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Delivery Group – 9 October 2019

Ofgem

Meeting agenda

Agenda item	Time
Welcome, introduction and actions	10:00 - 10:05
General project update (including IA and network planning)	10:05 - 10:15
Discussion about resourcing	10:15 – 10:30
Workstream updates	
Access subgroup	10:30 – 10:40
Cost models subgroup	10:40 – 10:55
Charge design	10:55 – 11:05
Break	11:05 – 11:20
Worksteam updates and policy discussion	
Connection boundary	11:20 – 11:50
Small users	11:50 – 12:20
TNUoS charges	12:20 – 12:50
Close and AOB	12:50 – 13:00

Project update and project planning

1st working paper: We published our first working paper at the start of Sept. The paper covers:

- An initial overview and assessment of options for access rights, better locational distribution network charging signals and charge design.
- The links between access, charging and procurement of flexibility.

2nd working paper: We intend to publish a second working paper at the end of year. The paper will cover:

- Small user consumer protections
- Distribution connection charging boundary
- Focused transmission charging reforms

We intend to publish our minded-to decision in 2020 and final decision in 2021. We currently envisage that any changes will be implemented by April 2023.

Impact Assessment

Ongoing Activity

Network Modelling	• The locational cost model subgroup is developing an approach to building Reference Network Models. An initial prototype will be developed **by mid-October**. • The subgroup are investigating options for working with CEPA and TNEI to support this modelling
Tariff Modelling	• We are continue to work with CEPA and TNEI on the development of options specifications for CDCM and EDCM tariff modelling. These will be provided to Ofgem **by mid-October.** • A proposal from CEPA and TNEI for the next phase of modelling will be considered by DCUSA. • The next phase will require an information request to DNOs – an indicative list of questions will be circulated shortly
Impact Assessment	• Our ITT for the Impact Assessment modelling has been issued and the deadline for tenders closed on 7th October. The contract is expected to commence in **late November** • The Access team attended Ofgem's Academic Panel to discuss our thinking on charge design options, and options for sending effective locational signals

Network Benefits	• We are holding a workshop with DNO network planners on **23 October** to assess how different options are likely to drive changes in behaviour; how these changes would be reflected in network planning processes; and how these changes would deliver network benefits • We have identified participants and have received comments back from DG members on the questions to be covered during this (and a potential further) workshop

Additional activity

Data requirements

Across all the workstreams we will need data from network and system operators to help us assess the options:

- CEPA/TNEI have identified data that they require from the DNOs to complete tariff modelling. We will send data request shortly.
- DNO network planning session – is likely to identify data requirements to support conclusions.
- Sub-group –already identifying data requirements to help support assessment (eg cost models).

We are keen to make these data requirements as efficient as possible, but they are likely to require resource from network and system operators.

Resourcing

Across the programme, we are grateful of the support that we have received, but we think we could get further engagement. We also note that there are differing levels of engagement between companies.

In many instances, we are aware that the individuals are expected to work on other projects which is limiting their scope to input. We are urging companies to free up more of your time to work on the Access SCR.

Until recently, the main focus of our work has been on the distribution arrangements. In advance of the second working paper, we would expect more engagement from TOs and ESO.

Access Rights

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Access sub-group update

We are working internally and with the Access/Small User sub-group to help answer the questions below:

1. Monitoring and enforcement note: capture current approach to monitoring and enforcing access rights and potential future changes required to accommodate new access choices.

2. Small users:

- develop and assess the options to improve the clarity and choice of access options for small users
- Which access choices should be available for small users and which should they be protected from?

This will require data from network and system operators.

3. Assessing the impact: To what extent do options support the efficient use and development of network capacity? *This will require data from network and system operators.*

4. Meeting users needs: To what extent do options reflect the user's needs?

5. How could these access choices be reflected in charging? *This will require data from network and system operators.*

6. Distribution-connected users' access to the transmission network: Identify and assess options for how distribution-connected users access to the transmission network could be defined. *This will require data from network and system operators.*

7. The respective roles of sharing and trading access

Charge design

Charge design update

We are continuing to assess the options to identify those for shortlisting. The updated position descriptions set out all the activities to be undertaken. However, there are several pieces of work, which will provide evidence for a number of PDs and will also inform other workstreams

1. Network planning: outcomes from our workshop(s) with the network planners will help inform our assessment of the cost reflectivity of the different charging design options.

2. Network monitoring: additional work is required to better document each DNO's current level of network monitoring, planned future extension of monitoring to lower voltages and the gap between this and what would be required to support the charging design options

3. Literature review: we are continuing to build on our current review of academic literature and case studies from other countries to understand the existing evidence regarding the behavioural impact of the different charging design options and any implementation challenges.

4. Stakeholder engagement: we will engage further with different stakeholders (e.g. suppliers, large demand customers, generators, Citizens Advice) on the costs and benefits of each option for different users and to challenge our assessment.

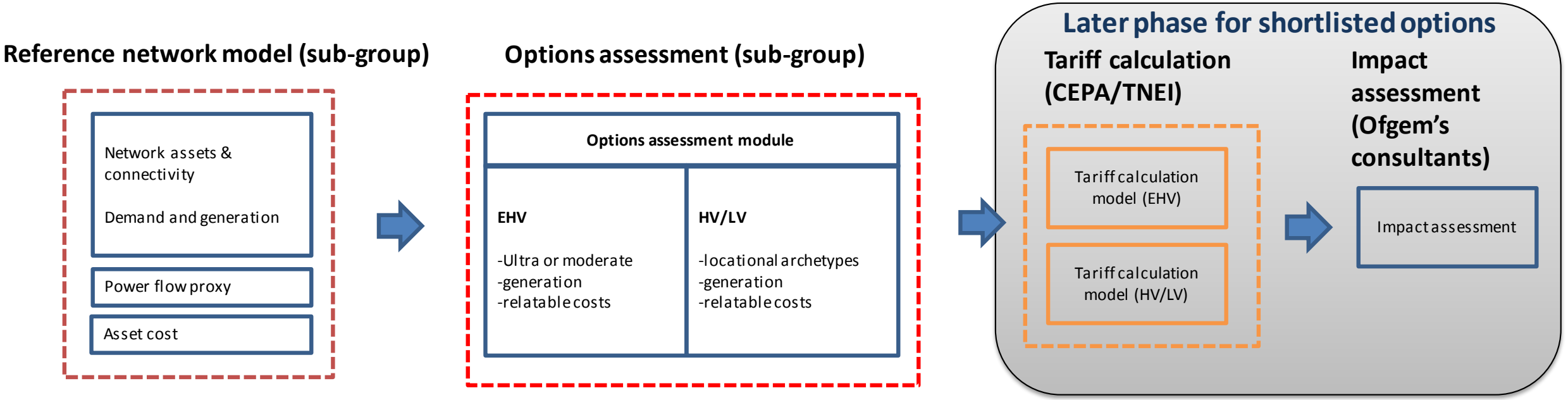
Cost models

Distribution locational cost models design update

1. Locational cost model quantitative analysis: sub-group developing model to assess options outlined in the working paper. Aim to lock-down model by mid-November, with options assessment analysis by Christmas. (see model architecture below)

2. Additional evidence: as described in charge design update, the network planning, network monitoring, literature review and stakeholder engagement will support the shortlisting process.

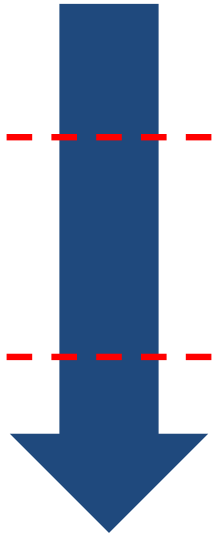
3. Data requests: RNM, HH demand at primary, asset mix at primary



Connection boundary sub-group update

Connection charging boundary – options for change

The scope of the work group has been based on the assumption that the current arrangements should provide the baseline, with potential options becoming more shallow. For example:



Keeping the shallow-ish boundary but make other changes (eg, allowing payment over time)

Moving shallower (eg, connecting users only contribute to reinforcement at their voltage level and no higher, with the rest funded by distribution network charges)

Shallow (eg, all reinforcement is funded through distribution network charges)

Connection charging boundary – assessing the options

A key focus of the sub group's work over coming weeks will be a detailed assessment of the options.

While we are considering the options against all the guiding principles, we think the analysis against the efficiency principle will be critical. We see key considerations for this as:

Efficient signals for network users.

- The move to a shallower connection boundary removes the locational signal provided by the connection charge, reducing incentives for efficient use and development of network capacity, so needs to be considered together with potential for more locational distribution network charges.

Supporting efficient network development.

- Moving to a shallower boundary where the DNO funds reinforcement in full may mean that they are better placed/incentivised to choose the timing of when to reinforce or find an alternative solution if appropriate (eg procuring flexibility storages from storage/DSR provider).
- However, needs to be accompanied by clear framework for when extra capacity should be added – currently user willingness to pay the connection charge is a clear signal for this

Connection charging boundary – assessing the options

Following on from the previous slide, we see key considerations as:

Addressing distortions between different types of users.

- If evidence suggests that the current different approaches to connections at transmission and distribution do risk distorting location decisions then this could be addressed through moving to a shallower approach at distribution.

Reducing barriers to entry.

- If evidence suggests that high costs are a barrier to entry for some users, this could addressed by more shallow arrangements. If it is the requirement to pay in advance, another solution may be more appropriate.

- **Do you agree with our assessment criteria with regard to the efficiency guiding principle?**
- **How can we best assess the options against the criteria (eg, impact on network investment)?**
- **How well do you think a move to more shallow arrangements performs against them?**
- **Have we missed anything?**

Connection charging boundary – user commitment

User Commitment is used in transmission* and aims to find a balance of risk sharing between the transmission network charge bill payer and the new connecting user.

Removes barriers to entry associated with upfront cost of connection

Incentivises users to provide notice of delays or cancellation

Protect wider transmission network charge bill payers from picking up costs resulting from terminations

Provides protection to the Transmission Owners to recover cost of stranded assets

We think moving to a shallow boundary or allowing connection charges to be paid over time could increase the risk of stranded assets and costs faced by distribution customers – but also help mitigate some of the potential issues for connecting users. This needs to be balanced with the risk of creating new barriers and what is practical and proportionate for distribution connections.

*for generation. The "Final Sums" methodology is used for demand connections.

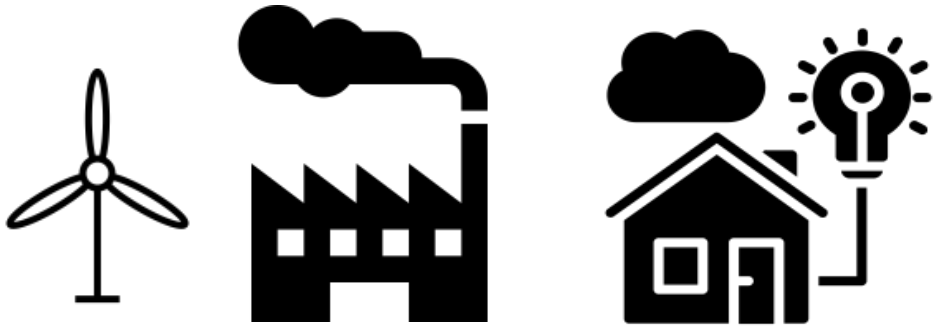
Connection charging boundary – user segmentation

We think there could be merit in considering whether one approach is suitable for all users, or if there is a case for user segmentation.

This could be between generation and demand, or across different voltage levels. Potential drivers for this could be the extent to which:

- Distribution network charges provide improved signals for different voltages/groups
- user commitment is viable for different groups
- those seeking new connections are likely to take into account future distribution network charges

We will continue to consider the options for segmentation, taking into account any work done by the small users' sub group.



Small users subgroup update

Small users workstream - scope and approach

When we launched the Access SCR we said we would consider as a priority area:

- **Better defined access rights and greater choice for small users**,
- Distribution use of system charging reform and reforms to the distribution connection boundary
- **Potential protections** to mitigate the potential adverse impacts of the reforms

We have established a cross-industry subgroup to consider the suitability of options for small users and any potential adaptations.

What will this subgroup be looking at?

The **primary focus for this subgroup** is the suitability of arrangements for:

- **domestic customers,** with a particular focus on **those who may be vulnerable,** and
- **small non-domestic demand customers**, such as **microbusinesses**.

We want to understand the extent to which the options we have identified for larger users could or should apply directly for these specific user groups, or any adaptations which may be needed.

Small users options

Specifically, the small users workstream will consider:

- Whether **adaptations** to our options may be needed to enable **domestic and microbusiness** consumers to **engage with and benefit from** new access and charging arrangements.
- This includes considering **whether any protections may be needed** for certain groups.

Overview of options

Charging options

Considering whether any limits on the level of locational or temporal granularity or degree of change in dynamic signals may be appropriate for specific types of small user demand

Access options

Considering whether any limits should apply on the choice of access option or level for specific groups of small users, for some or all demand, including a potential core access level option

Wider retail provisions

Considering the role for principles-based obligations or other retail market provisions, including possible approaches to engaging with consumers in relation to any new arrangements

Assessment criteria

The small users workstream assessment will focus on the 2nd and 3rd principles, liaising with other policy workstreams to assess the impact of small user options on principle 1.

Principle 2. Arrangements reflect the needs of consumers as appropriate for an essential service

Electricity provides an **essential service**, and for **small users** in particular we need to ensure that arrangements **do not lead to inappropriate outcomes or unacceptable impacts**, particularly for those in **vulnerable situations**. This may be achieved in the access and charging arrangements themselves or through the wider policy and regulatory arrangements.	This may involve considering **which forms of customer demand**, or which **customer groups**, can **readily shift consumption**, or may be able to with appropriate **enablers**. Also, any potential for **inappropriate adverse impacts** – financial or of other types, and any adverse affects on particular groups.
Users, or suppliers/intermediaries on their behalf, are **able to understand arrangements** and **have sufficient information** to be able to reasonably predict their future access and charges.	This may involve considering what **types of data and information** are required, and in which form, and how this might **differ between customer groups**, with different capabilities.

Principle 3. Any changes are practical and proportionate

Consumer-interface-related practicalities	Customer engagement or commercial agreements (ie supplier - consumer billing, customer communications, etc), considering any changes that would be required to how customers are engaged and managed and any impact on existing commercial arrangements.

Consumer characteristics - domestic

We are working with Citizens Advice to understand key consumer characteristics which might be relevant to consider. These could include:

For domestic customers

Household income

For microbusinesses

Type of business (eg agricultural, commercial industrial, other)

For all small users

Location - urban / rural / suburban
Heating type – off gas grid / electric heating / mains gas
Electric vehicle(s) – none / 1 / more than 1
Energy consumption level

Phase 1 – (Sept–Oct 19)

- Options and key design choices, opportunities and risks mapping
- Initial discussion of options assessment and confirm analysis or assessment needed
- Citizens Advice input on customer characteristics
- Deliverables structured around four key aspects of arrangements:

Phase 2 (Oct–early Nov 19)

- Complete above assessment
- Consider how options may be drawn together into potential packages for further assessment of alternatives / substitutes and complementary variants

Proposed framework – customer journey

We propose to consider the options mapped to the stages of an illustrative customer's journey:

We expect these stages in particular will highlight particular differences with the access and charging options

- Each stage of the journey may have particular steps involved – for suppliers, network companies and the customer.
- We propose to use this tool to guide assessment and understanding of the options including:
  - What will be involved in the option
  - What opportunities and risks may exist with each stage
  - How adaptations or mitigations could apply

Draft long list of options

In the first phase of the SCR we have considered a **'long list' of access and charging options** which could potentially **apply for any user**. We did not specifically focus on the requirements of small users in developing these options.

We are also now considering options and conditions for reform of the **wider retail arrangements**.

The **options we have identified to date,** which we are developing with the subgroup, include:

Wider retail options

1. **Principles-based approach**
2. **Approaches to customer engagement and communication**
3. **Tailoring offers to consumers' needs and capabilities, including identifying and protecting vulnerable consumer**
4. **Tariff design features**
5. **Standardisation around aspects of good practice**

We are also considering wider existing provisions which may be relevant in the customer protection landscape, eg WHD / ECO

Transmission network charging update

Introduction to focused review of Transmission Network Use of System Charges (TNUoS)

Our focused review of transmission network charging covers:

Transmission network charging design for demand users

Transmission network charging design for Distributed Generation

The 'reference node'

Transmission network charging design for demand users (including those engaged in DSR)

Our SCR launch document identified three key issues with transmission network charging for demand users:

Uncertainty due to triad timings

- How significant are the costs for industry in managing exposure to Triad?
- Should operational signals be sent through market-based mechanisms?
- What are the practical challenges with collecting transmission network charges on the basis of agreed capacity charges?

Triad periods not always aligned with peak network constraints

- Do triad based charges reflect costs imposed on the network by demand users? Is this likely to change?
- As the energy system evolves, will constraints be less well aligned with triad periods?
- Are the nature of the costs similar enough to those at distribution level to warrant a consistent approach?

Distortions between directly-connected and onsite generation

- Are there differences between directly-connected and onsite generation that justify a different approach to charging for exports to the network?
- Non-exporting generation is currently treated as variation in demand and faces the inverse (or opposite) of demand charges, should this change?

Options to address this might include:

- Retaining or reforming the existing approach
- Moving to an agreed capacity approach
- Any other approach that which may help align the signals faced by distribution-connected and onsite generation with those of transmission-connected generators

Transmission network charging of Distributed Generation
Small Distributed Generation (DG) (<100MW) Issues

Existing Arrangements

- Charging arrangements differ significantly between transmission-connected (TG) generators and those connected at lower voltages.
- Is there evidence that charging DG based on Triad creates perverse incentives?
- What alternatives exist?

TG/DG approach differences

- Is small DGs impact on the Transmission network similar to that of larger generation?
- Is it practical and proportionate for small DG to pay for any costs they impose on the transmission networks?
- Do recent changes (SQSS, BM opening, connect & manage applied to DG) mean that small DG's access to the transmission system is now largely the same as larger generators?

DG Local Circuit Charges

- Local circuit charges do not currently apply to DG. In some cases this may be creating large distortions, leading to a need for new investment in remote parts of the network (eg Orkney).
- How could this be addressed? Can we identify what assets DG use and how should that use be charged for?
- What are the practical considerations with collecting any charges?

Options include:

- Retaining the existing approaches
- Better aligning charging arrangements and incentives of small DG and larger generation
- Improving the cost-reflectivity of the demand charges and applying the inverse to small DG
- Considering the role of the Embedded Export Tariff and the floor-at-zero
- Applying local circuit charges to DG where these are used (e.g. island links)

- **What are your views on the potential issues we have identified?**
- **Are there other options we should be considering?**

Reference node recap

- The 'reference node' is from 'the Transport model' which derives the locational charges for different users and areas
- Two key issues with the current approach will be considered
  - Likelihood of breaching the €2.50/MWh cap
  - Reducing distortions between different types of generation
- Does change to the reference node offer an effective way to achieve a more level playing field while maintaining compliance with the €2.50/MWh cap?

The reference node & the Transport Model

- The Transport Model calculates the incremental cost of transmission from and to different areas, and this cost is reflected in the demand and generation forward looking charges.
- It does this by modelling the transmission system as over 900 'nodes' (junctions where different parts of the system meet) connected by over 1400 'circuits' (transmission lines or cables that carry power), and modelling how an additional injection of power at each node would flow to a 'reference node'.
- The current approach to defining the 'reference node', is referred to as the 'demand weighted distributed' approach.
- The effect of the approach is that demand users, in aggregate, contribute approximately zero revenue from the locational charges.
- Generators, in aggregate, contribute a positive amount of revenue from the locational charges.

Reference node methodology - considerations

Reducing distortions between different types of generation

- Is the current choice of reference node causing distortions between different providers of energy services?
- As the energy system evolves, will this lead to inefficient investment decisions?
- Are there potential benefits in terms of reducing distortions to cross-border trade?

Likelihood of breaching the €2.50/MWh maximum cap on transmission generation charges

- Will the changes we may make as part of this review increase average transmission generation charges making it more likely that the cap will be breached?
- Would a changed reference node reduce average Transmission network generation charges and the risk of breaching the cap?

Options include:

- Retaining the existing distributed demand node
- Adopting a distributed generation node where average generation charges are close to £0
- Considering options for more equal forward-looking contributions from demand and generation

- **What are your views on the potential issues we have identified?**
- **Are there other options we should be considering?**

AOB and close

Next steps

Future meetings:

- **Delivery Group –** 6 November (ENA offices) – this will focus on the 2nd working paper
- **Challenge Group -** 11 November (ENA offices) – this will focus on the 2nd working paper
- **Charging Futures Forum** – December – this will focus on the 2nd working paper

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We will ensure that Ofgem will operate as an efficient organisation, driven by skilled and empowered staff, that will act quickly, predictably and effectively in the consumer interest, based on independent and transparent insight into consumers' experiences and the operation of energy systems and markets.

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