

Chapter 7

Connecting to the gas system

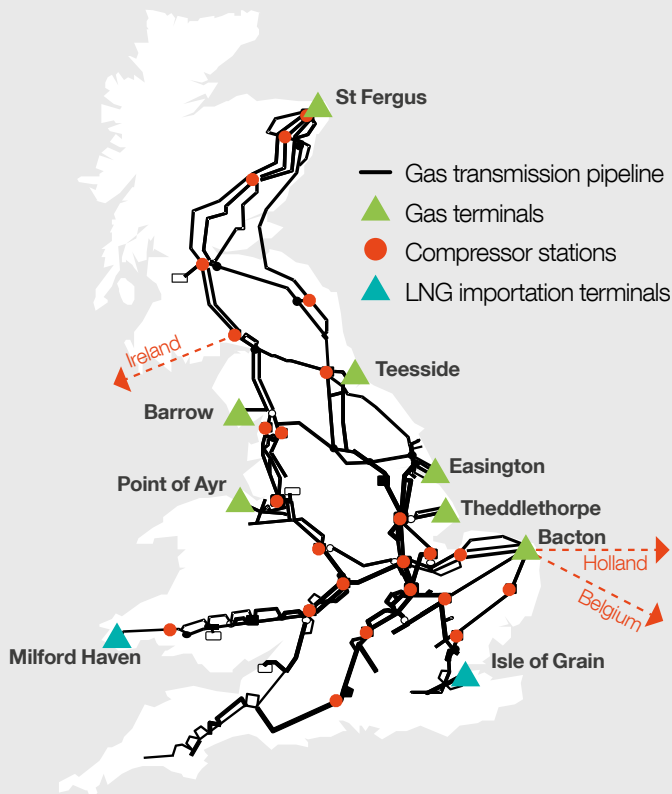
I want to connect to
the transmission system

**Gas
Transmission**

nationalgrid

7. I want to connect to the transmission system

Figure 7.1: Gas national transmission system



Summary

Our network connects supplies from nine gas importation facilities to nearly 100 offtakes for distribution networks, power stations and interconnectors, as well as eight storage sites.

Managing connections is an important role. It's a small part of our total spend, but it is essential for the competitive wholesale gas and electricity markets to work effectively.

We manage the process by connecting, modifying or disconnecting new and existing sources of gas supply and demand as customers' requirements change.

Our future focus is on improving the service to our existing customers. We also want to make our network more accessible to new entrants. This includes biomethane entry customers and gas-powered vehicle refuelling station exit customers.

Customers pay for a physical connection to the network. In the current regulatory period, we have met all customer needs without expenditure on deeper reinforcement of our network. Deeper reinforcement would have to be triggered by firm customer commitment. This would be remunerated separately through a revenue driver mechanism. In RIIO-1, this mechanism has not been called upon.

“Our future focus is on improving the service to our existing customers. We also want to make our network more accessible to new entrants.”

What our stakeholders tell us

After listening to your views, we have summarised what you told us, supported by specific comments:

- We have heard that our traditional processes for large users can be difficult to understand. They take too long and progress is not always transparent.

“You have taken steps to increase customer engagement, and have improved connections process, but could do more in terms of explaining the connection and capacity process.”

“Transparency should be the umbrella over this priority.”

- Our existing technical specifications and connection costs present barriers for new entrants developing smaller-scale projects.

“Workshops involving potential connectors should continue beyond project CLoCC. Getting together with, and providing an open environment to, customers and experts to seek ideas to address certain barriers. Such as dealing with varying gas quality and thermal value as supply sources change.”

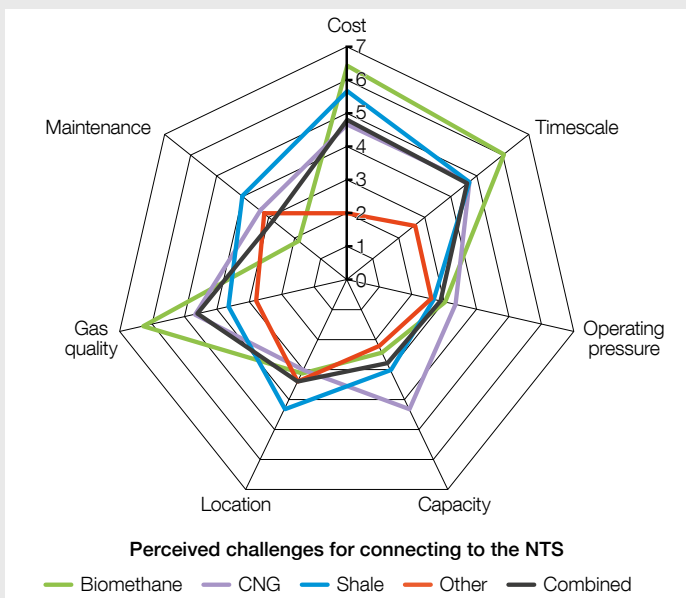
- If we don't change, connecting to our network will be prohibitive for certain projects. This would include biomethane entry connections and gas-powered vehicle refuelling station exit connections.

"The end customer will want to connect even where there is not currently the means for them to do so. National Grid should make gas more accessible."

"A service that could be improved would be the connection process for gas transport i.e. buses, HGVs. There should be a tailored service for new entrants."

In response to this feedback, we initiated [project Customer Low Cost Connections \(CLOCC\)](#). This project was National Grid's successful entry into the 2015 Gas National Innovation Competition (NIC). It aims to minimise the cost and time of new connections to the National Transmission System (NTS). Figure 7.2 shows data captured from customer feedback on the perceived challenges of connecting to the system. Project CLOCC is seeking to overcome these challenges.

Figure 7.2: Customer feedback on perceived challenges connecting to the NTS. Source: project CLOCC, March 2017



What our stakeholders tell us

Our activities and current performance

Our connection obligations are set out in the Unified Network Code. This approach is designed to achieve a level playing field for market participants.

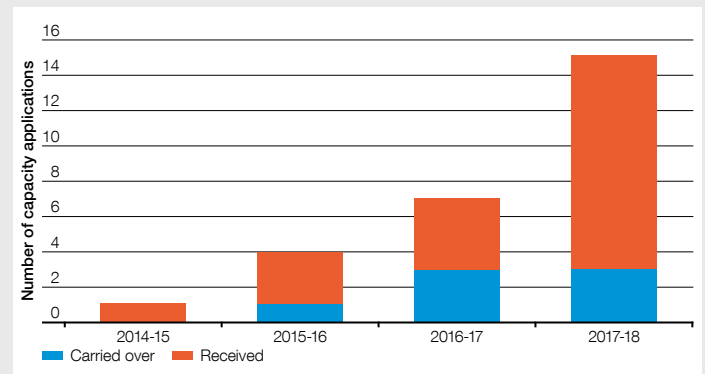
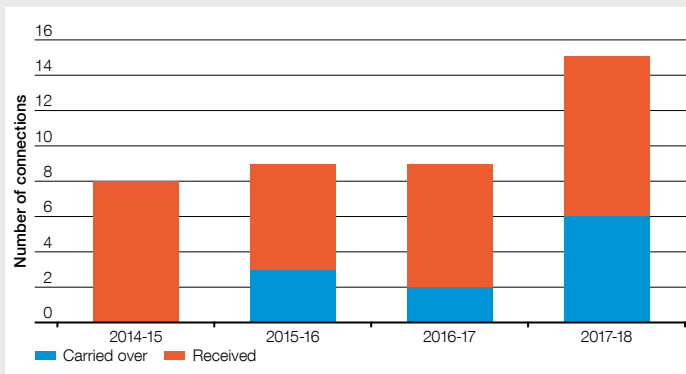
We follow established processes in this area. These are the [connection process](#), covering the physical connection to the system, and the reservation of [capacity process](#), covering firm rights to flow gas on and off the system.

We also report our current connections performance to Ofgem. This is done as a RIIO-1 output measure. We keep the market informed using key publications such as the *Gas Ten Year Statement*.

The volume of work we do reflects both the number and type of connection and capacity applications we receive. We are seeing increased workload. This is driven by:

- Interest from new entrants with smaller flow rates, such as biogas. We have listened to feedback and we are making changes to our connections process to support new entrants.
- Customers modifying arrangements to maximise value from existing sites or assets.
- Customers who would like to align gas connection and capacity reservations with electricity capacity market timelines.
- An increase in activity around disconnections and decommissioning.

Figure 7.3: Number of connection and capacity applications during RIIO-1



As at September 2018 we had 51 connection and 24 capacity customer projects in progress. These projects are at all stages of development. They range from pre-application discussions to feasibility, formal application submitted, offer made, design and build, and reconciliation.

51
connection and

24
capacity customer projects in progress as of September 2018.

When we assess applications, we evaluate the most efficient way to meet customers’ needs. Where possible, we meet customer capacity requirements by substituting capacity from one point of the system to another. This ensures we maximise use of the existing grid. It avoids the cost and time that would be involved in deeper system reinforcement to provide incremental capacity.

During RIIO-1, we have managed all changing customer requirements without needing incremental capacity investment. We have accommodated the equivalent capacity of several large power stations by substitution.

However, that position is changing. There are parts of our network where additional customer capacity requirements could no longer be met by substitution. It is not yet clear whether any deeper system reinforcement will be triggered. If this does happen, we will provide public notice to market participants through the capacity process.

Our direction of travel

Customer focus

We will continue to focus on delivering timely capacity and connections for our customers. We aim to respond better to customer needs and to improve the overall experience. We'll do this by tackling 'pinch points' in the process that you have told us about.

We receive feedback from various channels including customer satisfaction surveys and our Customer Journey work. We have been listening to your experience of taking projects through the journey of connecting to our system and will act on this feedback.

"We will continue to focus on delivering timely capacity and connections for our customers."

Maximising use of the existing system

We will maximise how we use existing assets to benefit customers by substituting capacity where possible rather than by building incremental transmission capacity.

Embedding innovation: Customer Low Cost Connections (CLoCC)

We plan to make our network more accessible to new entrants such as biomethane entry customers and gas-powered vehicle refuelling station exit customers. We are working on a host of improvements identified as part of project CLoCC.

Key improvements we aim to deliver and embed into business as usual include:

- A web portal to streamline the Application to Offer process (for all sizes of connection).
- Application fees reduced from £109k to £13k.
- A quicker route through capacity reservation for pre-screened green light connection locations.
- Acceptance of higher oxygen content gas from biomethane producers.
- Standardised connection designs and immediate connection cost quotations.
- A pilot connection project under way, with others set to follow in 2019.

Application fees reduced from

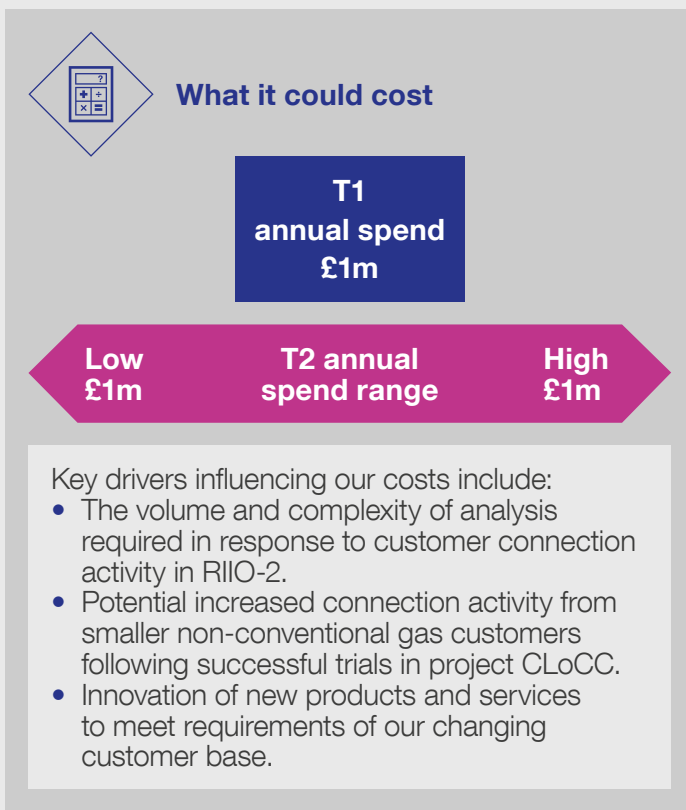
£109k
to **£13k**

"We are working on a host of improvements identified as part of project CLoCC."

What it could cost

The data below shows the average annual estimated operating cost for us to run the connections process.

This largely covers the teams that manage the connection and capacity processes and day-to-day management of existing contracts. We estimate that, excluding inflation, our operating spend will change little between RIIO-1 and RIIO-2. Potential extra activity should be offset by more efficient processes, such as the portal.



Note that the data does not allow for load-related capital expenditure to reinforce the system or decommission assets which might be needed but only if triggered by customer commitments. Examples of when system reinforcement might be needed include if shale gas extraction ramps up in volume or if liquefied natural gas (LNG) terminals expand.

Initial planning assumptions

We have made some starting assumptions for the connections priority area:

- **Number of connections:** Our initial assumption is that we can flex resources to process a variable number of customer connection requirements that might arise in the period.
- **Incremental capacity:** Future customer requirements are uncertain. We don't yet know if deeper network reinforcement involving capital expenditure will be needed. We assume our baseline plan would include no 'anticipatory' incremental network investment ahead of firm customer commitment.
- **Uncertainty mechanisms:** We assume that an in-period revenue adjustment mechanism should be included in RIIO-2. This would enable our allowed revenue to be adjusted to reflect the costs we incur if customer activity does require network reinforcement.

We welcome your views:

Chapter:
Connecting to the gas system

Question:
11. What views do you have on how we could further improve our connections service?

Submit your feedback online [here](#):

How to use this document

We want your feedback

Who is this consultation aimed at?

We are interested in the views of all stakeholders who are impacted by what we do and shaping the future of gas transmission. This includes the views of gas consumers, government and regulatory bodies, energy industry professionals and members of the public.

Tell us what you think

This consultation is open until 31 March 2019. You may give us feedback in the ways outlined below. We particularly seek your views in response to the specific questions we have posed. These are summarised on page 12. You may respond to all questions or just those relevant to your specific views.

Ways to feed back:

Make notes

Throughout the document, we have provided space for you to read and make notes at the start of each chapter (opposite). You can then type up your notes and send them in an email or submit them online.



Interactive pdf notes

Alternatively, we will be sending out editable pdf versions of this document with note fields for you to type directly into.

Email

We have a dedicated email address specifically for your feedback to this document. We welcome your thoughts at:

jennifer.pemberton@nationalgrid.com



Alternatively, you can put your thoughts in writing and send to: Jennifer Pemberton, National Grid House, Warwick Technology Park, Gallows Hill, Warwick. CV34 6DA.

Online

You can go directly to the website and submit your comments [here](#).



**Please share
your thoughts:**