

Access & FLC SCR Challenge Group meeting



Agenda Item		Timing
1	Welcome and introductions	10:00 - 10:00
2	Network Access & Forward-Looking Charges – Overview <ul style="list-style-type: none"> • Wider context/case for change • Launching an SCR • Timeline / planning sequencing • Q&A sessions for queries (Sli.do) 	10.10 – 11.10
	BREAK	11.10 – 11.15
3	How will the Challenge Group work? <ul style="list-style-type: none"> • Discussion of Terms of Reference • Relationship with Delivery Group/Ofgem • Membership • Indicative forward plan for Challenge Group sessions 	11.15 – 12.15
	LUNCH	12.15 – 12.55
4	Updates and discussion on current working groups <ul style="list-style-type: none"> • Working Group updates on: cost drivers, access options, locational DUoS • Ofgem update on charge design options 	12.55 – 3.45 [incl. 10 min break]
5	Network Company Access Allocation update	3.45 - 3.55
6	Summary and close (incl. next steps / clarifications)	3.55 - 4.00

Welcome and introductions

Agenda item 1

Network Access & Forward- looking Charges - Overview

Agenda item 2

The aim of this session is to ensure a shared understanding of Ofgem's objectives and current thinking on the high-level approach to the access SCR.

We will go through:

- The case for change
- The scope of the SCR
- Our objectives in undertaking it
- The key outputs we are looking to achieve
- How we envisage getting to that point:
 - Our approach to assessing options
 - Key intermediate milestones

We want to ensure electricity networks are used efficiently and flexibly, reflecting users' needs and allowing consumers to benefit from new technologies and services while avoiding unnecessary costs on energy bills in general.

Two key drivers:

Increasing **constraints** caused by both **generation and demand at distribution** level, yet also increasing **opportunity** to mitigate these through **flexibility** (eg Imperial College suggests potential **savings of up to £4-15bn cumulatively to 2050** from reducing electricity network reinforcement).

Substantially **different approach across transmission/distribution and generation/demand boundaries** means increasing risk of **distorting investment and operational decisions**

What are access arrangements and forward looking charges?

The SCR is seeking to reform electricity network access and forward-looking charge arrangements –

Access arrangements – the nature of users' access to the electricity networks (for example, when users can import/export electricity and how much) and how these rights are allocated.

Forward-looking charges – the type of ongoing electricity network charges which signal to users how their actions can either increase or decrease network costs in the future.

This is different to the **residual element** of network charges that are 'top up' charges set to ensure that the network companies' allowed revenue can be recovered, after other charges have been levied. The residual charges are being reviewed as part of Ofgem's Targeted Charging Review.

We are committed to undertaking the SCR in a transparent and open manner. There will be ongoing role for the Charging Delivery Body and Charging Futures Forum.

In addition, we have introduced and will chair a new Challenge Group and Delivery Group:

- **Challenge Group** – will provide ongoing wider stakeholder input into the SCR. This will provide a challenge function and ensure that policy development takes into account a wide range of perspectives and is sufficiently ambitious.
- **Delivery Group** - comprises network companies, the Electricity System Operator and relevant code administrators. This group will help us develop and assess options, drawing on their expertise and knowledge of how the networks are planned and operated. May commission and coordinate smaller working groups (which could draw on wider views/expertise) to complete some activities.

Are there any stakeholder groups missing from the Challenge Group?

Included in the SCR – Ofgem-led

- Review of the definition and choice of transmission and distribution access rights
- Wide-ranging review of Distribution Use of System (DUoS) network charges
- Review of distribution connection charging boundary
- Focussed review of Transmission Network Use of System (TNUoS) charges

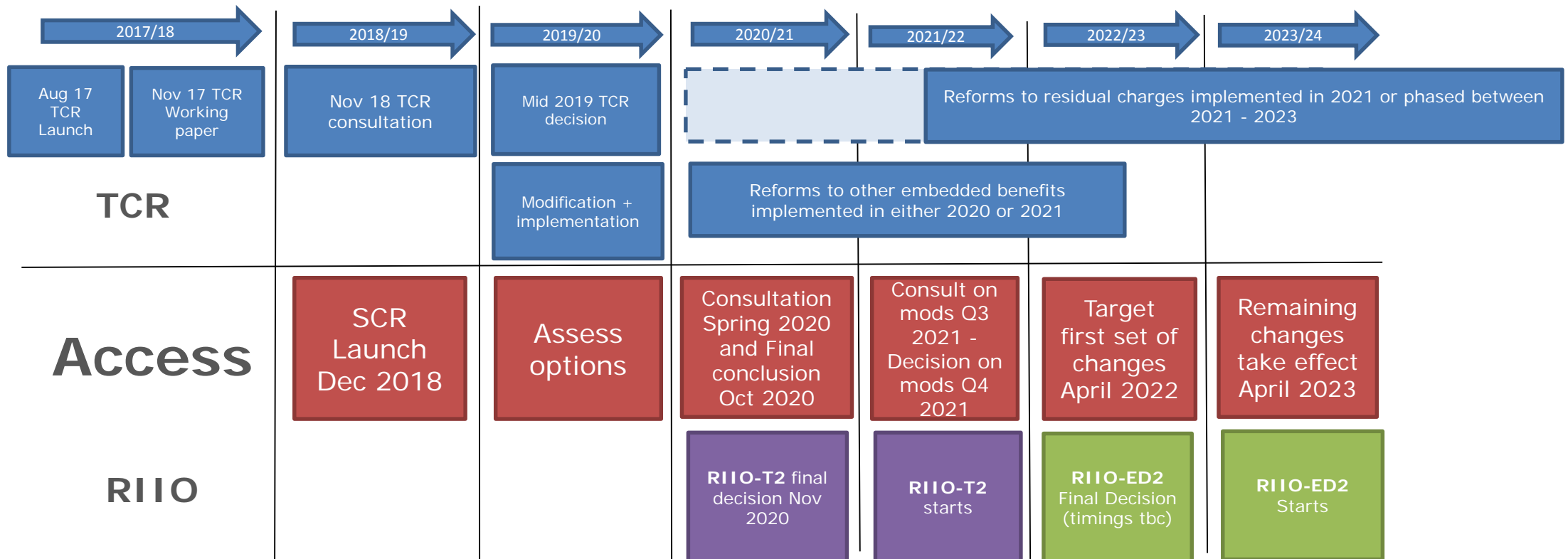
Areas led by industry outside the SCR

- Review of balancing services charges (BSUoS)
- Access right allocation

Excluded from the SCR and wider industry review

- Introducing fixed duration long-term access rights
- Introducing geographically exclusive local access rights which do not allow access to the rest of the system
- Wider changes to transmission network charges
- The transmission connection charging boundary

- Ofgem's role (under our current proposed form of SCR) is to provide a direction to industry to raise mods in line with our SCR conclusions. We expect this will need to make key strategic/controversial calls on direction, while likely leaving some detail for industry to work through in mod process.
- We will publish a consultation on our minded-to SCR conclusions in spring 2020.



By November, aiming to decide on shortlist of options that we will undertake more detailed assessment (including modelling) *

To support this, we propose to **publish two working papers** over summer setting out the options development we have done in different areas and our (largely qualitative) assessment to date of them. We propose splitting the different areas of scope into two tranches to allow the work to be staggered:

- **June:** options for access right definition/choice, charge design and DUoS cost/location models
- **September:** potential approach for small users, TNUoS charging of DG/reference node, distribution connection charging boundary and user commitment

The aim of these papers is to provide transparency on the work to date, and allow stakeholders to have sufficient understanding that they can engage effectively in CFF/Challenge Group events to provide good feedback.

*We may de-prioritise some options earlier than this if we consider the work we have done makes clear they are not work considering in further detail.

2019																	
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr		

Network cost drivers

Review data, develop views & feed into work streams

Option development & qualitative assessment

Initial options development and assessment

Working paper 1

Working paper 2

Short-listing options

Further detailed option refinement

Formal consultation – Minded-to decision

Modelling

Model building

Forecasting & Modelling

User Research

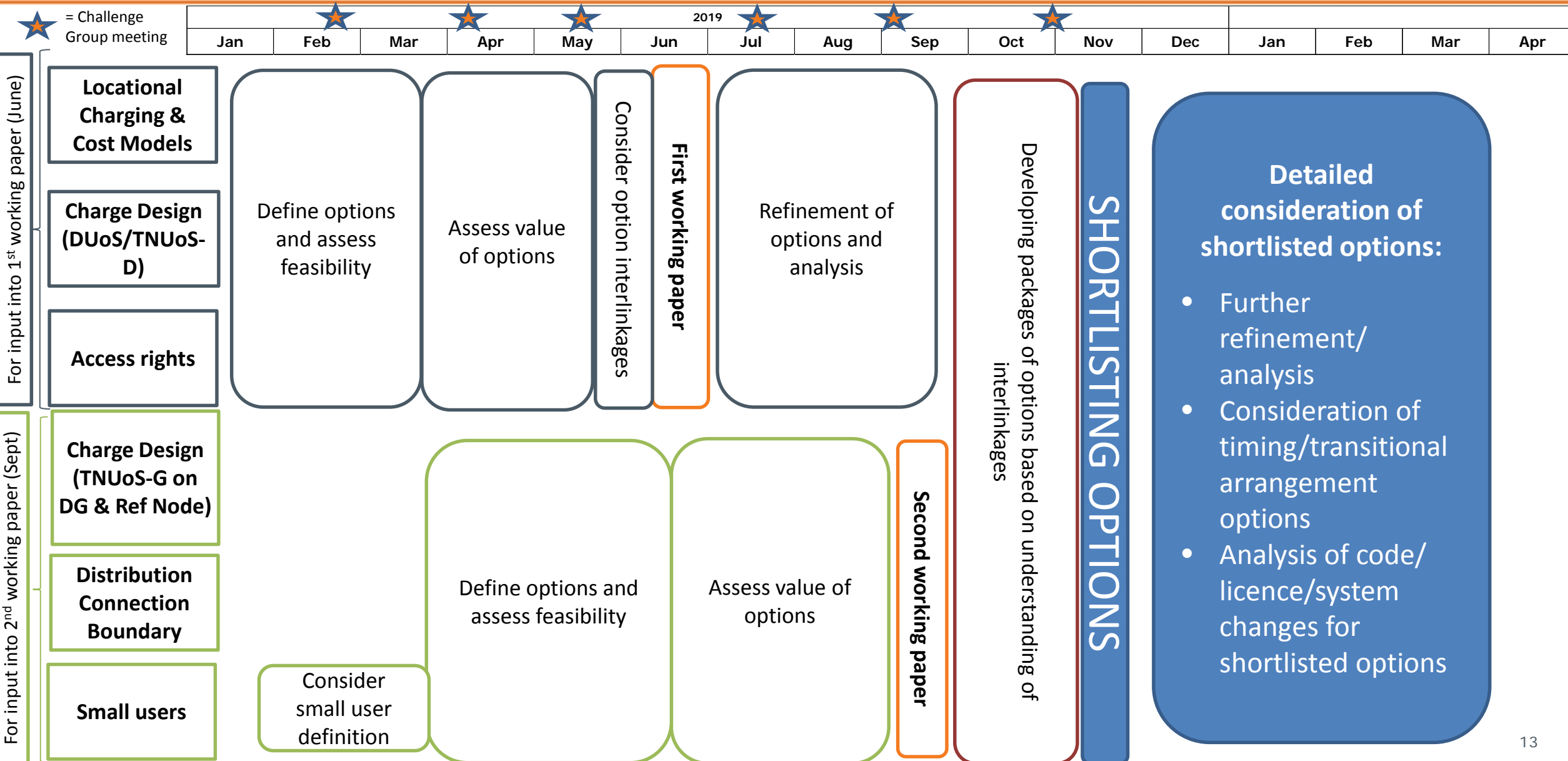
Literature review of user responses / User research (eg interviews)

User research – potential for trialling

iDNOs

Options impact on iDNOs/iDNO customers – key impacts & mitigation

Detailed consideration of adapting shortlisted options for iDNOs



Guiding Principle	What it means
1. Arrangements support efficient use and development of network capacity	<ul style="list-style-type: none"> - Access arrangements support network capacity being allocated in accordance to users' needs and the value they ascribe to network usage - Arrangements provide signals that reflect the costs and benefits of using the network at different times and places, to support efficient use of capacity, and ensure no undue cross-subsidisation between users - They provide effective signals for where new network capacity is justified - Arrangements reduce barriers to entry and enable new business models where these can bring value for system - Arrangements support decarbonisation, primarily by enabling uptake of low carbon technologies through enabling quicker connections and reducing network costs. They will also look to enable and reflect the benefits that new, innovative approaches and business models (such as local energy models) can bring to the network. However, they will not provide any undue preferential arrangements based on technology or user type.
2. Arrangements reflect the needs of consumers as appropriate for an essential service	<ul style="list-style-type: none"> - Electricity provides an essential service and small users in particular need protection from arrangements which may result in harm to their welfare. This may be achieved in the access and charging arrangements themselves or through the wider policy and regulatory arrangements. - 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
3. Any changes are practical and proportionate	<ul style="list-style-type: none"> - Changes can be implemented given the applicable legislative framework and technologies - Costs of change are proportionate to consumer benefit

Intend to focus our assessment against these guiding principles (though we will also undertake wider/full impact assessment to underpin our minded to and final decisions)

Our initial options assessment will focus on qualitative evidence, supported by quantitative evidence / assessment where possible. We will then undertake more detailed quantitative analysis of shortlisted options.

This will likely include:

- consumers/user research
- “system modelling” – aiming to produce estimates of whole system impact of changes and distributional impacts. This may need new distribution network analysis and modelling functionality to be developed and evidence to help calibrate the models
- other ad hoc modelling
- academic input/review



Join at

slido.com

#AccessChallengeGroup

How will the Challenge Group work?

Agenda item 3

- **Terms of Reference**
 - Purpose
 - Scope
 - Relationship with other groups
- **Indicative forward plan for Challenge Group meetings**
- **Breakout session** – ensuring the group is effective

Challenge Group meeting	Focus of meeting
1 (26/02/19)	<ul style="list-style-type: none"> Getting up to speed with the project and the functioning of the Challenge Group Project updates/challenge sessions: <ul style="list-style-type: none"> Network cost drivers – update and discussion on scope Access rights – update and discussion on options Locational DUoS – update and discussion on options Charge design – update and discussion on initial options listing
2 (02/04/19) TBC	<ul style="list-style-type: none"> Incorporating inputs from meeting 1 Project updates/challenge sessions: Findings on network cost drivers, feasibility of access rights, locational DUoS, and charge design options
3 (14/05/19) TBC May CFF	<ul style="list-style-type: none"> Incorporating inputs from meeting 2 List of packages and assessment of topic areas in working paper 1.
4 (13/06/19) TBC	<ul style="list-style-type: none"> Incorporating inputs from meeting 3 In depth update on thinking for working paper 2 topic areas.
5 (Mid/Late July) TBC July CFF	<ul style="list-style-type: none"> Incorporating inputs from meeting 4 Project updates/challenge sessions: tbc
6 (Early Sept) TBC	<ul style="list-style-type: none"> Incorporating inputs from meeting 5 tbc

Discussion session

- Suggestions for ensuring the Challenge group works effectively (15 mins)
 - Eg provision of pre-materials, structure of sessions
 - Individual tables to record thoughts on whiteboards

Updates and discussion on current working groups

Agenda item 4

In this session, we will provide you with an update from our current workstreams.

We are specifically interested in knowing – **are we missing any options?**

Later Challenge Groups sessions will focus on the assessment of these options.

Cost drivers

Purpose of the network cost driver advice

- It is commonly understood that a goal of network charging and access reform is to make charges more “cost reflective”. It is also commonly understood that building the network to manage constraints during times of peak congestion is a primary network cost driver and should be reflected in more “cost-reflective” charges.
- What is less well understood is:
 - a) the extent to which peak cost drivers vary by time and location and
 - b) what network cost drivers, other than managing peak congestion times, should be reflected in cost-reflective charges. This involves both the identification of those cost drivers and an assessment of the materiality of those cost drivers.
- This advice is also being sought to inform the level of seasonality and locational pricing that would be desirable in more cost-reflective network charges to better manage times of peak congestion. It is also being sought to inform what costs other than managing peak congestion times should be reflected in forward looking charges.

Sequencing of work and subgroup interactions

February

March

April

Input from
Challenge
Group on
scope

Input from access subgroup advice (network planning
and diversity assumptions)

Input from
Challenge
Group &
Delivery
Group on
draft advice

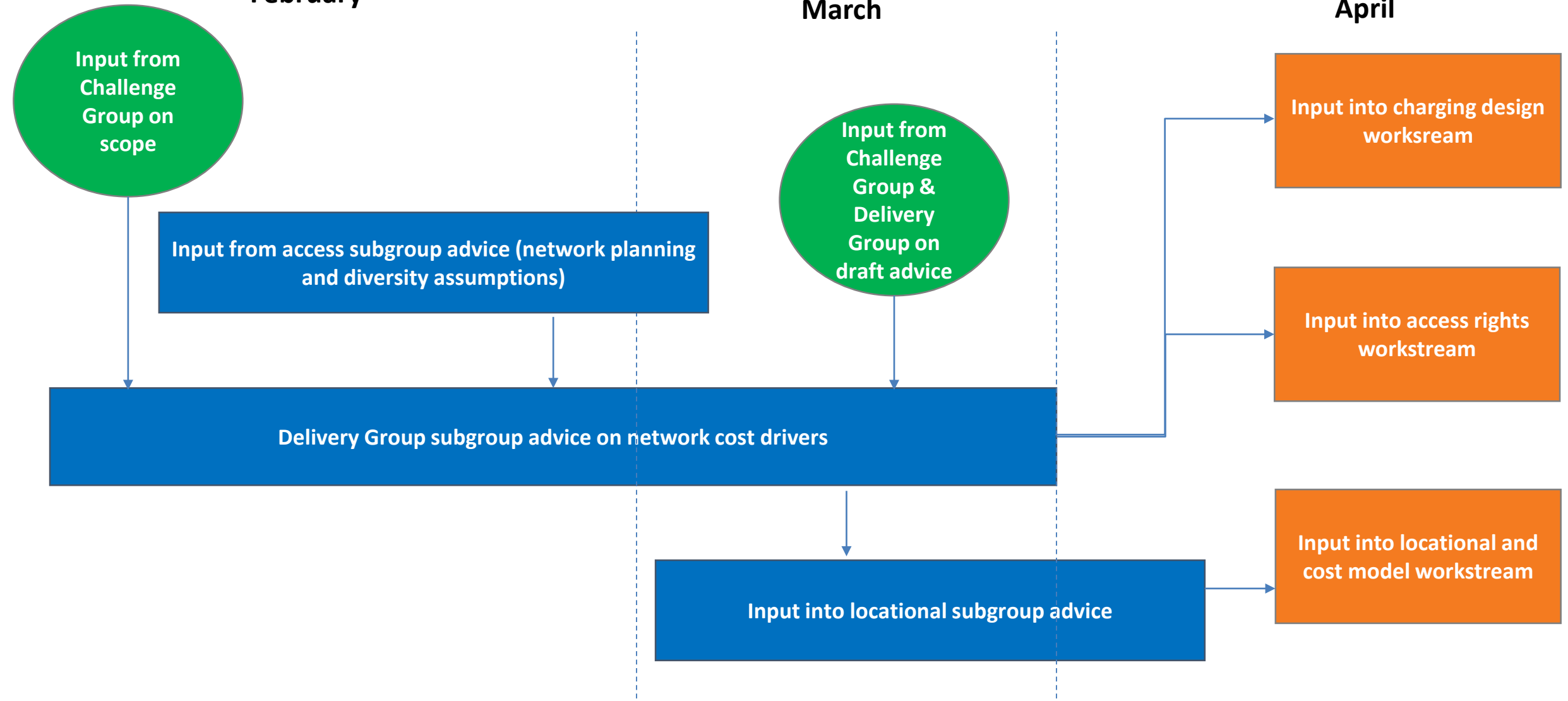
Delivery Group subgroup advice on network cost drivers

Input into charging design
workstream

Input into access rights
workstream

Input into locational subgroup advice

Input into locational and
cost model workstream



1. Evidence on peak driven costs, including locational and seasonal variations
2. Evidence of cost variation by user segmentation
3. Upstream vs downstream network costs
4. Network costs which are driven by energy consumed or number of customers
5. Losses and reactive power
6. Impact of emerging technology and changing behaviour patterns on load diversity (network and wider system cost focus)

Questions for feedback

- Are we missing any topics about network cost drivers which should be considered within this advice?

Access choices

Network access arrangements.

By this we mean users' network access rights and how these rights are allocated.

For many users, the current arrangements are not explicit about the nature of access rights being granted to the system.

This means that there is little, or a poorly defined, choice of different access options available to fit users' needs.

Improved choice and definition could lead to more efficient use of the network (allowing users to connect quicker and cheaper) and improved choice to consumers. It could also provide better information to network operators about where and when new network capacity is needed.

We are reviewing of the definition and choice of transmission and distribution access rights. At the moment, we are prioritising:

Type	Description
Firmness of rights	This is the extent to which a user's access to the network can be restricted and their eligibility for compensation if it is restricted.
Time-profiled rights	This would provide choices other than continuous, year-round access rights (eg 'peak' or 'off-peak' access).
Shared access	Users across multiple sites in the same broad area obtain access to the whole network, up to a jointly agreed level.

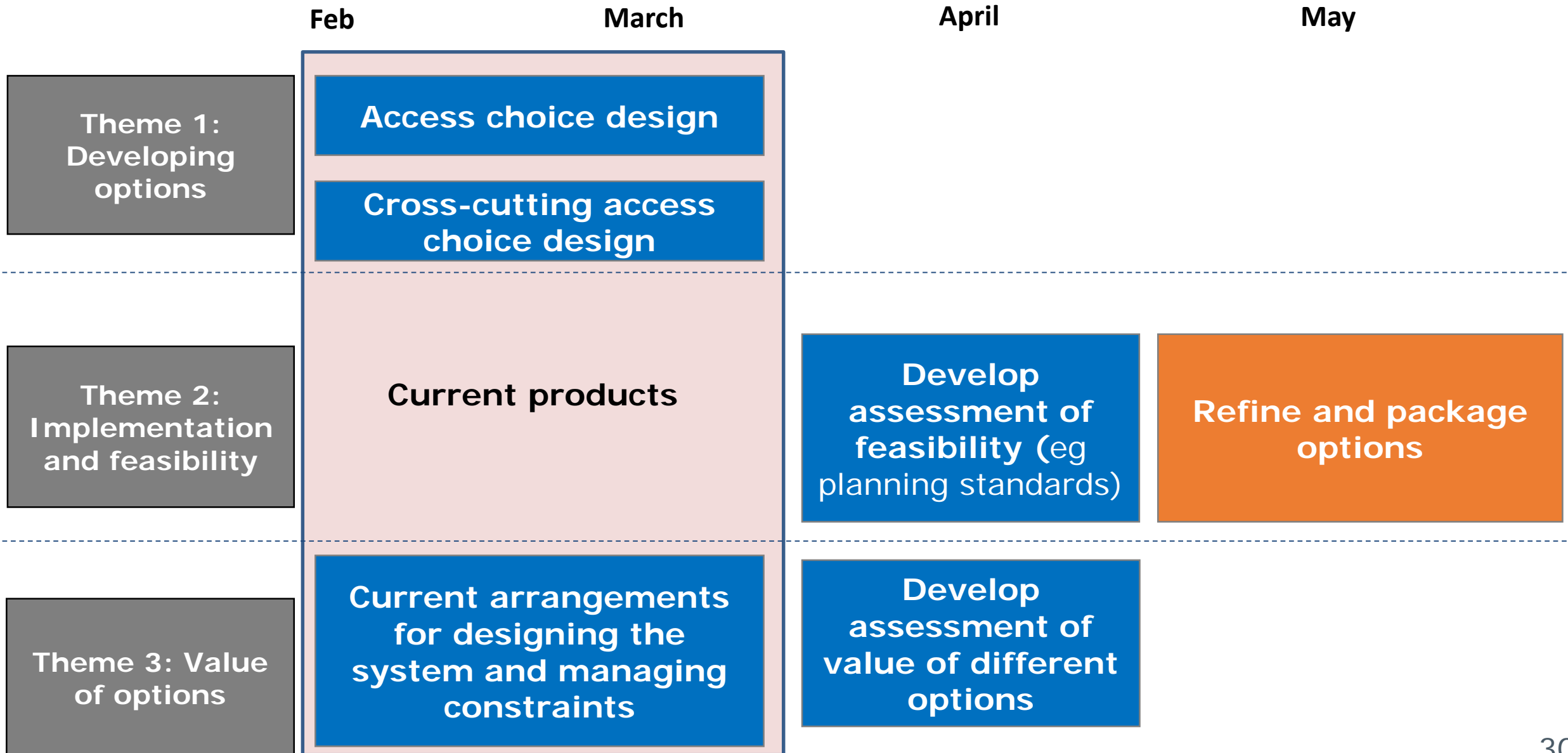
We think that better defining and giving improved choice around these options will improve the clarity of distribution-connected users' access to the transmission network. At a later stage, we will also prioritise:

Clarifying access rights and choices for small users	This could involve requiring small users to specify the level of capacity they require. They could also potentially choose from wider access options above a minimum 'core' level, to ensure they secured adequate access, or principles-based obligations on suppliers as an alternative protection measure.
---	---

Other areas, within the scope of the SCR, that are currently lower priority:

Short-term rights	This would provide a choice for limited duration access (eg one year) where long term access is not immediately available or where the user does not want to make a long term commitment
New access conditions	This could involve introducing conditions on access, for example 'use-it-or-lose-it' or 'use-it-or-sell-it'.

Sequencing of work and sub-group interactions



- The work of this subgroup covers three elements for completion by the end of March
- The output for each deliverable will be a publishable report, to cover:
 - 1) Current arrangements for designing the system and managing constraints**
 - What is currently prescribed by planning and security standards
 - Network companies' assumptions for different customer types and diversity
 - How capacity is allocated across the transmission-distribution system boundary
 - 2) Access choice design**
 - An overview of the range of possible access options and key design choices
 - An initial view of how access thresholds for small users could be set
 - An initial assessment of the pros and cons of each choice
 - 3) Cross-cutting issues for new access choices**
 - Options for the extent to which choices are standardised or bespoke
 - Options for how cross-system access could be defined
 - An initial assessment of the pros and cons of each choice, including any barriers

Purpose of better definition of network access

1. Allow users more control/choice of their use of the system
2. Clarity for access to markets (Local and National/European)
3. Enable more efficient network planning

Options for defining network access

1. Definition of access is closely linked to physical network features, such as capacity of connection
 2. Access is defined on a commercial basis as “layer” over physical capacity
- There may be a combination of the above.

Options for exceeding access limit

1. **Unmonitored** – no impact for exceeding agreed access right.
2. **Overrun charges** – user incurs additional charges for exceeding agreed access right
3. **Physically/technically limited** – user unable to exceed agreed access right.

Do you have any comments on these options?
Are there any others we should consider?

A user's level of *physical firmness* can reflect network redundancy or available capacity.

This may allow for *open-ended curtailment*, or may set defined limits, eg on:

- The **physical reasons for which they can be curtailed**, eg for outages or specified capacity constraints
- The **overall level of curtailment they experience**, eg a cap on the number of instances or duration

Financial firmness defines whether users receive payment when their usage is curtailed:

- **Payment for curtailment** – which could reflect *system benefits* and / or market value
- **No direct payment** for curtailment, but other *savings or benefits* (eg lower charges or quicker access)

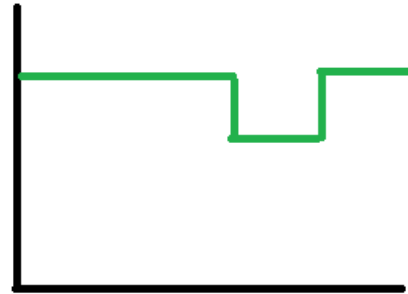
Do you have any comments on these options? Are there any others we should consider?

Time profiled access rights – access rights can be common across all half-hourly or can vary for every half-hourly or seasonally

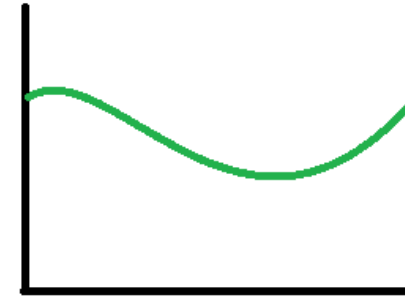
Same access arrangement
for every HH



Defined windows
of Access levels



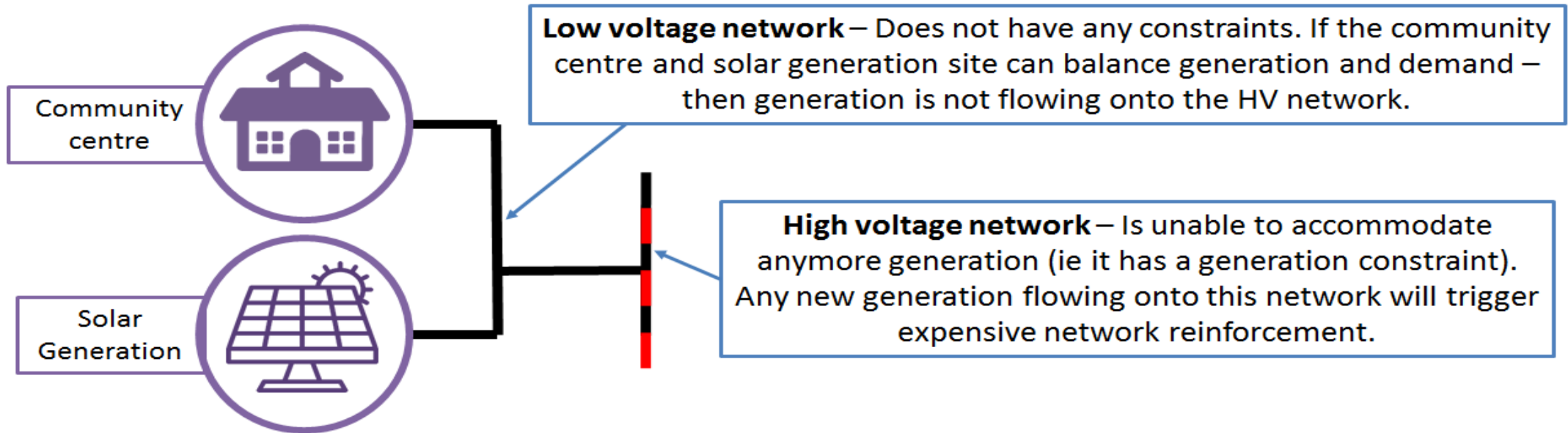
Differing access arrangements
for every HH



Levels of access in different time periods can be defined using 'pure' capacity, levels of firmness or may have other conditions.

Short term rights - limited duration access (eg one year access) where long term access is not immediately available or where the user does not want to make a long term commitment. We are not prioritising this atm.

Do you have any comments on these options? Are there any others we should consider?



'Shared access' could allow both sites to obtain access up to a jointly agreed level. Both sites' access would be subject to restrictions on their combined maximum import and export amounts. This would allow the participating network users to decide how to apportion access rights amongst themselves.

Would this option deliver value? Why?

Access choices could range from more bespoke to more standardised, with pros and cons for users and the system.

We are assessing the benefits and feasibility of offering bespoke options vs standardised choices, considering potential barriers, eg

- Complexity vs simplicity
- How well they reflect user and network design requirements
- How they are reflected in charging, commercial and contractual approaches

We also plan to consider how options could work for different types of customer, and how they might be combined, eg

- Whether different customer types might need specific access choices or bespoke options, including the vulnerable / disengaged
- What combinations of standard and bespoke choices may be possible and have value

**Would you prefer more standardised or more bespoke access choices?
How would this vary for different users?**

Charge design

DUoS charge design

- DUoS charges currently employ a blend of volumetric and agreed capacity components to signal forward looking charges.

Method	Type	Volumetric ToU	Agreed capacity
CDCM	Domestic	Mostly flat (NHH settled), few on 2 or 3 rate ToU	No
	Non-domestic	Some flat (NHH & intermittent gen), some ToU, few seasonal	Some demand, no for generation
EDCM	Non-domestic	Seasonal	Yes

TNUoS Charge design

Demand

- TNUoS demand charges for half-hour (HH) users based on gross consumption over "Triad" – a form of critical peak pricing - three highest HH periods during winter, separated by at least 10 days.
- Non-HH users based annual net consumption between 4-7pm daily. Most domestic and small business users liable for non-HH charges

Generation

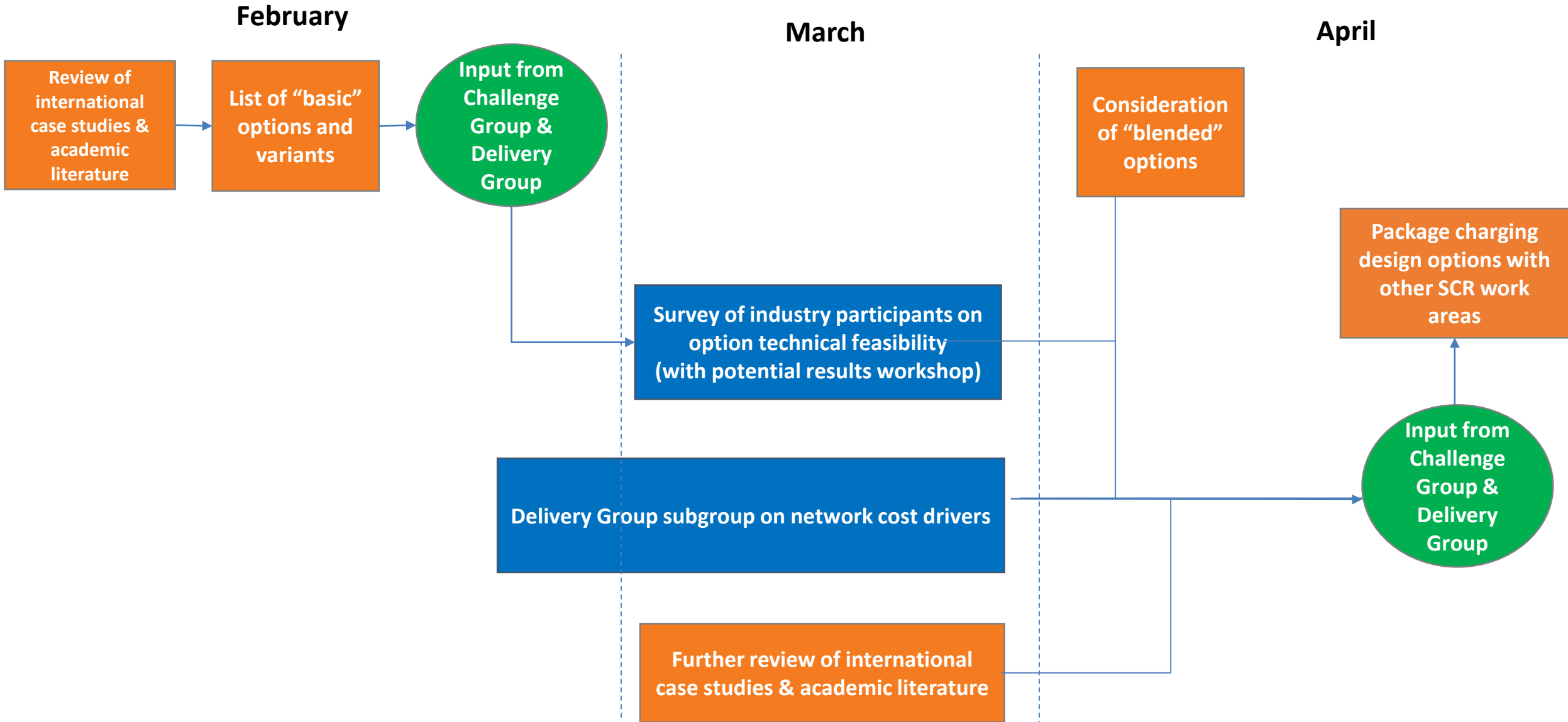
- Small distributed generation (less than 100MW capacity) treated as "negative demand"
- Larger generation, liable for TNUoS generation charges. All larger generation liable for "wider" locational charges. Only transmission-connected generators liable for "local" charges.

What did we say at the launch of the SCR?

At the launch of the SCR, we said we would undertake a comprehensive review of DUoS and a focused review of TNUoS. In reference to the design of charges, this included:

- The **balance between usage-based and capacity-based charges**. Most users that are charged DUoS currently face flat volumetric charges, and very few have seasonal time of use pricing. We will evaluate whether changes to how charges are based on usage as well as capacity, include time of use and seasonality, could send more cost-reflective and effective signals to network users.
- **Reviewing the charge design for transmission demand users**, which is currently based on Triad charges. While Triad has been seen to elicit demand response, triad periods are increasingly uncertain, may not reflect locational peaks, and may cause distortions between directly connected and onsite generation.
- We also consider there are benefits to **considering alignment of transmission charges for small and larger generation**. Distributed generation can contribute towards transmission network costs in some locations, and reduce transmission network costs in others, and so reducing distortions across transmission and distribution could lead to more economically efficient outcomes.

Sequencing of work and stakeholder interactions



Progress to date - Basic options for DUoS and TNUoS demand

- **Volumetric time of use**, whereby user are charged in £/kWh, at different rates during different time bands.
- **Agreed capacity**, whereby users agree a capacity limit ahead of time, and pay a £/kW charge for the capacity.
- **Maximum demand**, whereby users are charged on the basis of their actual maximum capacity, eg in £/kW.

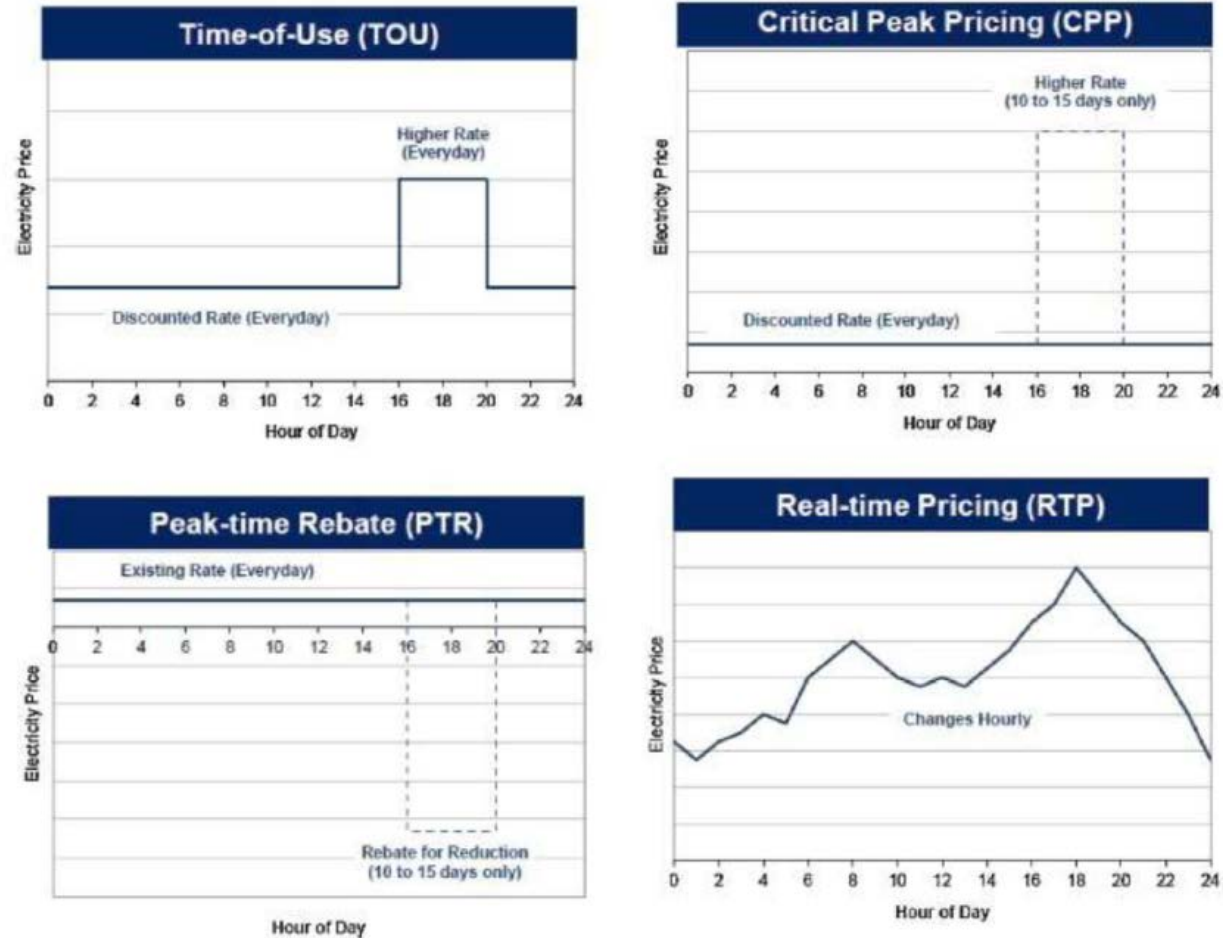
	Individual HH settled demand	Supplier aggregated
Volumetric time of use	✓	✓
Actual capacity	✓	✓
Agreed capacity	✓	Unclear
Critical peak pricing	✓	✓
Critical peak rebate	✓	Unclear

- **Critical peak pricing**, whereby users are charged high prices during times of actual network congestion, and very low prices the rest of the year.
- **Peak rebates**, whereby users are paid to reduce demand during times of actual network congestion.

**All options could have a locational element*

Stylised comparison of some options

Figure 1: Comparison of how some charge designs work



Source: Brattle Group, 2018

Progress to date – Basic options for DUoS generation

Basic option 1: Generation treated as “negative demand”—generation is treated as equal and opposite of demand.

Basic option 2: Generation either paying a charge or receiving a credit—generation is treated as equal and opposite of demand.

During demand dominated areas or times, generation users receive a credit which is the opposite of the charge paid by demand users. During generation dominated areas or times, generation users make a payment which is the opposite of the credit received by demand users.

Basic option 3: Agreed capacity as part of access right.

**All options could have a locational element*

Questions for table discussion

1. Have we identified all the basic options for demand? (all)
2. Are there specific variants that should be added? (groups)
3. Have we identified all of the basic options for generation? (all)
4. Which one basic option or one variant do you consider, for any reason, has the least potential as a reform option? And why? (groups)

Group 1: Volumetric ToU

Group 2: Actual capacity and agreed capacity

Group 3: Critical peak pricing and critical peak rebate

Locational charging and cost models

There are presently two different principal charging methodologies within DUoS:

EDCM (Extra-high voltage Distribution Charging Methodology)

- Applies to network users connected at $\geq 22\text{kV}$ ('EHV' – Extra High Voltage).
- Incremental reinforcement charges are determined using a power flow based methodology.
- Two different versions of the power flow are used by different DNOs:
 - LRIC (Long Run Incremental Cost) – assesses the network nodally, with open-ended outlook.
 - FCP (Forward Cost Pricing) – groups the network into branches, looks ahead 10 years only.
- Generation credits are floored at zero, and demand charges are capped at zero.
- Charges are locationally granular, but can be unpredictable and inconsistent across DNO areas.

CDCM (Common Distribution Charging Methodology)

- Applies to network users connected at $< 22\text{kV}$ ('LV' and 'HV' – Low Voltage and High Voltage).
- Charges are calculated from an asset-based DRM (Distribution Reinforcement Model or '500 MW' model) for each DNO area. This represents the mix of assets required to serve 500MW of load.
- The model considers demand only (does not account for generation).
- Charges vary based on generic cost differences between voltage levels.
- Charges do not have a locational signal (other than differences across the 14 DNO areas).

What did we say at launch of the SCR?

Our improvements to signal how network costs vary by location could involve changes to both the CDCM and EDCM charging methodologies.

- Introducing **greater locational granularity** to DUoS charges should provide better signals to users that incentivise more efficient use of available network capacity. Currently all users under CDCM would receive the same charge regardless of the area of the network they connect to. Yet there may be significantly different impacts from locating on different points on the network, e.g. for public EV charging stations.
- In some places, distributed generation is a driver for future network constraints and costs (**'generation dominated areas'**, GDA). In other places, distributed generation could save future costs. Generator revenues should be reflective of these savings (or costs).
- A key factor in our decision to review EDCM is the **unpredictability of charges**. This may undermine influence on users' planning and operational decisions which could minimise costs.
- There are **inconsistencies between current approaches** may mean that charges for network users located in different DNO areas are not equitably determined.
- Better consideration of where **spare capacity is available** could be an area for improvement.

Sequencing of work and sub-group interactions

February

March

April

Delivery group work on options for locational granularity

Determine long-list of options for additional granularity

Assess the feasibility of long-listed options to develop short-listed options (includes options that would be feasible with requisite developments – e.g. in available data/monitoring/modelling).

Assess cost-reflectivity of short-listed options against the locational cost drivers identified to determine how well different options capture the cost drivers.

Combine options for locational granularity with conclusions from charging concepts review to determine options for implementation in cost models.

Input on locational cost drivers from network Cost Driver sub-group report

Input from conclusions of academic workshops on key charging concepts

A summary of the questions we are planning to pose to academia to inform our thinking:

- 1) What is the most appropriate way to calculate forward-looking charges?
 - Benefits and drawbacks of LRIC vs FCP vs 500MW model vs other approaches
 - Merits of nodal versus zonal calculation of incremental costs
- 2) Should the cost models reflect accurate representations of the networks?
 - Treatment of spare capacity, generation-dominated areas, varying locational costs
- 3) Given how network usage is changing, is there a need to revisit how forward-looking charges are set based on upstream costs only?
- 4) What are the guiding principles for how much the value of flexibility should be signalled through network charges vs flexibility services procurements.
 - How should increasing short-term flexibility costs be reflected in forward-looking network charges?

Delivery group work – options for locational granularity

- Initially, the delivery sub-group has been tasked to long-list options to improve the locational granularity of the DUoS regime and assess their feasibility. Options may include charges based on:
 - An accurate nodal network model
 - Groupings of similar network areas or branches (this could include electrical groupings or categorisation into e.g. urban/rural/industrial/residential)
 - Measures of how fully utilised different assets/branches of the network are, how this may change and the driver of these costs
- Options should be identified as applicable to, for example, EHV-only, HV-only, HV and LV etc. Hybrids approaches should be explored where not universally feasible.
- Subsequently, the delivery sub-group has been tasked to assess how the options identified would align with improved cost reflectivity. This should draw from the work being undertaken by the network cost drivers sub-group and the information received as part of the network companies request for information.

Progress to date – options for locational granularity

We have generated a number of high level options. These are categorised according to whether the option is 'power flow based' or 'asset based' and how nodal or zonal it is.

Power Flow Based

- Charges are based on power flows through an electrically representative model of the network and assumed user behaviours.
- This could be highly granular (e.g. EDCM) or use estimated/aggregated network data where detailed network models do not exist.
- This approach may be good for capturing incremental reinforcement costs based on the power flows through assets at peak versus the capacity of existing network.

Asset Model Based

- Requires a representative model of the assets, and a method of attributing the costs associated with those assets to users.
- The asset based model could be highly averaged across many users (e.g. CDCM socialises across a region) or more targeted to specific parts of the network. It could include use of 'archetypical' networks.
- This approach may be good for capturing broader forward looking costs associated with assets (e.g. replacement or O&M)

Progress to date – options for locational granularity

We have generated five high level ‘groupings’ of options for which the group are currently assessing variants and feasibility of those variants. Options are not mutually exclusive, and the group will consider hybrids following feasibility assessment.

	Power flow based	Asset model based
Pure nodal	e.g. feasible to 11kV, not feasible below 11kV as no network model.	
Zonal – based on grouping of nodes (e.g. grouping by price, electrical connectivity or geographical proximity to a point on the network)		
Zonal – based on representative network models (e.g. grouping by GSP, level of loading, customer characteristics, GDA/DDA, or network costs)		
Zonal – based on non-network models (e.g. charges for different regions, geographies, customer types or population densities)		
Pure zonal (GB-wide) (e.g. may be desirable for forward looking costs which are determined as independent of location)		

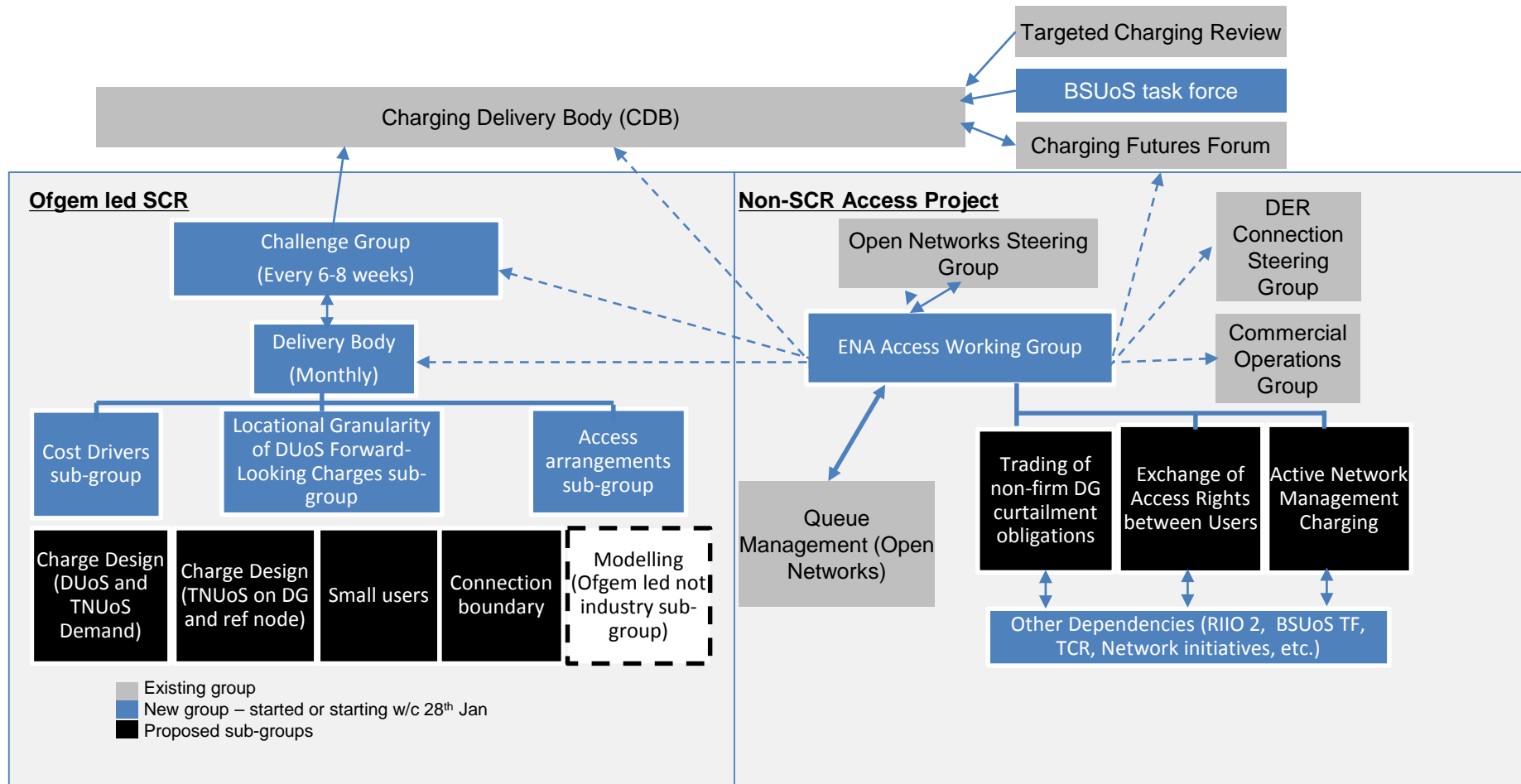
**Feasibility assessment
(in progress)**

Questions for table discussion

- Are we missing any questions about key charging concepts for our workshops?
- What are your initial views on the categorisation of options for locational granularity according to power flow or asset-based and a spectrum from nodal to zonal? (Are we missing anything?)
- Are there any specific variants of these options that you think should be considered?
- Are there any considerations that you think should factor into our assessment of feasibility and cost-reflectivity of these options?

**Allocation of access update
(outside of SCR)**

Agenda item 5



This product will identify and assess options for the trading of curtailment obligations by non-firm generation with other relevant parties (including demand and/or generation).

Product scope to include:

- Description of current arrangements (the baseline)
- Identification of range of users' actions that can alleviate a user's curtailment below a constraint
- Trades with parties with more favourable or no curtailment obligations (e.g. LIFO within ANM schemes)
- Consider feasibility of trades across network boundaries, including IDNOs
- Definition/visibility of constraints and when this is made available to users
- Consideration of timeframe for trade (short-term or permanent and when trades happen)
- Consideration of network companies' and ESO role in facilitation of trades
- Rules and compliance obligations (including provisions for default) and changes to contracts
- Reference to work being conducted elsewhere
- Consideration of use of trials to assess outcomes

Timing: Paper outlining recommendations – October 2019

The output of this product is expected to feed into Open Networks WS1A (Flexibility Services), Product 6: "Consider how to facilitate other markets that DSOs might be able to enable or support in the future".

This product will provide recommendations as to how the principles developed under Product 1 (“Non-firm generation trading of curtailment obligations”) can be applied to firm connections.

Product scope to include:

- Exchange of access rights between users across network boundaries, including IDNOs
- Consideration of (and lessons learned from) the ESO’s current TEC trading product

Timing:

- This product will be commenced following conclusion of key findings from Product 1

This product will develop a consistent approach across all DNOs for charging associated with Active Network Management (ANM) schemes.

Product scope to include:

- Development of change proposals to the Common Connection Charging Methodology, giving consideration to:
 - Transparency of charges
 - Consistency of approach
 - Cost reflectivity
 - Application of 'Minimum Scheme' principles
 - Consistency with current arrangements applicable to traditional network reinforcement, i.e. one-voltage rule and high cost cap

Timing:

- Draft proposal for common charging approach and regulatory treatment submitted to Ofgem
- Ofgem indication that they are not opposed to the proposal being progressed through the governance process
- Modification to CCCM submitted into DCUSA process - July 2019

Our core purpose is to ensure that all consumers can get good value and service from the energy market. In support of this we favour market solutions where practical, incentive regulation for monopolies and an approach that seeks to enable innovation and beneficial change whilst protecting consumers.

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.