

**Gas System  
Operator**

# Capacity Access Review

**Transmission Workgroup**  
5<sup>th</sup> December 2019

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# Scene Setting

- November Transmission Workgroup:
  - functions of the capacity access regime and their relevancy for the future
  - how those functions could be delivered in the future
- Following the last Transmission WG there were 2 asks of industry
  1. What issues are caused by the short-term problems
  2. Alternative “principles” for a future Capacity Access Regime
- At December Workgroup aims:
  1. Impacts
  2. Long-term ambition
  3. Understanding the specific issues caused by the short term problems
  4. Agree Workplan

# Scope

## In Scope:

- Entry and Exit capacity regime
- Baselines review outputs

## Out of scope:

- 50/50 revenue split between entry and exit
- NExA / NEA / Gas Quality

## Limitations:

Compliance with EU Law but not the assumption that rules applied at IPs have to be the same as domestic points.

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01

Impacts

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# Impacts

**Action 1102:** NG to present current thinking in relation to the National Grid 5 Year Business Plan, highlighting the impacts to the Access Regime

RIIO2 5 Year Business Plan

- Network Capability
- Baselines Review

Charging Review

How the gas landscape could change in the energy transition

- Gas Markets Plan = following on from Future of Gas and Future Energy Scenarios

# RIO2 5 Year Business Plan

Publish RIO2 business plans in December 2019

## Network Capability Review

- NG are planning no significant changes to the proposed levels of physical capability during RIO-2
- However asset life issues could result in a potentially a more constrained network in the longer term future

## Baselines Review

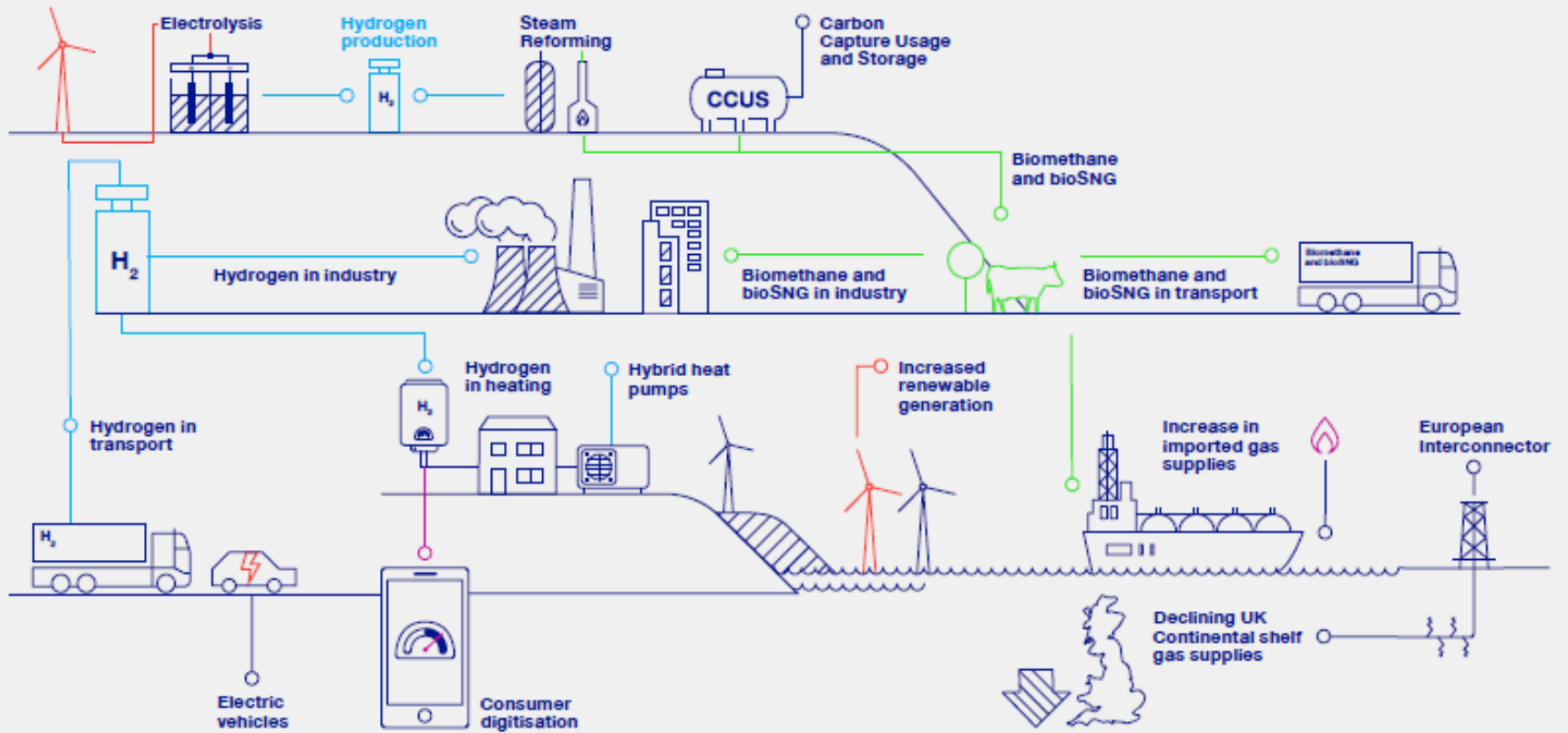
- Ofgem has asked NG to review baselines as they are perceived to be too high at certain points
- We are currently looking at potential baseline **reductions only** at Theddlethorpe and St Fergus
- No changes on Exit
- If the current direction remains then the Baselines Review is likely to have no major impact on Capacity Access Review
- Possibility of a “mothballed capacity product” in the future

# Mod 678 - Amendments to Gas Transmission Charging Regime

- Mod 678 - Amendments to Gas Transmission Charging Regime minded to decision expected from Ofgem by end of December 2019.
- Mod 678 offers a range of differing solutions which will all have different impacts on capacity booking behaviours.
- The outcome of the ongoing gas transmission charging review will impact the way capacity is bought. We cannot accurately model this behaviour however we can make certain assumptions going forward:
  - All capacity will have a non-zero reserve price.
  - Changes to the charging methodology will most likely result in changes to behaviours when booking capacity.
  - Likely to have an impact on secondary trades
  - A higher proportion of revenue will be recovered through capacity charges.
- When the capacity reserve price increases, any over run charges incurred increase
- There is a range of discount options available from the range of modifications which could all have different impacts on capacity booking behaviours.
- Ofgem will be publishing 2 relevant documents soon in relation to the GTCR, they have taken account of relevant principles of the Electricity Charging Review

## Evolving our approach to market change

What could the world look like by 2030?





## How the gas landscape could change in the energy transition

During the Future of Gas programme, we explored how the gas system could change out to 2050. Since the conclusions in March 2019, we have focused on exploring what could emerge in the next decade in collaboration with industry and stakeholders. We have identified an initial set of likely and potential future transformations over the next 2–10 years.

Initially identified **likely** and **potential** future transformations

### Likely future transformations



#### Reducing unabated natural gas end-usage demand

Over the past decade, we have seen annual gas demand decline. With increased levels of energy efficiency and the need to decarbonise, demand for natural gas as it is used today will reduce.



#### Changing natural gas supply mix

With the decline in UKCS supplies expected to continue, the UK's dependence on imports is expected to continue to rise.



#### Changing natural gas to power needs

The growth of renewables is changing the primary role of gas-fired power generation. Gas is moving from being a steady generator of electricity across the day to one that is more flexible and commercially-responsive. This shift will continue as renewable generation connects to the electricity system.

### Potential future transformations



#### Increased hydrogen production and consumption

Hydrogen alongside other technologies is expected to play a significant role in the decarbonisation of heating (and other sectors).



#### Shale production

Shale flow, which has been explored in Lancashire, could provide an additional domestic supply of natural gas to the UK.



#### Gas and electricity interactions

The potential for power-to-gas (hydrogen) and growth in hybrid heat pumps could lead to a large change in the ways gas and electricity markets interact.



#### Increased biomethane and bioSNG production and consumption

Biomethane and bioSNG could play a role in providing a low-carbon alternative to natural gas, and in helping to decarbonise transport.



#### EU future energy trends

It is expected that the next European gas package will help progress towards decarbonisation. Depending on their priorities, member states may choose to take different pathways to decarbonisation. This could impact how gas is brought on and off the transmission system.

# Impact on Capacity Access Regime as the gas landscape changes in the energy transition

## Likely transformations that drive the need to explore potential gas quality reforms:

### Reducing unabated natural gas end usage demand:

If gas demand declines, capacity may become less of a scarcity than it is today. However, it may be required to be used more flexibly where supply and demand may be in more concentrated locations.

### Changing natural gas supply mix:

The capacity regime will be required to be adaptable, simple to quickly allow new sources of gas to connect and flow onto the NTS. In the situation whereby gas is being used more flexibly and shorter-term capacity products are required, planning the network from long-term capacity auctions may not continue to be appropriate.

### Changing natural gas to power needs:

The requirement for gas to become increasingly flexible may require different capacity products to be available including the possibility of within day flexibility.

## Future transformation that drive the need to explore potential capacity reform:

### Increased hydrogen, biomethane, bioSNG production and consumption

Depending on how low-carbon gasses are produced, transported and consumed, reform may be needed to effectively how the capacity regime develops to accommodate this. Through the introduction of CLoCC, smaller sites are now able to connect and be allocated capacity easier, however, further development may be required.

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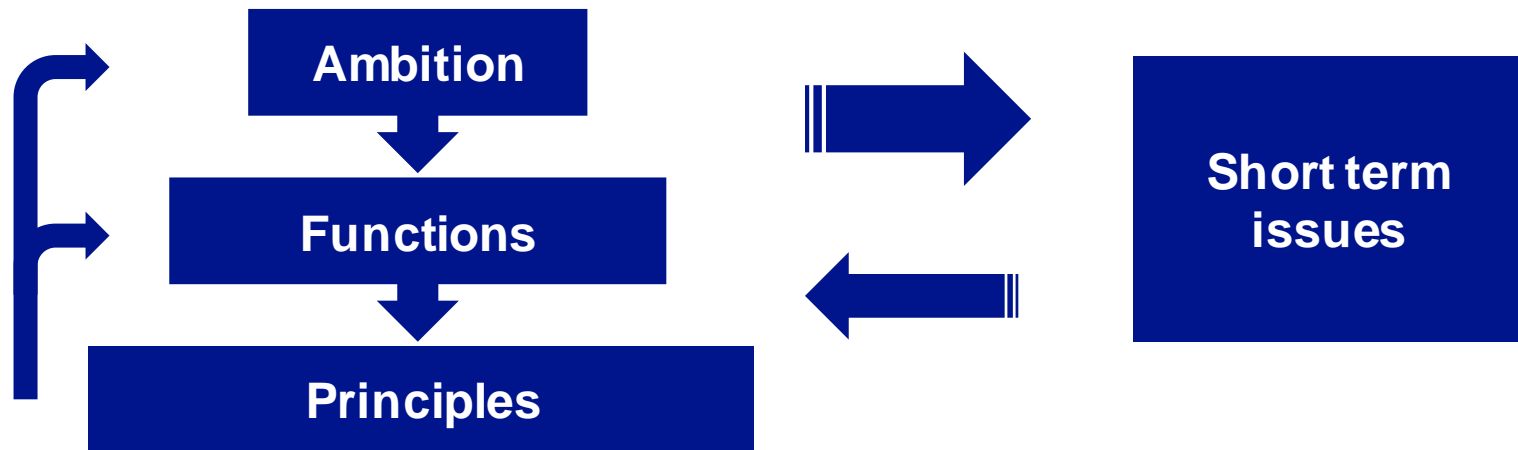
02

Long Term  
Ambition

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# Setting the Long-term ambition to solve short-term issues



# Future capacity access regime ambition statement

The future capacity access regime will be **compliant** with EU requirements. It will be **flexible** to changing market conditions, regimes and requirements. It will be **simple** and will **enable** new entrants to access the market **easily** and **efficiently**. It will not unfairly discriminate. It will provide **cost effective** products which drive consumer value.

The future capacity access regime will **enable** Users, new and existing, to access the NTS where and when they require with **minimal disruption**. It will be **adaptable** as the use of the NTS develops to meet decarbonisation targets. It will effectively **reflect** the network development required with today's use of the NTS and will be **fit for purpose** for the physical gas network of the future.

Workgroup: Views on this ambition?

# Functions of capacity access regime & how current capacity access regime meets those functions

- Signal a need for investment (and efficiently plan the network)
  - *Industry believe the current capacity regime is too overbearing, inflexible and expensive to signal need for investment*
- Manage network access where there is a short-term constraint
  - *Industry believe the current over-run charges do not effectively meet this function*
- Provide Users with commercial certainty on network access
  - *Industry believe the current capacity regime provides practical certainty on product but not commercial certainty (due to Forecasted Contracted Capacity changing yearly– Charging issue).*
- Collect Transporter allowed revenue
  - *Industry believe the current capacity regime is appropriate for this function*
- Enable new entrants, including new sources of gas and technologies, to easily and efficiently access the NTS

Workgroup: Expand on this view

# “Principles” of a future capacity access regime

Today, the capacity access regime is built on the principle that Users buy capacity in auctions ahead of flowing. What alternative principles could underpin a future capacity access regime to meet the ambition statement and provide required functions?

	Signal need for investment	Manage network access when a short term constraint	Provide commercial certainty	Collect Transporter allowed revenue	Ease of access for new entrants
<b>Implicit capacity Allocation</b> <i>Capacity costs are included in commodity prices</i> <i>Nominate what flow, if accepted capacity is allocated</i>	No	Yes*	Mostly*	Yes	Yes
<b>Unrestricted entry with NG constraint mechanism</b> <i>Capacity products but no baseline</i>	No	Yes*	Mostly*	Yes	Yes
<b>Unrestricted entry with NG Constraint mechanism</b> <i>No capacity products and no baselines</i>	No	Yes*	Mostly*	Not compliant with TAR	Yes

\* Would not allow for efficient allocation of network capability

\* Wouldn't know what price paid

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Current Issues

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# Issues

A	Over-run charges	Are Over-run charges appropriate and incentivising “right” behaviour?	Over-run charges are based on 8times the highest capacity price paid on that day. It is anticipated by industry that these charges are expected to rise after implementation of the Charging Review due to a higher proportion of charges are expected to be recovered through capacity.	Governance	
B	Substitution	Is the process and the associated timescales appropriate?	Can the timescales for the substitution process be reduced? Can rules be made clearer, simpler?		UNC / Methodology
	Retainers	Are retainers still required with the introduction of PARCA?			
	Trade and Transfer	Any issues?			
C	Capacity Products	Are new products required or redundant products?	Development of a “mothballed” capacity product following baseline review at Theddlethorpe Development of a “tradeable” entry capacity product Within day capacity product development Disaggregating NTS Exit capacity purchases for embedded “large” offtakes from DN capacity bookings. Temperature based product Shorter term auctions	Are the rules contained in the right place?	
D	Zonal	Introduction of a zonal capacity regime	Could this be an alternative to substitution and transfer?		
E	PARCA	Appropriateness of fees Embedding and extending the “PARCA light process” embedded with CLoCC.	Are there any issues with the PARCA process? Is there an appetite for further review of PARCA?		
F	User Commitment	Are the levels of User Commitment appropriate? <i>Potential links with PARCA and substitution</i>	Are the arrangements for the varying types of User Commitment appropriate?		
G	Flex	Dependent on outcome of network capability work	Is the existing flex product appropriate for Tx?		

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04

Work Plan

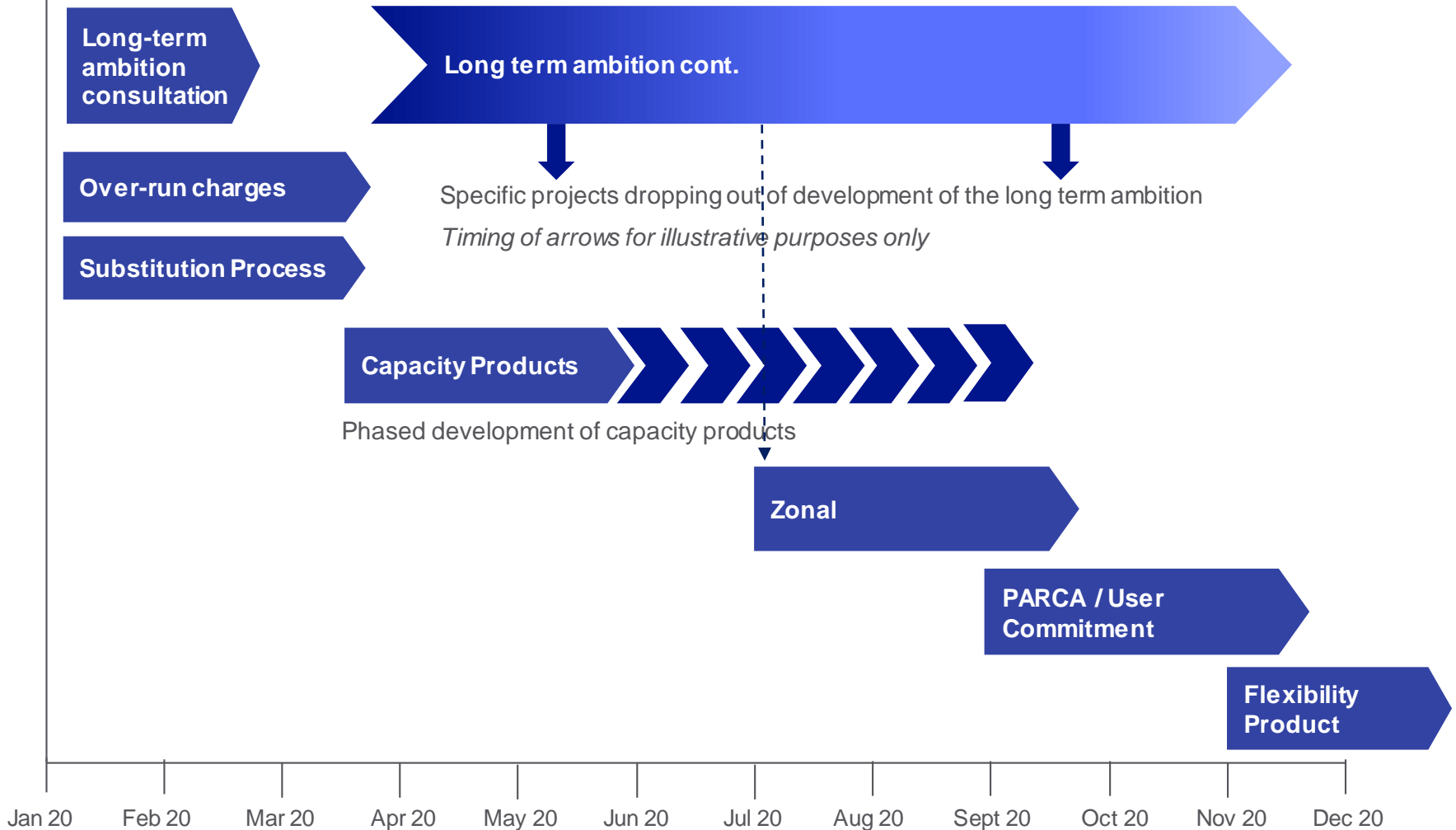
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# High level draft plan

8<sup>th</sup> January Tx WG:  
Launch of Consultation

5<sup>th</sup> March Tx WG:  
Consultation Response  
overview & next steps



# Next Steps

National Grid:

- Write “long-term ambition” consultation
- Investigation into options for over-run charges
- Investigation into options for reducing timescales for substitution process

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