Thank you

# Where CUSC Mods in Play or Awaiting Decision, fit into the TF Workstreams

| Mod | What is it | Where it's at | Which TF Workstream and why ? |
|---|---|---|---|
| CMP286/7 | Predictability: Increased notice of target revenue and other inputs used in Tariff-Setting | Sent back June; procedural issues and lack of standalone analysis for 287 | Data inputs (TF Priority 3) "Identify data inputs that drive volatility" Backgrounds (TF Priority 1) "Should backgrounds be locked down" Signals (TF Priority 2) "Long term fixing" (a weak mapping as is not long term) |
| CMP292 | Cut off date for charging changes six months ahead of the start of each charging year | Implemented | Signals: "Long term fixing" (a modest/weak mapping to this line, as it is not very long term in its effect) |
| CMP315/375 | Making the expansion constant once again reflect changes in TO build costs; has built-in smoothing-in of new TO cost data; WACM2 also builds up to 30 year TO cost averaging | Soon to go to CAC, Panel vote & FMR to Ofgem | Signals: "Impact of fixing on levels of cost reflectivity i.e. consider pace at which network changes" (the smoothing-in of new cost data per year, significantly slows down the impact of changes in TO investment cost data on the slope) |



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# Where CUSC Mods in Play or Awaiting Decision, fit into the TF Workstreams

| Mod | What is it | Where it's at | Which TF Workstream and why ? |
|---|---|---|---|
| CMP316/397 | TNUoS Arrangements for co-located generation sites (e.g. mixed conventional and intermittent generation) A proportion of TEC to be assigned to each tech type, each with its own ALF, & apply charges pro-rata | CAC is next. | Technology type (TF Priority 6): "Is it appropriate to treat different technology types differently? If there should be different treatment what level of granularity do we need in terms of technologies? Do we have the correct generation categories?" |
| CMP331 | Option to replace generic Annual Load Factors (ALFs) with user ALFs | | Data inputs (TF Priority 3): "Review of Annual Load Factors (ALFs)" |
| CMP405 | TNUoS Locational Demand Signals for Storage | At WG | Signals (TF Priority 2): "Principles for locational demand charges i.e. should signals be investment/operational & level of visibility of signals for various size users; Are Triads still fit for purpose –do they need to change / consider an alternate?; Appropriateness of negative locational charges for generation, and or demand – consistent treatment" |



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# Where CUSC Mods in Play or Awaiting Decision, fit into the TF Workstreams

| Mod | What is it | Where it's at | Which TF Workstream and why ? |
|---|---|---|---|
| CMP393 | Using Imports and Exports to Calculate Annual Load Factor for Electricity Storage | WG | Data inputs (TF Priority 3): "Review of Annual Load Factors (ALFs)"<br>Technology type (TF Priority 6): "Is it appropriate to treat different technology types differently?" |
| CMP413 | Rolling 10-year wider TNUoS generation tariffs | WG | Signals (TF Priority 2): "Long-term fixing of TNUoS and the impact on signals; Impact of fixing on levels of cost reflectivity i.e. consider pace at which network changes and investment timescales". |
| CMP419 | Generation Zoning Methodology Review | WG | Reference Node (TF Priority 4): "Consider changes to zoning and how this may impact reference node suitability". |
| 298, 304, 305, 328, 330/374, 341, 344, 376, 379, 392, 398/412, 402, 403, 404, 408, 411, 412, 414, 415, 416, 417, 418 | These are miscellaneous live CUSC mods that do not map to TF work areas/priorities. | | |



Charging Futures

# Actions from Meeting 9.5

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 1<br>25/10 | 3 | Explore whether suppliers or ElectraLink could provide data to show measurement classes/billing status. | KK, ND | | Nov-Jan | Open |
| 2<br>25/10 | 3 | Map the classification of different site types against available data points pre- & post-migration to identify changes in charging arrangements (and which sites will have a risk of double charging or inappropriate new arrangements). | KK, ND | | Nov-Jan | Open |
| 3<br>25/10 | 3 | Approach suppliers as to the data that could be supplied re: whole current users over threshold and billing at point of migration. | KK, ND | | Nov-Jan | Open |
| 4<br>25/10 | 3 | Identify the metrics for classifying domestic/non-domestic users and scenario/algorithm mapping for the impacts of different classifications. | KK, ND | | Nov-Jan | Open |
| 5<br>25/10 | 4 | Email CP with any topics for the Distributed Generation sub group to discuss at meeting w.c. 30 October | Task Force | | w.c 30 October | Closed |



Charging Futures

# Actions from Meeting 9

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 1<br>11/10 | 3 | Feedback an update to Task Force on the SQSS review outlined in the 2021 Business Plan and any differences to the review required for the Backgrounds work. | JWe, CP | | Nov mtg | Open |
| 2<br>11/10 | 3 | Review 2022 Task Force documents for SQSS review plans for 2023. | CP | | Nov mtg | Open |
| 3<br>11/10 | 3 | Assess the materiality of the defect/changes for Backgrounds and urgency of the defect/changes (re: CUSC Panel prioritisation criteria) to define the method for making those changes. | Task Force | | Ongoing | Open |
| 4<br>11/10 | 4 | Contact sub group(s) which may benefit from the Ocean Winds/Aurora consumer impact work to assess it as an evidencing resource. | AM | | Ongoing | Open |
| 5<br>11/10 | 6 | ESO to contact SL to understand the technical input for the storage multiplier profile & a 'de minimis' level of sharing, assess what may be covered in CMP405 (or other lines of work), discuss if solar PV question is relevant for other sub groups to address. | CP | Update to be fed back to the Task Force | Nov mtg | Open |



Charging Futures

# Actions from Meeting 9

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 6<br>11/10 | 6 | Consider a new workstream to discuss the treatment of non-firm connections and charging. | CP/Task Force | | Nov mtg | Open |
| 7<br>11/10 | 6 | Find a consistent interpretation of 'non-firm connection' and bring to Task Force to agree. | Sharing sub group | | Ongoing | Open |
| 8<br>11/10 | 6 | Consider where solar is included or reflected in the model/TNUoS assumptions. | Task Force/Sharing sub group | | Ongoing | Open |
| 9<br>11/10 | 6 | Consider erroneous negative non-shared tariff zones in the South. | Task Force/Sharing sub group | | Ongoing | Open |
| 10<br>11/10 | 6 | Assess who undertakes any technical analysis for Sharing and if this is best done as part of the Task Force or a CUSC Workgroup (i.e., move this to a modification proposal). | Task Force, CP, SL | | Nov mtg | Open |



Charging Futures

# Actions from Meeting 9

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 11<br>11/10 | 7 | Arrange a call with JT and ESO on the scaling factor modification and interactions with Backgrounds. | CP | | Oct mtg | Closed |
| 12<br>11/10 | 7 | Scaling factor modification proposal to be submitted as soon as possible with a level of materiality clear within it (i.e., input scaling factors into the model). | ESO | | Oct mtg | Closed |
| 13<br>11/10 | 7 | Bilateral conversations and regular updates to be shared with the Task Force from the scaling factor modification. | CP, MC | | Ongoing | Open |
| 14<br>11/10 | 7 | Contact CP as to the information needing more transparency for ESO to review and respond to ahead of a discussion session at a future Task Force meeting (reminder to be shared at Oct, Nov meeting). | Task Force | | Ongoing | Open |
| 15<br>11/10 | 7 | CP to discuss Transmission Owner (TO) data with the Revenue team to share how it's used in the model and arrange discussions with the TOs themselves. | CP | | December | Open |



Charging Futures

# Actions from Meeting 9

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 16<br>11/10 | 7 | Ask the SQSS Team whether they can easily determine how double circuits are considered. | CP | | Nov mtg | Open |
| 17<br>11/10 | 7 | Arrange calls to discuss the pressing questions on Data Inputs and agree next steps ahead of Nov meeting. | CP | | Nov mtg | Open |
| 18<br>11/10 | 11 | Update consultants on when feedback on the Signals proposal will be available. | CP | | October | Open |
| 19<br>11/10 | 11 | Bring the Signals sub-group work packages to the CMP413 Workgroup to assess their materiality to the modification. | BD | | Ongoing | Open |
| 20<br>11/10 | 9 | ESO representatives to take away lines of enquiry on MIC thresholds, line loss options, solution timings for suppliers' contracts and the tariff derivation option (to ESO Revenue team) to explore further. | KK, ND | | Oct & Nov mtgs | Open |



Charging Futures

# Actions from Meeting 9

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 21<br>11/10 | 9 | Set an agenda for the new Demand Charging workstream (including the ESO representatives on MHHS) on 25 Oct. | CP | To discuss objectives, priorities and key timing milestones considering Task Force and Authority comments from Mtg 9. | 23 Oct | Closed |
| 22<br>11/10 | 12 | Specifics of the November meeting location to be shared with the Task Force. | DS, EB | | Oct mtg | Closed |
| 23<br>11/10 | 12 | Email to be shared with a rota for Task Force members to share an update at TCMF. | CP | | Oct mtg | Closed |
| 24<br>11/10 | 12 | Feedback required as to the benefits of the Task Force for tackling its objectives to play back to the Innovation funding team. | Task Force | | Ongoing | Closed |



Charging Futures

# Actions from Meeting 8

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 1<br>15/09 | 3 | Check whether OpTIC would smoothen step changes in network development, check whether the model could cope with half a circuit. Consider timing and frequency of phasing data with ESO outputs. | JD | | Ongoing | Open |
| 2<br>15/09 | 5 | Set up a working session between the OpTIC proposers and ESO NOA experts (including exploration of risk) | CP | HH happy to be part of this conversation | TBC | Open |
| 3<br>15/09 | 5 | Set up bilateral conversations with OpTIC proposer to pick up specific questions | GMa, Amo, PJ | | Ongoing | Open |
| 4<br>15/09 | 5 | Share thoughts with the Authority representative as to the OpTIC model falling within scope for the Task Force | Task Force | | October | Open |
| 5<br>15/09 | 6 | Provide absolute values for the Y-o-Y tariff changes across regions (re: historic volatility) | Frontier/LCP | | TBD with Frontier/LCP | Open |



Charging Futures

# Actions from Meeting 8

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 6<br>15/09 | 8/9 | Check with ESO SQSS experts as to a review of sharing factors to play back to the Task Force (and the Backgrounds workstream) | JW | | TBC | Open |
| 7<br>15/09 | 8/9 | Signals and Tech Type workstreams to feed back to Task Force their views on the treatment of demand raised in the Backgrounds workstream | GM, Amo | | Nov/Jan meeting | Open |
| 8<br>15/09 | 12 | Contact the Abs v Rel workstream if there are other views for a case for change | Task Force | | Oct/Nov meetings | Open |
| 9<br>15/09 | 12 | Contact the Abs v Rel workstream with thoughts/questions | HH | | Oct meetings | Open |
| 10<br>15/09 | 13 | All workstream leads to create a high-level timeline and action plan for each workstream | Workstream leads | Timings to be collated by CP to create a longer-term Task Force road map | Meeting 9 (11 Oct) if possible | Open |



Charging Futures

# Actions from Meeting 7.5

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 1<br>18/08 | 2 | Backgrounds Case for Change to be shared with the Task Force for review and comment | JS | | Mtg 8 | Open |
| 2<br>18/08 | 2 | Consider using initial workstream proposals as alternative format for information to stimulate stakeholder feedback. | Task Force | Discuss in Next Steps of Mtg 8 based on what's shared | Mtg 8-10 | Open |
| 3<br>18/08 | 4 | Ownership and timings defined for the OTNR Sub-Group closure report | JS | Closure Report to be shared with TF once complete (NP @ESO) | October | Open |
| 4<br>18/08 | 7 | For completeness, Task Force members not present at Mtg 7.5 are to provide their view on progressing the Reference Node case into a modification proposal | EB, DS | | 1 Sept | Closed |



Charging Futures

# Actions from Meeting 7.5

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 5<br>18/08 | 7 | A one-page report for the Charging Futures website to summarise the reference node modification plans and individuals involved. | JT | To also reflect any further views not captured at TF meeting 7.5 and provided as part of action 4 above. | 15 Sept | Open |
| 6<br>18/08 | 7 | Draft modification proposal to be raised. | JT | | Mid-Oct<br>(JT to advise) | Open |
| 7<br>18/08 | 7 | BAU update to TCMF with ESO/Propose to agree who will present the Reference Node proposal to relevant TCMF. | JT, JS/CP | Topic to be added to TCMF Sept agenda for BAU update, Oct agenda to present mod | 31 Aug (TCMF 7 Sept for BAU update) | Closed |
| 8<br>18/08 | 8 | Co-ordinate with project leads about deliverables ahead of Mtg 8 | JS | Check whether the Backgrounds workstream scope of work includes scaling as a consideration | 30 Aug | Closed |



Charging Futures

# Actions from Meeting 7.5

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 9<br>18/08 | 8 | Share draft 'negative scaling' modification proposal with the Task Force to review prior to submission | JS/MC | JT and Backgrounds workstream to link with this project for updates | Q4 2023 | Closed |
| 10<br>18/08 | 9 | Review the current modification tracker for a version to feature in future Task Force meetings or shared for visibility. | JS, CP, DS, EB | An overview to alert workstreams of mods to consider | Mtg 8 | Closed |



Charging Futures

# Open Actions from Meetings

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 1<br>27/07 | 3 | Consider whether updating the 'pseudo-CBA approach' to scaling factors is currently feasible with the data available and whether case for change should include the analysis from the consultants | JT | Consider as part of Backgrounds case for change | Mtg 8 | Open |
| 2<br>27/07 | 3 | Provide a viewpoint as to the extent to which scaling factors currently mitigate volatility | Frontier/LCP | | Mtg 8 | Open |
| 3<br>27/07 | 3 | Consider whether backgrounds are complicating understanding of how charges work or a necessary element of the cost reflectivity of the model. | Task Force | | Mtg 8 | Open |
| 6<br>27/07 | 5 | Review past calculations for sharing to provide a recommendation for what work would be feasible now | Frontier/LCP | Information shared by SL 28 Jul | Mtg 8 | Open |
| 7<br>27/07 | 5 | Consideration of renewables in sharing (wind vs wind, treatment of solar). | Frontier/LCP | JS to assess information needed | Mtg 8 | Open |



Charging Futures

# Open Actions from Meetings

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 8 27/07 | 5 | Exploration of turning off sharing to see impacts on final charges and volatility | Frontier/LCP | | Mtg 8 | Open |
| 9 27/07 | 8 | Consider calculating using a 5 year average rather than current 5 year method | Frontier/LCP | | Mtg 8 | Open |
| 11 27/07 | 8 | Consider the information available to share with consultants & TF re: potential new ESO products and impacts on FPN, and possible new data input modification | JS | | TBC: updates can follow after final internal reviews of proposed products | Open |
| 12 27/07 | 8 | Absolute values to be shared for the impact of using FPN only on Year Round components of the tariff. | Frontier/LCP | Material impacts possible for different scales of plant | Mtg 8 | Open |
| 13 27/07 | 8 | Contact DNOs for information on key assumptions used in their Wk 24 forecasting. | JS, NW | | Mtg 8 | Open |



Charging Futures

# Open Actions from Meetings

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 14<br>27/07 | 8 | Consider aligning Week 24 data with the SQSS change and move to gross demand. | JZ | | Mtg 8 | Open |
| 15<br>27/07 | 8 | Contact TOs for a view on what data inputs could be more regularly updated (re: locational tariff calculations) with a material impact and their view on revenue being deferred for a year | JS, NW | Will form part of wider Data Inputs workstream and discussion | Ongoing | Closed |
| 5<br>26/06 | 3-7 | Can indicative monetary values be provided for the impacts of the different backgrounds on differently-sized projects. | Frontier/LCP | | Mtg 6-10 | Open |
| 7<br>26/06 | 3-7 | Additional analysis shared on metrics used to compare volatility between actual and estimated charges. | Frontier/LCP | | TBC – Frontier need a steer on what is required | Open |



Charging Futures

# Open Actions from Meetings

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 10<br>26/06 | 3-7 | Bring together the Task Force representatives and the ESO SQSS Review team (when in a position to do so) to discuss potentially parallel/overlapping interests. | JS, SS to explore with BD | To feed into case for change if required | TBC | Closed |
| 11<br>26/06 | 8-10 | Consultants are to explore the questions raised on zoning | Frontier/LCP | Considering what adding more zones would do to the existing Ref. Node work? Clarity needed around the definition for zones & differing from sharing factors. Frontier to provide additional note for pack? | Mtg 8 | |
| 12<br>26/06 | 8-10 | Revisit ESO work on embedded generation in relation to the transport model and share with the Task Force if relevant | JS & NW | To consider as part of distributed generation element work package | Ongoing | Closed |



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# Open Actions from Meetings

| ID/ date | Agenda Item | Description | Owner | Notes | Target Date | Status |
|---|---|---|---|---|---|---|
| 14<br>26/06 | 12 | Task Force members are to engage industry colleagues and stakeholders and feed back at the next virtual meeting (incl. substantive effects on other work) | Task Force | TF decision on format and whether workstream proposals will serve this purpose | Ongoing | Open |
| 1<br>26/04 | 1 | Provide update on recruiting Non-Domestic user reps to Task Force | JS & NW | Discussions ongoing for a named rep. Non-Domestic Supplier forums updated by JS | Ongoing | Open |
| 8<br>26/04 | 7 | Further work on design vs cost reflectivity to be presented at Mtg 6 | JS & NW | Feedback from legal and SQSS to be shared by JS via feed into case for change relating to Backgrounds | Mtg 8 | Open |
| 10<br>26/04 | 7 | Investigate more granular data sources for DNO embedded distribution to support the methodology & analytics | JS | Need TF to identify the data needs before exploring sources (part of Distributed Generation work) | TBC | Open |



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