

# Chapter 1

## Executive summary

Shaping the gas transmission  
system of the future

Gas  
Transmission

nationalgrid

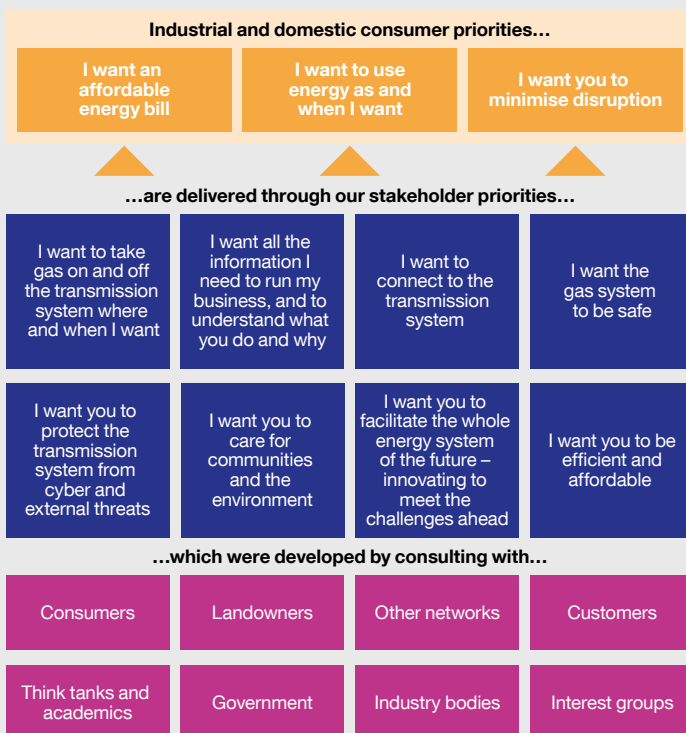
# 1. Executive summary

We are carrying out a programme of coordinated, structured and inclusive engagement to listen to what our stakeholders want in RIIO-2, and to build our plans with them. At all levels in our business, we are committed to working closely with our stakeholders to deliver a truly stakeholder-led plan.

## Playing back your priorities for us

Through listening to our stakeholders we have identified three consumer priorities, which we will deliver through focusing on eight stakeholder priorities for our business plan. We are building our business plan, and have structured this consultation, around these eight priorities.

**Figure 1.1: Gas transmission consumer and stakeholder priorities**



## How we are responding to your priorities

### I want the gas system to be safe

You tell us consistently that safety is a top priority and you are aware of the risks and the crucial role of the gas transmission system. Without it, much of industry would be without energy and the public would be without heating.

For RIIO-2, we aim to be recognised as a high performer in process safety. We will do this by demonstrating industry leading risk controls, performance and safety culture in the way we manage all our major accident hazards.

### I want to take gas on and off the transmission system where and when I want

You are clear how important gas transmission is in the energy mix. You also support a continued role for gas while ensuring the network is efficient and delivers the right capabilities for current and future stakeholders.

For RIIO-2, we will work with you to define the network capability you want and need. We will shape our business plan to deliver this efficiently. This will mean integrating commercial and asset solutions that balance the network implications across cost, reliability and environmental performance.

### I want to connect to the transmission system

You tell us it should be quicker, simpler and less costly to connect to our network.

For RIIO-2, we will build on the connection enhancements we have put in place during RIIO-1. Our focus is on responding better to customer needs, improving the overall connections experience and making our network easier to access for new entrants, particularly smaller “green gas” projects.

### **I want all the information I need to run my business, and to understand what you do and why**

You say that you value the information we provide. The data we supply is crucial in managing your commercial processes. Your information needs are changing and you want different forms of information, as well as continued improvements in data quality and access.

We are establishing a community approach. This will allow us to work together with stakeholders to prioritise what information we publish, where and how. In RIIO-2, we will strive to meet the growing needs of our stakeholders at minimal cost.

### **I want you to care for communities and the environment**

You tell us we should consider all types of emissions. Our biggest environmental impact is the emissions from using gas-powered compressors to move gas around the system.

For RIIO-2, we expect to undertake work to ensure our compressor fleet meets tightening air quality legislation. We will also explore with you other initiatives we could focus on. These might include reducing the carbon intensity of our construction activities or cutting our methane emissions. We could also focus on removing redundant assets and using non-operational land to support local communities.

### **I want you to facilitate the whole energy system of the future – innovating to meet the challenges ahead**

Feedback tells us that you support the principle of a whole energy system approach. There are different views as to what this really means. You recognise that gas transmission will play an important role in the energy transition, but it is for us to work with you to clarify that role.

We will work collaboratively with other sectors, for RIIO-2, to identify the right ways of working and arrangements to support whole energy system thinking. This will help us to pinpoint where we can improve consumer outcomes by taking a whole system approach.

### **I want you to protect the transmission system from cyber and external threats**

We understand that you want us to be resilient to external threats, such as cyber-attacks and physical attacks. They can threaten our systems and our service to consumers. You want us to be able to deal with such threats and incidents effectively.

For RIIO-2, we will invest to ensure we have the right levels of resilience to external threats as agreed by the Government.

### **I want you to be efficient and affordable**

You want your energy to be affordable. We will ensure we play our part in this by creating our business plan using the appropriate techniques. For example, we will explore consumers' willingness to pay for alternative service levels. We will test the acceptability of the plan, undertake benchmarking, and use cost benefit analysis to underpin our spending decisions.

**Indicative cost ranges**

We are providing an early indication of total expenditure (totex) in the RII0-2 period. The indicative range for our average annual totex during RII0-2 is between £0.56bn and £0.72bn a year. This compares with an estimated annual average of £0.40bn during RII0-1.

The biggest factors driving the increase and the range are:

1. Gas on and off the system: To avoid disruption we must maintain our assets to ensure they are operational and reliable. We have an ageing asset base. This means increased work will be needed to maintain the same level of service that customers have seen in RII0-1. The range is driven by potential differences in how much activity we need to undertake.
2. Communities and environment: The trend is for increased spending to reduce the level of harmful emissions from our compressors that move gas around the system. We are also obliged to meet emissions compliance deadlines. The range is driven by different possible compliance strategies and timing of work during RII0-2 and out to 2030.
3. External threats: We need to do more work to combat the increasing level and sophistication of external threats. Cyber security is particularly important.

Against each section of our playback we have outlined indicative cost ranges so that we can be transparent with you about our current position.

These numbers do not yet represent our business plan. Feedback from this process will be used to inform our draft business plan scheduled for July.

**Figure 1.2: Indicative cost ranges by stakeholder priority. £m per annum**

<b>£250m to £350m</b>		<b>£120m to £145m</b>	<b>£90m (minimum)</b>
<b>Gas on and off the system</b> (RIIO-1: £212m)		<b>Communities and environment</b> (RIIO-1: £44m)	<b>External threats</b> (RIIO-1: £34m)
<b>£20m to £30m</b>	<b>£14m to £16m</b>	<b>£6m to £10m</b>	<b>£1m*</b>
<b>Whole energy system</b> (RIIO-1: £21m)	<b>Safety</b> (RIIO-1: £14m)	<b>Information provision</b> (RIIO-1: £6m)	<b>Connect to the system</b> (RIIO-1: £1m)
<b>£60m to £75m (business support) underpinned by an efficient and affordable plan (RIIO-1: £68m)</b>			

2017/18 price base

\*Approximate values

Key assumptions underlying the ranges include:

- Starting point for analysis is that the GT Network stays largely as it is – this will be subject to stakeholder engagement on network capability.
- Figures do not include any allowance for general inflation or future changes in specific commodity prices like the cost of steel (real price effects).
- Organisational and other efficiencies already delivered in RII0-1 have been embedded into the RII0-2 ranges.
- Our range is based on our current level of efficiency – as we develop the detail of our plan we expect to share how we plan to deliver future efficiencies.
- The totex ranges only relate to the sum of our controllable operating expenditure (opex) and capital expenditure (capex). There are some elements of our funding (and therefore consumer bills) that we do not control and where the costs are passed straight through to consumers (such as rates and licence fees).

### Consumer bills

As we develop our business plan, we will look carefully at the potential impact of our plans on current and future bills. We calculate our consumer bill impact using Ofgem’s consumer bill methodology. This splits costs into segments including wholesale, environmental and network charges.

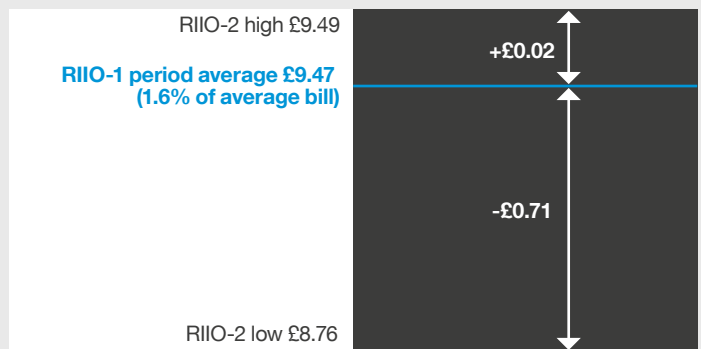
Around half of our total revenue comes from the charges paid by our direct customers. This is either for specific services or when they put gas onto the transmission system. This is considered part of wholesale market prices.

The remaining half of our total revenue is recovered as network charges when gas is taken off the system. This element is currently around £9 per year for the average domestic dual fuel bill.

Other things being equal, a plus or minus £100m per year variance in RIIO-2 totex could affect the gas transmission part of a typical domestic consumer bill by plus or minus 40 pence.

The impact of our provisional RIIO-2 totex range on consumer bills would be between a reduction of 71 pence and an increase of 2 pence on the average household gas bill. This is based upon a like-for-like comparison with RIIO-1 e.g. excluding output incentive revenue and not considering changes in finance parameters.

**Figure 1.3: Indicative consumer bill impact**



In this illustration we have not considered other factors that can affect consumer bills such as cost of capital for RIIO-2 and future inflation.



**Next steps**

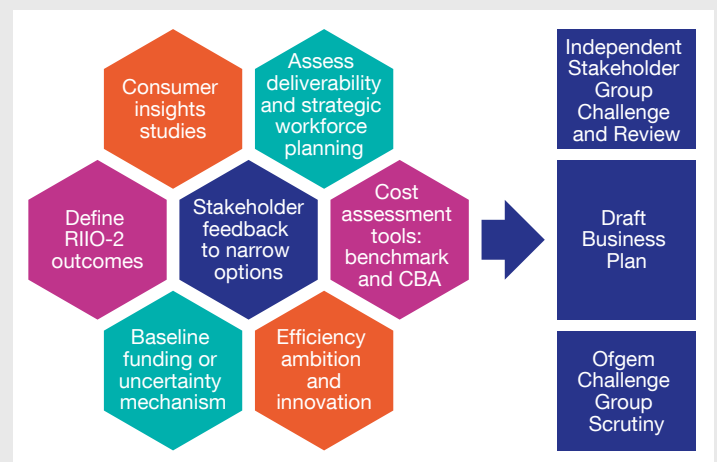
Alongside this consultation we will continue to explore the individual topics that are important to you. We have prioritised the following areas to engage further with stakeholders. This will enable us to firm up costs and options for the highest spend areas of our business plan:

- **Network capability:** We will develop a definition of network capability. It will cover the range of outputs our stakeholders want and need, for example the level of access to the network. The capability needed will then help us formulate our business plan. Taking this approach will ensure we only incur costs where they are required to meet stakeholder needs, or to keep the desired options open for future generations.
- **Asset health**
  - i. Network-wide: We will continue to consult stakeholders on the costs to achieve different levels of service as we weigh up different strategies to mitigate the reliability risks from ageing assets. We will also seek consumer insights on our asset health plans.
  - ii. Bacton site: Around a third of the country’s gas needs flow through our Bacton facility on the north Norfolk coast. This facility has been running for over 50 years. We will consult stakeholders on alternative strategies to manage and replace ageing infrastructure.
- **Environment:** We will consult stakeholders on the pros and cons of different ways to curb harmful emissions from our compressor fleet. This engagement will be linked to our network capability assessment particularly in the south east of England. Here we have three compressor sites affected by tightening emissions legislation.
- **External threats:** We will continue to engage with Ofgem and the Government on our detailed response to mitigate these threats. This will include our cyber security responsibilities under the new Network and Information Systems Regulations.

We plan a range of activities to listen to the views of end consumers. We will conduct ‘willingness to pay’ studies, so that we understand the value consumers place on certain outcomes.

Exploring all the options with stakeholders will allow us to narrow down the scope, and hence cost range, of our business plan. A tighter scope means we can better assess how deliverable the plan is, for example in terms of system access requirements. It will also enable us to undertake strategic workforce planning.

**Figure 1.4: Firming up draft business plan – illustrative process**



### Summary of consultation questions

In this consultation we pose specific questions for each chapter. Here is a summary of all the questions we would like you to consider.

### How you can respond:

Our consultation is aimed at all users of our network, government, regulatory bodies and energy industry professionals. However, we welcome responses from anyone who is interested in the future of gas transmission. Please send your responses to [jennifer.pemberton@nationalgrid.com](mailto:jennifer.pemberton@nationalgrid.com) by 31 March 2019.

Question	Chapter
1. Do you agree with our priority areas for further stakeholder engagement to firm up key aspects of our plan? The areas are (i) Network capability (ii) Asset health – Network-wide and Bacton site (iii) Environment, (iv) External threats.	Executive summary
2. Where have we reflected your wants and needs for RIIO-2 well? Are any of your priorities for RIIO-2 not yet reflected here?	General
3. Do you have any views on our style of presentation of business plan information (via the eight key stakeholder priorities)?	General
4. Have we provided you with enough information on our business to allow you to understand why and how we are responding to your priorities?	General
5. What are your views on our direction of travel for RIIO-2?	General
6. What are your views on our initial planning assumptions for RIIO-2?	General
7. Do you agree with our summary of what is important context for our business planning? Are we missing anything from this summary?	Context
8. How would you like us to engage going forward as we build our business plan for the RIIO-2 period?	Stakeholder engagement
9. What are your views on our direction of travel for safety?	Safety
10. An increased work programme to maintain the health of, and deliver the right capability from, the transmission network may be beneficial to keeping overall gas costs down for consumers. What are your views on this statement?	Gas on and off
11. What views do you have on how we could further improve our connections service?	Connecting
12. What information could we provide that would increase benefits for our customers and consumers?	Information provision
13. We must take action to curb our harmful environmental emissions in line with legal deadlines. To what extent should we be more proactive in reducing our overall impact on the environment? For example, reducing methane emissions or going beyond minimum legislative requirements.	Communities and environment
14. Where can National Grid Gas Transmission add most value through the RIIO-2 period to facilitate integrated energy systems of the future?	Whole system
15. The detail of our cyber and physical security plans will be developed confidentially with Ofgem and the Government. How would you like to be kept updated?	External threats
16. What are your views on the methods we have proposed to demonstrate efficiency and value for money in our plan?	Efficient and affordable

# 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:

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### 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](mailto: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:**