

Access and forward- looking charges

London and Glasgow Workshops

28 February 2018





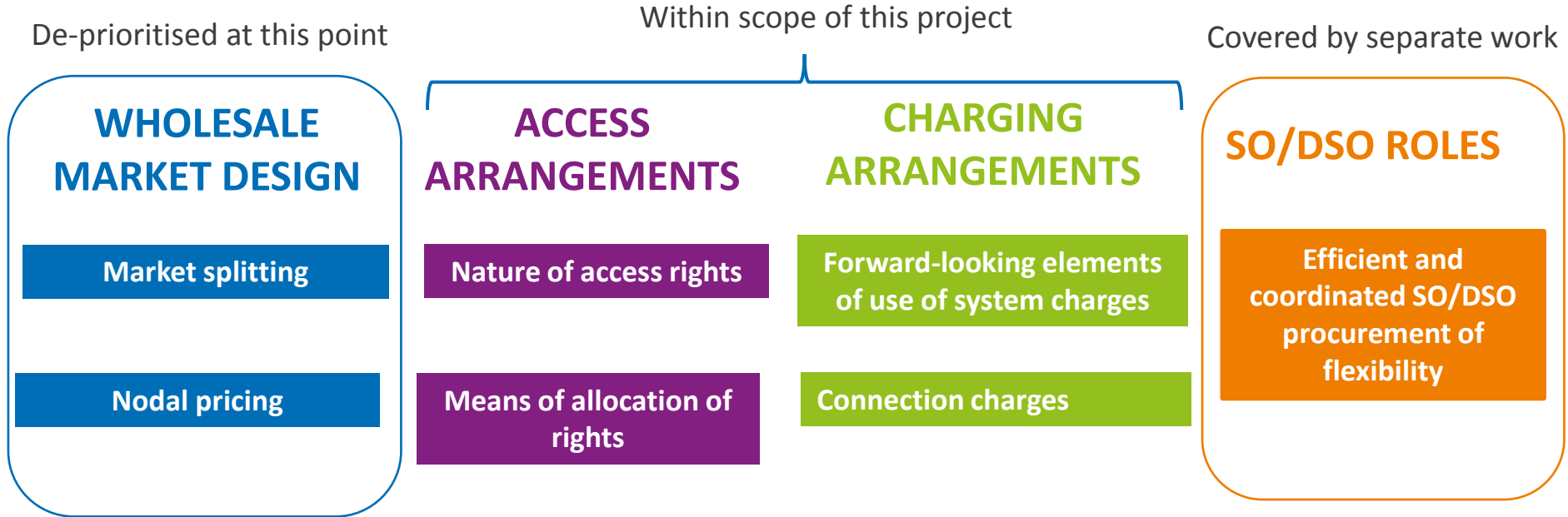
Agenda

Overview of the Electricity Network Access Project	13:00 - 13:20
Linking the options for change – large users	13:20 - 14:50
Breakout	14:50 - 15:10
Linking the options for change – domestic/small users	15:10 - 16:00
Panel and Q+A	16:00 - 16:30

Overview



Electricity Network Access Project



The two **main objectives** of the project are to consider:

- > The nature of network access rights and whether different ways of constructing and allocating them could have value
- > The appropriate forward-looking charges for access and use of networks. This covers what changes might be merited both with and without changes to access arrangements

What are Access Rights & Forward Looking Charges?

Network access rights

- The network capacity a user has allocated to them in order to import or export electricity.
- Requires a connection from the user's equipment to the wider network, and then **allocated capacity on that wider network**

Forward-looking charges

- The elements of network charges that look to provide **signals to users about how their behaviours can increase or reduce future (ie incremental) costs** on the network
- Includes connection charges and elements of use of system charges

Capacity vs usage charges

- Capacity charges reflect the cost/value of providing a user with a certain amount of network access, regardless of whether the user actually ends up using it or not
- Usage charges aim to reflect the cost/value conferred on the network by the user's actual usage. May be used where less emphasis on access rights.

➤ Why are we looking at this now?

Prospect of increased network constraints as use of the network changes

New opportunities from smart & flexible technology to better maximise network capacity

Growth of embedded generation – need for more consistency across Transmission & distribution



Project timescales

- > In **November 2017**, we published a **working paper** on 'Reform of electricity network access and forward-looking charges
- > We set up two industry **Task Forces** under the CFF to help assess the options for change.
- > We anticipate **consulting on our initial proposal for reform, if needed, in summer 2018**. This consultation will consider the impact on network users and the potential implementation options.
- > Following our summer 2018 consultation, we envisage setting out our proposed **next steps later in 2018**



Desirable features and current issues

Desirable features	Current issues
Consumers' requirements are met efficiently , as appropriate for an essential service	Inadequacies in arrangements (discussed in other features) mean that requirements may not be met efficiently.
Network capacity allocated in accordance with users' needs	Access is typically allocated first come first served, rather than value placed on access. Users have limited choice in the types of access product.
Users face cost-reflective charges	Concerns that charging models may not adequately reflect costs (eg no locational signals at CDCM or BSUoS).
Arrangements support competition by providing a level playing field	Arrangement vary across the system (eg voltage). Some of these differences may be causing distortions.
Signals are sufficiently simple, transparent and predictable	Concerns that some charges (eg EDCM and BSUoS) are variable and hard to predict.
Arrangements provide for appropriate allocation of risks	Concerns about apportionment of risk. At transmission, limited ongoing security requirements. At distribution, network users bear curtailment risk.
Arrangements support timely and efficient network investment	Arrangements provide generally provide poor signals for future network investment.



Materiality of issues

We have commissioned Baringa to develop and implement an analytical framework and gather evidence to assess the materiality of current inefficiencies and then assess options for reform.

This work will be split into two phases:

> **Phase 1 (January – March)**

> Identify inefficiencies and assess which have the potential to have the largest impact on existing and future consumers

> **Potential phase 2 (April – June, tbd)**

> Assess the costs and benefits of different policy options prioritised by Ofgem

> If you have any relevant evidence to support the materiality assessment – please send it to Baringa. Contact: Nick.Screen@baringa.com

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Role of the Task Forces

Purpose of the TFs

We want to gain industry expertise to develop options that support the efficient use of network capacity. The outputs of the TFs will help inform our thinking.

- > **Access Task Force** – helping develop a clearer view of what changes to network access arrangements could drive benefits to consumers and key challenges to be worked through.
- > **Forward-looking charges Task Force** – helping to clarify what changes to the forward-looking element of network charges could drive benefits to consumers, including considering what changes would need to be made in light of any changes to access arrangements.



Task Force Outputs

The key outputs that we want the TF to develop are:

Date	Task
Dec 17/Jan 18	Produce a document identifying the initial options agreed for further assessment.
Feb/March 18	Produce a document assessing each of the detailed options, based on the agreed assessment criteria.
April/May 18	Produce a report outlining the TF's conclusions on what changes should be taken forward.

- > **The TFs have produced their first report** – it is available on the charging future website. The options build upon the building blocks identified in our Nov paper.
- > The TFs are currently **working to identify how the options fit together**. The presentation this afternoon will outline initial views on this.
- > Over the next few months the TFs will be **focused on delivering the next two outputs**.
- > **To keep up-to-date** go on the charging future website or engage with TF Members or the TF Secretariat.

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TF Initial options for reform

Here is a summary of the initial options for reform that were identified:

Network access arrangements		Forward looking network charges	
Nature of access rights	Lifespan of access	Structure of the charge	Basis of the charge (fixed vs capacity vs volumetric)
	Time of Use Access		User segmentation
	Firmness		Connection depth
	Depth of Access		Ex ante or ex post
	Volumetric Access		Timing of payment and degree of user commitment
	Associated conditions of access (eg unused capacity)	Location and temporal signals	Locational signals
Allocation and reallocation	Initial allocation		Temporal signals
	Reallocation and trading (both medium/long term and near real-time)		Calculation of signals (ie cost models)

Linking the options together - large users

Potential scenarios for larger users

High emphasis on auctions/trading

Access choices are well-defined (including being financially firm)

They are purchased via auctions, with scope for re-sale.

Charging models still used to set robust reserve prices, with potential changes to **ensure they reflect differential value of access adequately.**

High emphasis on access right choices

Access rights are granted broadly on a **first come first served basis.**

There is a **range of choice** around type of access to maximise use of capacity.

Capacity charges reflect impact of different choices on network costs.

Non-firm holders can trade curtailment obligations through a market-based mechanism.

High emphasis on better usage charges

Limited changes to access, with **reliance on usage charges.**

Most charges focused on **usage at system peaks.** Could include more **locational charging** (eg for constraint costs.)

➤ Cross cutting building blocks

High emphasis on auctions/trading	High emphasis on access right choices	High emphasis on better usage charges
User segmentation		
Connection boundary		
Conditions of access (eg unused capacity)		
Range of access products		
	Method of initial allocation	
Re-allocation of access rights		
Operational costs		
Timing of payment and degree of user commitment		
These issues could also cut across auctions, depending on the need for charging models (e.g. reserve price)	Tariff design (ex ante vs ex post, capacity vs volumetric)	
	Temporal signals	
	Locational signals	
	Charging model design and assumptions	

➤ Assessment criteria

Desirable

Consumers' requirements are met efficiently, as appropriate for an **essential service**

Network capacity **allocated in accordance with users' needs**

Users face **cost-reflective charges**

Arrangements **support competition** by providing a **level playing field**

Signals are sufficiently **simple, transparent and predictable**

Arrangements provide for **appropriate allocation of risks**

Arrangements support **timely and efficient network investment**

Be practical

Be proportionate

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➤ Scenario 1 – key features

Access	Key features	Key sub-choices
Access choices	<ul style="list-style-type: none"> • Clearly defined choices. • More standardised options, less choice than scenario 2. 	<ul style="list-style-type: none"> • Option about type of access choices available.
Allocation and re-allocation	<ul style="list-style-type: none"> • Auctions and high levels of trading. 	<ul style="list-style-type: none"> • Form of auctions • Scope of auctions • Condition of access

Forward looking charges	Key features	Key sub-choices
Structure of charges	<ul style="list-style-type: none"> • Value driven by auctions. • Reinforcement costs recovered via auction. 	<ul style="list-style-type: none"> • Potential reserve prices driven by charging model. This includes many sub-options.
Locational and temporal signals.		

➤ Scenario 1 – key considerations

- > Is this the most economically efficient way of allocating capacity?
- > Does the “value” that a party places on access always reflect their “need” for access?
- > What “product” is being auctioned?
- > How easy would it be to design and implement an auction?
- > Are all parties able to compete in an auction on a level playing field?
- > Could auctions provide signals and revenue for network operators to invest in the network?
- > How predictable are charges from auctions?
- > Would auctions work in unconstrained parts of the network?
- > How would any reserve price be calculated?

Potential scenarios for larger users

High emphasis on
auctions/trading

Access products are well-defined (including being financially firm)

They are purchased via auctions, with scope for re-sale.

Charging models still used to set robust reserve prices, with potential changes to **ensure they reflect differential value of access adequately.**

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Capacity charges reflect impact of different choices on network costs.

Non-firm holders can trade curtailment obligations through a market-based mechanism.

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usage charges

Limited changes to access, with **reliance on usage charges.**

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Scenario 2 – key features

Access	Key features	Key sub-choices
Access choices	<ul style="list-style-type: none">• Users have a range of access choices (eg depth, lifespan, firmness, time of use).	<ul style="list-style-type: none">• Option about type of access choices available.
Allocation and re-allocation	<ul style="list-style-type: none">• First come, first served retained (with improvements).• Focus on reallocation mechanisms (eg trade access or constraint obligations, extend BM)	<ul style="list-style-type: none">• Options for different types of reallocation mechanisms.

Forward looking choices	Key features	Key sub-choices
Structure of Charge	<ul style="list-style-type: none">• Stronger focus on capacity based charges.• Charges need to reflect different access choices.	
Location and temporal signals	<ul style="list-style-type: none">• Charge need to reflect different access choices.	



Key considerations

- > Would a greater range of access choices be beneficial for network users?
- > How would choices on the “depth” of access work?
- > Could auctions have a role in the reallocation of access in operational timeframes?
- > Does this approach lead to more consistent access choices across distribution and transmission?
- > Does this approach provide a clear signal for network operators to invest?
- > How easy would this approach be to implement?
- > What impact would this approach have on charges (eg connection depth)?
- > Would this approach provide more predictable charges?

Potential scenarios for larger users

High emphasis on
auctions/trading

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They are purchased via auctions, with scope for re-sale.

Charging models still used to set robust reserve prices, with potential changes to **ensure they reflect differential value of access adequately.**

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Capacity charges reflect impact of different choices on network costs.

Non-firm holders can trade curtailment obligations through a market-based mechanism.

High emphasis on better
usage charges

Limited changes to access, with **reliance on usage charges.**

Most charges focused on **usage at system peaks.** Could include more **locational charging** (eg for constraint costs.)

➤ Scenario 3 – key features

Access	Key features	Key sub-choices
Access choices	<ul style="list-style-type: none"> • No change to existing access choices. • Differences in access choices remain at tx and dx. 	
Allocation and re-allocation	<ul style="list-style-type: none"> • First come, first served retained (and improved) • No change to existing approaches to reallocation. • Focus on conditions of access. 	<ul style="list-style-type: none"> • Options to improve conditions of access.
Forward looking choices	Key features	Key sub-choices
Structure of charges	<ul style="list-style-type: none"> • Stronger focus on usage charges 	<ul style="list-style-type: none"> • Options charges are sent ex post or ex ante.
Locational and temporal signals.	<ul style="list-style-type: none"> • Stronger focus on locational and temporal signals. • Locational charging of constraint costs. 	<ul style="list-style-type: none"> • How to implement stronger locational and temporal signals. • Options whether signals are dynamic.



Scenario 3 – key considerations

- > What changes would be required to the charging methodologies to send more cost reflective signals?
- > How volatile or predictable would these charges be?
- > Do usage charges provide a clear signal for network operators to invest?
- > How easy would this approach be to implement?
- > Can a network operator send locational UoS signals at LV?
- > Would charges be set ex post or ex ante? Would they be static or dynamic?
- > Would usage charges provide network users with more flexibility (less focus on identifying requirements upfront)?
- > What impact would this scenario have on user commitment arrangements?



Menti questions

Questions –

- Are there any additional key features or sub-choices of scenario 1? (8 mins)
- What are the advantages/disadvantages of scenario 1? (12 mins)

- Are there any additional key features of sub-choices of scenario 2? (8 mins)
- What are the advantages/disadvantages of scenario 2? (12 mins)

- Are there any additional key features of sub-choices of scenario 3? (8 mins)
- What are the advantages/disadvantages of scenario 3? (12 mins)

Coffee break

Linking the options together - Domestic households/small users

➤ Diversity of domestic users

I am struggling to pay my electricity bills. I don't understand how to manage my usage.

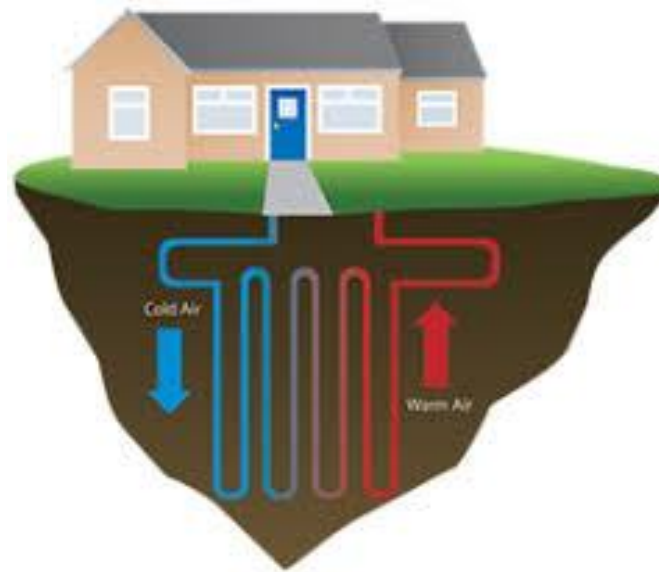
I want to be able to use electricity whenever I want. I don't care about the cost.

I am dependent on electricity for my dialysis machine.

I am willing to be flexible about my usage to reduce my electricity bills.



➤ Domestic usage





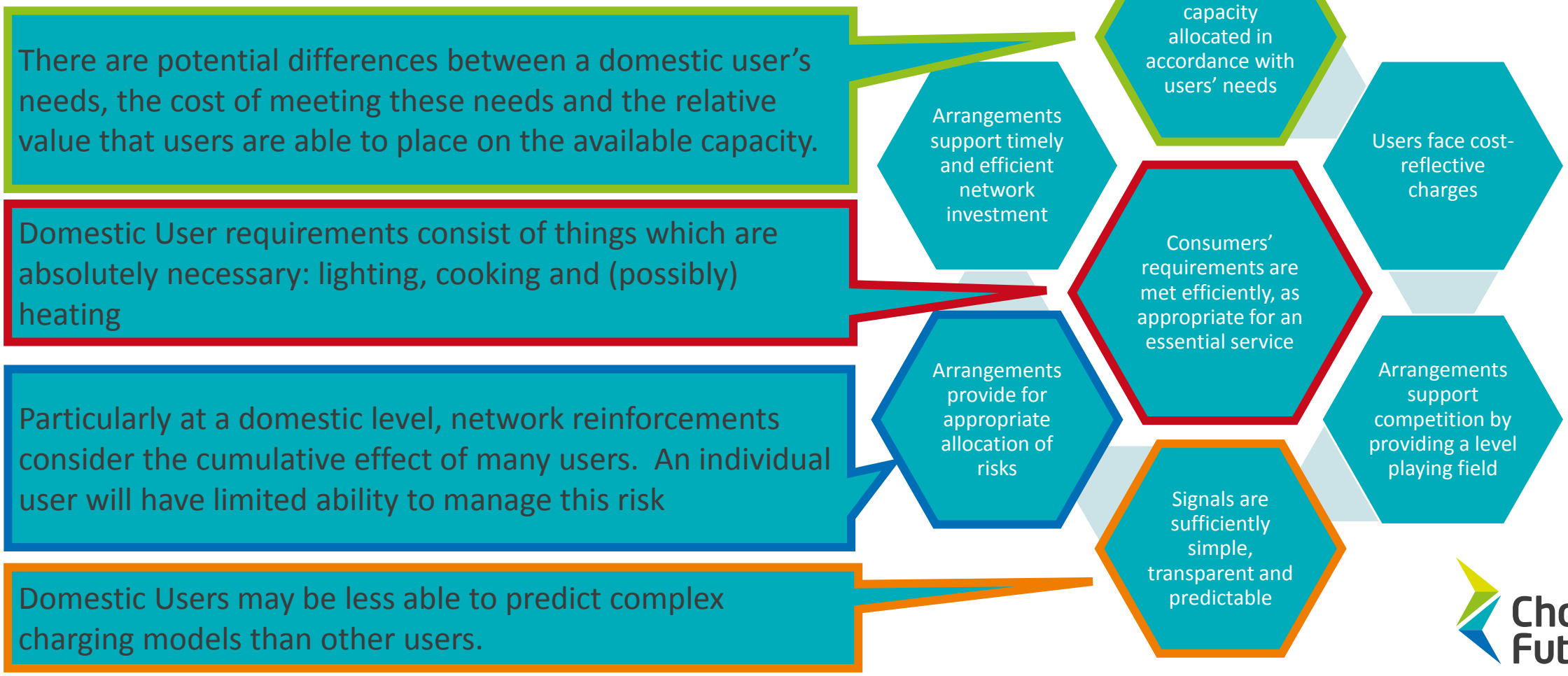
Current arrangements


How do we currently treat domestic users?

- > **Access arrangements**
 - > No clearly defined level of capacity.
- > **Charging arrangements**
 - > No locational signals in use of system charges for any customers connected at low-voltage.
 - > Socialisation of reinforcement costs triggered by low-carbon technologies.

➤ As domestic energy usage changes, how do we encourage optimal use?

> Should we treat this customer group differently?





➤ Should we treat domestic and small non-domestic user differently?

Is it appropriate to treat domestic and small non-domestic differently?

If so, how would define the threshold?

- > Usage
- > Size of non-domestic?
- > Are there existing definitions, that we could use? (eg “micro-business”)

Options for change

High emphasis on auctions/trading

High emphasis on access right choices

High emphasis on better usage charges

Can we define a core level of capacity? No →

Yes ↓

Yes ↓

Rely on charges

Supplier auctions and trades access on behalf of customer.

Supplier provides alternative access (eg batteries) or compensation if it fails to win access.

Define a core level of capacity for each domestic user.

Above the core level of capacity:

- i) charges provide locational and time-of-use signals, or**
- ii) additional access choices available.**

- i) Rely on usage charges to signal efficient network usage - introduce locational UoS signals to low voltage networks users**

Or

- i) Remove socialisation of reinforcement costs for low-carbon technologies (ie SLC 13), so they trigger a new connection charge**

Assessment criteria

Desirable

Consumers' requirements are met efficiently, as appropriate for an essential service

Network capacity allocated in accordance with users' needs

Users face cost-reflective charges

Arrangements support competition by providing a level playing field

Signals are sufficiently simple, transparent and predictable

Arrangements provide for appropriate allocation of risks

Arrangements support timely and efficient network investment

Be practical

Be proportionate



Key considerations?

- > Should we treat domestic and small non-domestic users differently? If so, what should the threshold be?
- > Is there any scope for auctions to work for users with essential service requirements?
- > Can we define a core level of capacity? If so, how?
- > Can we introduce sufficient locational signals at LV via UoS?
- > Are access rights issued to an individual or a premises? What happens when a premises is sold?



Menti Questions

> Questions –

- Is it appropriate to treat domestic customer/non-domestic customers differently? Why? (10 mins)
- Have we got the right range of options? (5 mins)
- What the advantage/disadvantages of defining a core level of capacity for domestic/small non-domestics? (7 mins)
- What the advantages/disadvantages of relying upon charges? (7 mins)

Question and Answer session



How to engage with this work going forward

- > Keep up-to-date with TF work via the website.
- > You can send any comments or questions on the TF to the secretariat at chargingtaskforces@energynetworks.org or to us at networkaccessreform@ofgem.gov.uk
- > We will provide an update on Access work at the next CFF.
- > We will be consulting on Initial Proposals for Reform in the summer.