

TCR Stakeholder Workshop

Thursday 30 November

ofgem

Our objective is to have an open discussion as to how we are progressing our Significant Code Review, the Targeted Charging Review. The feedback provided today will influence how we take this work forwards.

Opening session

Welcome to the Targeted Charging Review: stakeholder workshop

Aims for today:

- To seek stakeholder feedback on our proposed approach to the SCR *'Target Charging Review: update on approach to reviewing residual charging arrangements'* in an informal setting.
- To ensure all stakeholders have the opportunity to input to the SCR and voice their initial views.

Housekeeping

- There are no expected fire drill today, so please exit the building if you hear the fire alarm.
- Emergency exits are down the corridor.

Agenda for today's workshop

- 10.15 - 11.00, Welcome
- 11.00 – 11.30, Industry led code modification presentations
- 11.30 – 11.34, Tea and coffee break
- 11.45 – 13.00, Who should pay and how
- 13.00 – 13.45, Lunch
- 13.45 - 14.45, Practical considerations
- 14.45 – 15.00, Tea and coffee break
- 15.00 - 15.45, Analytical work

- Our principal objective is to protect the interests of existing and future electricity and gas consumers
- We have developed five regulatory stances, that explain what we are aiming for in taking regulatory decisions
- We are applying these to our work on network access and charging reform

1. Promoting **effective competition** to deliver for consumers
2. Driving **value in monopoly activities** through competition and incentive regulation
3. Supporting **innovation** in technologies, systems and business models
4. **Managing risk** for efficient and sustainable energy
5. Protecting the interests of **consumers in vulnerable situations**

Our overall aim is to ensure a regulatory framework that drives innovation, supports the transformation to a low carbon energy system and delivers the sustainable, resilient, and affordable services that all consumers need.

We believe it will best do this by:

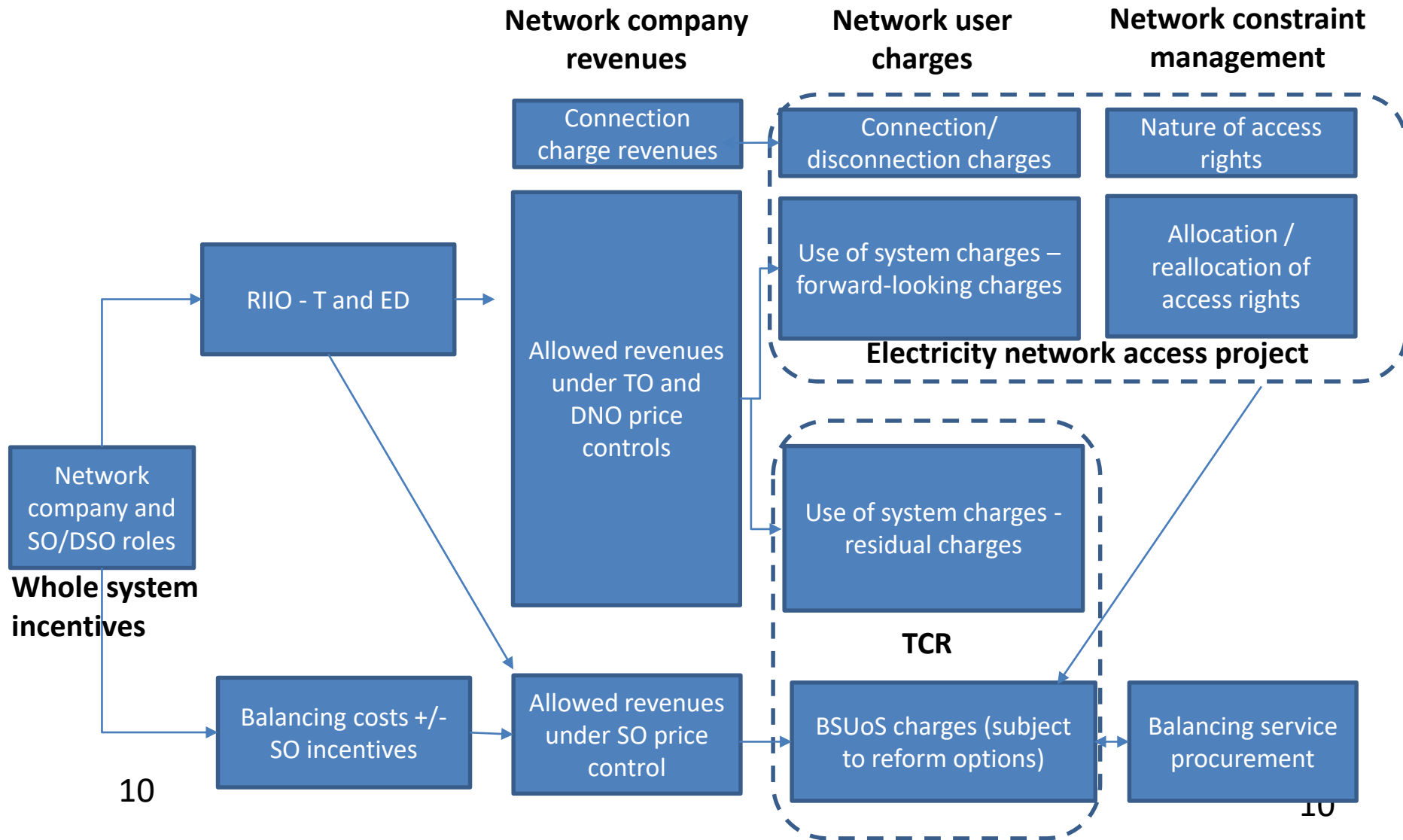
1. Aligning the SOs' and network companies' interests with those of consumers, through clear obligations and well-designed incentives.
2. Ensuring that charging for monopoly services reflects incremental costs and benefits and recovers other revenue requirements in ways that are fair and reduce distortions.
3. Ensuring that regulation is neutral between different technologies, systems and business models, while encouraging new entry and innovation by, for example, promoting a level playing field between entrants and existing companies, and between network reinforcement and alternative solutions.
4. Providing a predictable regulatory regime which supports efficient investment and allocates risks efficiently.
5. Promoting competition and harnessing market based mechanisms where it is in consumers' interests to do so.

Recap on scale of network charges

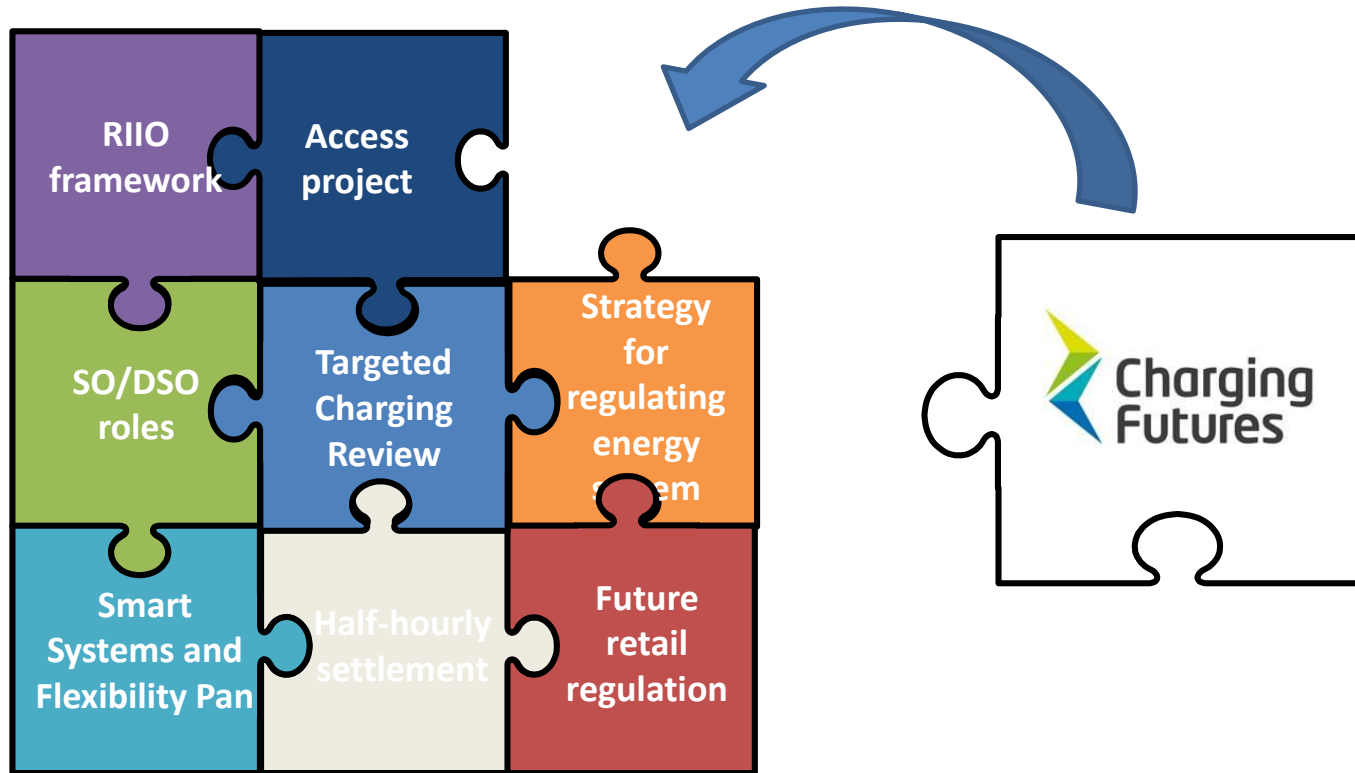
- The current levels of network and SO charges are c£10 B per year, of which about 50% is connection/forward-looking (designed to send signals) and 50% is residual/cost recovery charges (to ensure total revenue is recovered)

2016/17 charges		Transmission	Distribution	Balancing
Connection		£0.2 B	£0.2 B	
Use of system	Forward-looking	£0.5 B (both gen and demand)	£ 4.0 B (almost all on demand)	
	Residual/cost recovery	£2.1 B (all on demand)	£1.4 B (more than 99% on demand)	£1.3 B (half on demand and half on gen)
Total charges		£2.8 B	£ 5.6 B	£1.3 B

Linkages between RII02 and other future reforms



Our wider future facing work



- We have set out our initial thinking on the SCR
 - Why we need to change the current approach
 - Who should pay
 - Options
 - How we plan to undertake a detailed assessment
 - Initial views

Inefficient investment and operation decisions

- Residuals may drive unintended and inefficient user actions by dampening or amplifying signals
- 'Active' network users are increasingly able to vary their interaction with the networks, reducing residual exposure
- Overall system costs may be increased by these actions to avoid residual charges

Adverse impacts on consumers

- Current framework means residuals increasingly fall on users who aren't active or don't have onsite generation
- Residential and small business consumers more likely to be affected, particularly more vulnerable consumers
 - Level of distortion will depend on incentives and scale and speed of technology adoption (such as Evs)
- Costs likely be passed through to PPM customers - current price cap provides allowance for the network companies' published charges

Residual exposure varies widely

		T Generation	T Demand	T Storage [†]	D Smaller EG*	D Larger EG**	D Smaller Storage* †	D Larger Storage** †	D Deman d
Transmission residual	Generatio n (TGR)	a		a		a		a	
	Demand (TDR)		a	a	Paid ^{††}		Paid ^{††}	a	a
Distribution residual	Generatio n				Only EHV pay#	Only EHV pay#	Only EHV pay#	Only EHV pay#	
	Demand					a	a	a	a
Balancing	Generatio n	a		a		a		a	
	Demand		a	a	Paid		Paid	a	a

✓ - Pay the charge **Paid** - can get paid the inverse of the charge

* <100MW **>100MW

† - may be affected by ongoing storage modifications CMP280 & CMP281

†† - will be replaced by dedicated embedded export tariff following CMP264/5 WACM4 implementation

- Only those connected at EHV level pay distribution demand residuals. All others are exempt

Who and how

Reducing harmful distortions

- Network costs should be recovered in ways that reduce distortions to decisions around efficient access and use of the network
- Reducing harmful distortions helps promote effective competition for consumers by facilitating a level playing field

Fairness

- Avoid undue discrimination among network users due to the recovery of residual charges
- We will give careful consideration to the impacts on vulnerable consumers.
- Fairness to investors or industry participants covered by our aim to be non-discriminatory

Proportionality and practical considerations

- Practical issues are key to assessment of new charging framework, including the availability of the required metering information, implementation cost and simplicity
- We will consider whether transitional arrangements are justified

Applying the principle

- **distortions to the signals** created by the forward-looking charges (this may affect location of connection, and investment in, and use of, generation, storage or both); and
- **distortions to competition** between network users.

We will consider

- the degree to which a charge might vary depending on actions taken by users, including the likely cost of taking such an action and whether this would be outweighed by the reduction in charges;
- whether the residual charge would affect incentives or prices for dispatch of generation (including storage) or DSR; and
- whether the residual charge would drive changes in investment, including investment to enable disconnection from the grid.

Our focus

- Focus on consumers, in particular financial vulnerability
- Distributional impacts
- Other network users covered by reducing harmful distortions principle
- Seek to avoid undue discrimination among network users and investors due to the recovery of residual charges

Our initial views

- Residual charges which do not provide undue advantages to any particular set of network users will best facilitate efficient use of the network
- To be accepted as fair, any differences in residual charges between users should have a clear reason
- An understandable link from those variances to the benefits the user receives from being connected to the network

Proportionality

- implementing changes in itself causes costs, and takes Ofgem and stakeholder resource away from other priorities. We will consider:
 - whether the impacts on some users, and the scale of work required to make changes, are justified by the likely reduction in distortions and the benefits of charges being set more fairly.

Predictability

- consider the case for transitional arrangements where changes for individual network users would be significant.
- We will only consider implementing transitional arrangements if clearly justified.

Practical considerations

- consider practicalities in designing a charging methodology, including the availability of the required metering information and simplicity.

Advantages

- > **Generators may not be able to pass through all network charges** in the short term if levied on a fixed/capacity basis, so consumers could realise some short term savings

Disadvantages

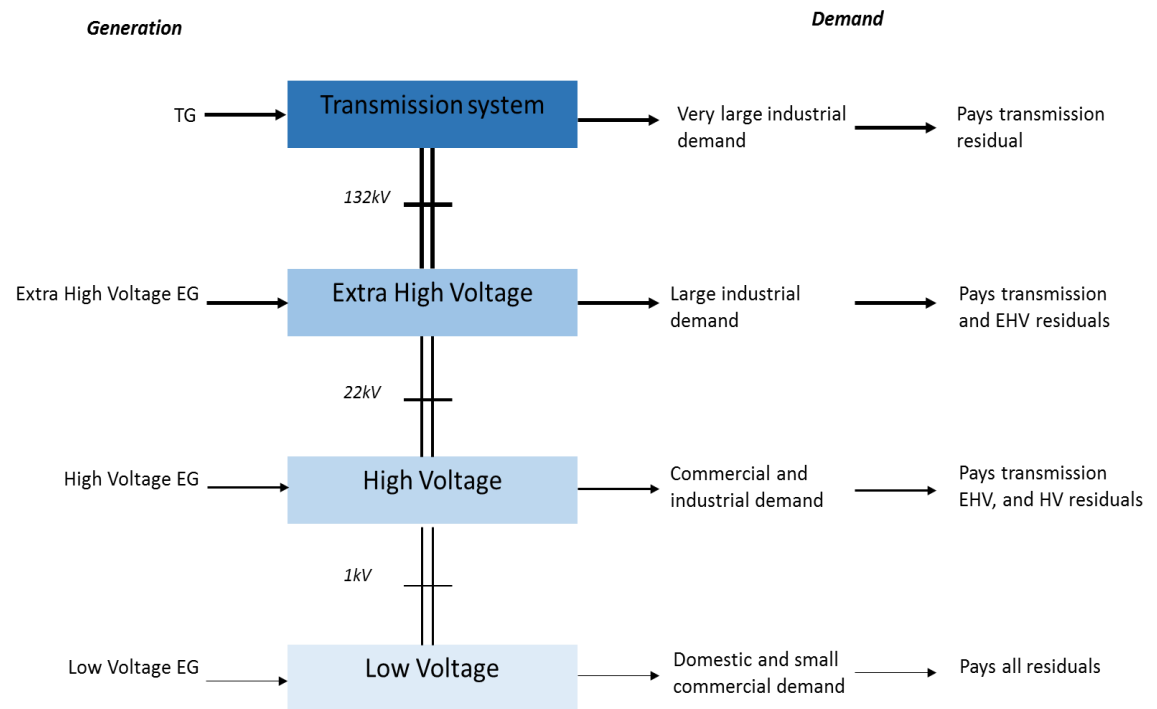
- > Could **distort investment** decisions
- > Could **distort dispatch** decisions
- > Currently only TG, larger EG and extra high voltage connected generation are exposed to residual charges, **levying it on other EG would likely be difficult to implement**
- > Potential to **disadvantage grid-connected generation vs on-site generation**
- > Creates **disadvantage for GB generators** compared with interconnected generators who don't pay GB network charges

Advantages

- Removes potential for distortions of generation investment and dispatch decisions
- Addresses the distortions that only some generation currently faces generation residual charges
- Consistent with removing intermediate demand charges from storage
- Similar to current arrangements, so **minimises disruption**
- **Tax efficiency theory**

Two key questions on residual charges across the voltage levels:

- whether the residual charges that a user faces should be linked to the voltage level to which that user is connected
- Are users more likely to be able to respond to residual charges, or if it would significantly increase incentives to reduce usage of the network, potentially increasing the burden of costs on other consumers



- Net volumetric demand charges
- Fixed charges (per user)
- Ex ante capacity demand charges
- Ex post capacity demand charges
- Gross consumption charges
- Net volumetric import and export charges
- Max import or export capacity charges

- Net (at meter) volumetric demand charges could overly **incentivise load reduction** and mean that consumers ration their use of electricity networks beyond the extent to which it is efficient to do so.
 - This could be achieved through reduced end-consumption or use of on-site generation.
 - Technological developments are making it easier for some groups of users to reduce their loads. This goes against our objective of reducing distortions to efficient network use.
- Give **little incentive for users to disconnect entirely from the network**, because network users with on-site generation or storage can pay very little toward network costs, but still maintain a connection for backup, achieving a high level of reliability.
- **Straightforward to implement** and may work well in a hybrid form with fixed or capacity charges.

Our initial view is that net volumetric demand charges **would not be appropriate as the sole approach to recovery of residual charges, as they send signals to network users that are likely to result in inefficient network use**

- A simple fixed charge, per network user **should not distort user decisions**
- Could give an **increased incentive for inefficient grid** disconnection
- Key fairness consideration:
 - **Regressive effects** in design of the charging framework
 - **Perceptions**: Doesn't relate to ability to access or use then network, so may be considered unfair
- **Easy to implement**, hybrids and implementation could limit regressive effects

In summary: shortlist

- Ex ante capacity demand charges are **less distorting to operational decisions** around network use
- **Increase incentives** for inefficient grid disconnection
- Key fairness consideration:
 - Household consumers may see some **regressive distributional** effects
- Agreed capacity charges may **support efficient planning** of the network
- Hybrids and implementation could limit regressive effects
- **In summary: shortlist**

- Ex post capacity demand charges are **less distorting to operational decisions** around network use, but potentially incentivises less than optimal capacity use
 - Residual charges do not relate to peak system use, but individual user peaks could be an option for recovering them. Our Electricity network access project will consider how to send cost reflective signals at peak.
- Incentive for **inefficient disconnection low**
- There are implementation challenges
 - To achieve an ex-post capacity charge, a measure of peak use is required. As the residual component of the charges is not intended to reflect the costs imposed by individual network users, coincidence with system peak has limited benefits.
 - What if someone moves?
- Lower residual contributions for an initial block of capacity might be appropriate.
- **In summary: shortlist**

- The term ‘gross charging’ is used to refer to different types of charging arrangements. We are defining this as true gross charging, where all of a user’s consumption is measured.
- **Might not drive large responses to reduce charges**, as gross consumption is relatively price insensitive for most users.
- Key fairness consideration:
 - Responses could be positive (energy efficiency) or negative for some users (not heating homes properly).
 - many people may not find this option acceptable on principle
- **The practical challenge of this option is considerable.**
 - Would require a new metering approach, and changes to the parties that can access information from the meters.
 - It would require considerable change in our approach to what happens on-site and be extremely challenging to monitor and ensure compliance.
- **In summary: for business users – shortlist, for all others – take no further**

- Net volumetric import and export charges are effectively set on the sum of net import and net export.
- Has been proposed for the setting of overall network charges (cost reflective and cost recovery elements), rather than for residual/cost recovery charges alone.
- Applied to residual charges it would incentivise some users to take action to adjust their network usage that would not be efficient in terms of overall system costs.
- **In summary: take no further**

- Would **incentivise demand matching for onsite generation**
 - This could run counter to system needs, and could impact market flexibility
 - May lead prosumers to size any behind the meter assets simply to reduce their capacity requirements, leading to inefficient investment decisions.
- **Challenging to implement** and would require a method of metering both maximum import and export use.
- In principle, this would charge users a residual which was linked to their system requirements.
- **In summary: take no further**

Fixed charges

- Based on a range of implementation options

Capacity demand charges

- Ex post
- Ex ante

Gross consumption charges

- For business consumers

Baseline arrangements

- For T and D charging

Question time

- Of the shortlisted options, what is your initial lead?
 - Fixed charges
 - Ex ante capacity charges
 - Ex post capacity charges
 - Gross consumption
 - Baseline
- Do you agree with our initial assessment of the options?

Practical considerations

- **Feasibility of the options** – with current or future arrangements
- Metering requirements
 - HH or Smart metering, profiling, use of historical data, data collection
- Data requirement and pass through of data for billing
 - Data availability, HH data, historical data, data access requirements, MPAN data
- Industry/consumer impact
 - Impact on billing arrangements/operational behaviour
- Cost – Industry and consumer cost of possible change
- Contractual implications
- Transition period

Type of charge	Fixed	Gross consumption	Ex-post capacity	Ex-ante capacity
Metering	Can utilise current metering arrangements. May require additional MPAN data access for National Grid.	Requires additional metering (HH) to be installed for most users and for HH metering for all users.	Can utilise the current HH metering for larger HH users but likely additional and HH metering required for household users	Can utilise the current HH metering for larger HH users but likely additional and HH metering required for household users
Data flows	HH data not necessarily required	Additional HH data collection and pass through required. HH data accessibility a possible issue.	Historical data available for some users. HH data required for smaller users unless profile used.	Historical data and agreed capacity available for some larger users. HH data required for smaller users, unless profile used. Accessibility to the HH data a possible issue.
Cost	Likely lowest cost. Can utilise current data, metering and systems.	Likely highest cost due to additional metering and data collection required. System and consumer cost.	Dependent on smart meter roll out for household users. Likely lower cost than gross metering. Aggregating the data may have lower cost. Historical data required for some users.	Dependent on smart meter roll out for household users. Likely lower cost than gross metering. Aggregating the data may have lower cost. Likely administration costs in agreement of capacity.

- **What are the benefits or difficulties with each of the options (20 minutes)**
 - 5 minutes on each option – Gross, Fixed, Ex-ante, Ex-post
 - Initial reactions to which options might be easier/harder to implement
- **Considering your thoughts from the previous discussion (above), how could the options be implemented? – Only consider two options (30 minutes)**
 - How could you implement today vs in the future
 - Consider the information we currently have which could facilitate the implementation of the different option(s) (data, metering, TO/DNO/supplier systems)
 - Consider what additional frameworks/information might be required for implementation

Further analytical work

- Now that we have developed a short-list of options, we are ready to move on to the next phase of the SCR which will mean further analytical work
- Three levels of analysis
 - What are the residual charges and associated incentives faced by individual users due to the existing arrangements, and how are they affected by a change in the method by which residual charges are collected?
 - What aggregate (whole system) changes might be expected from a change to residual charges.
 - Costs of change

- the characteristics of the user group segments and their associated behavioural responses;
 - the costs of technologies or behaviours that might be adopted to reduce exposure to residual charges, ...
 - ... the increased or decreased costs of networks, generation or balancing that may arise from particular changes in user behaviour; and
 - the approach by which we take account of other policy developments that may overlap, such as Ofgem's Electricity network access project or changes to the size or charging mechanisms of other costs recovered from energy users.
-
- ... sensitivities

Distributional analysis of the likely impact of different charging bases

- How do different charging bases (residual collection options) affect network users?
- How do different charging bases lead to changes in the distribution of charges among network users?
- What scope is there for users to respond in ways which reduce their residual charges?
- What does this mean for other users who are less able to respond?

Economic impact of possible different charging bases

- What costs or benefits would changes to residual collection bring to the system?
- Is change beneficial for the system and consumers?

Practical considerations

- Are the desired changes achievable?
- Are the costs of implementation proportionate?
- How futureproof/flexible/scenario specific are options?

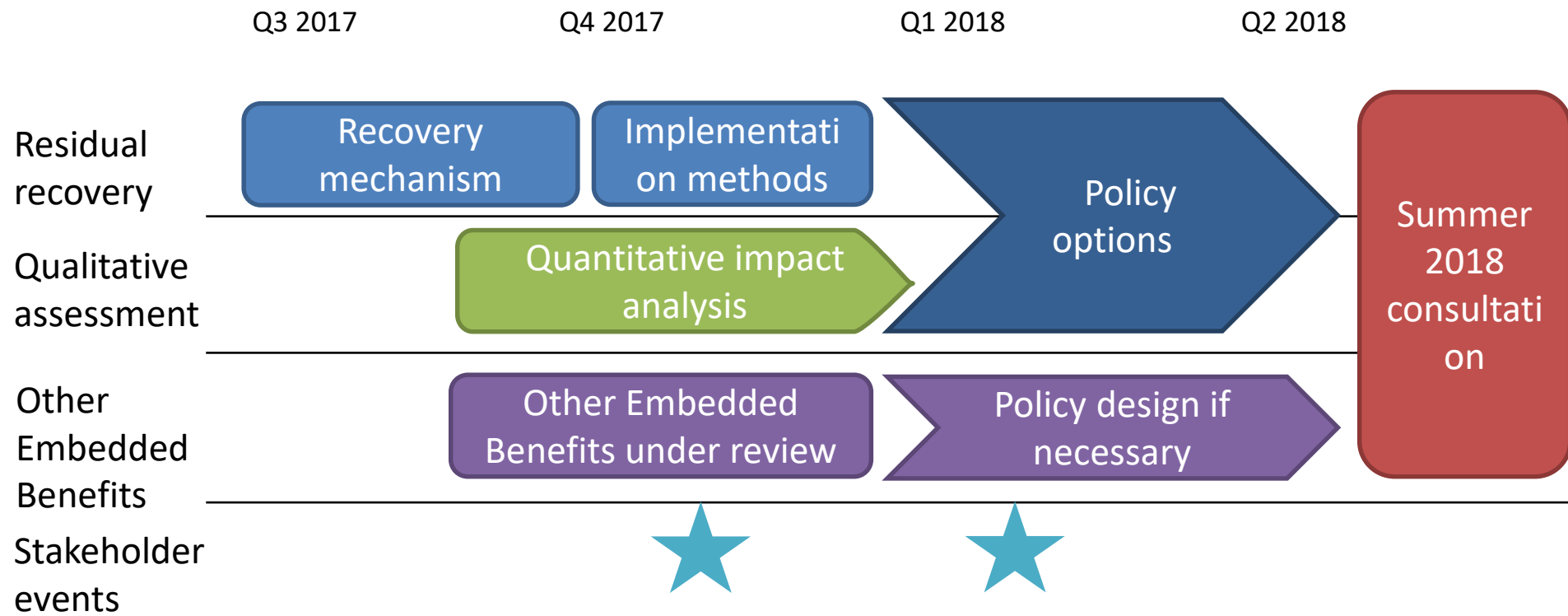
Assessment of how network user responses to charges affect development and use of system

- How will different charging bases lead to changes to the system and industry?
- What distortions are there from the residual charges to the incentives provided by the forward-looking charges?
- Are there incidental benefits from network users' responses to residual network charges?

Discussion topics

- Do you agree with our initial plans for further analytical work? What would you expect to see?
- Should we conduct a tariff impact assessment on the proposed charges?
- Distributional impacts – what would people like to see?
- What sensitivity analysis will be important for this work?

WRAP UP



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.