

24. I want you to care for the environment and communities

What is this stakeholder priority about?

We care about the environment and the communities we serve. As a responsible business we are committed to delivering environmental and community benefit, prioritising the issues that matter most to you. We believe this is vital if we are to operate as a socially responsible business and play our part in helping Britain to meet the challenges of decarbonisation. These challenges have been laid out through people across the UK and beyond voicing their concerns about climate change, culminating in the government setting out legally binding targets to achieve “Net-Zero” carbon emissions by 2050. We will step up to meet this challenge by embedding sustainability in our business strategy and using it to guide the way we work. We are driving more efficient performance and future-proofing our organisation as the environmental and social landscapes change and we want to protect the environment by providing options to reach Net Zero carbon by 2050 at lowest impact on society.

Our approach in RIIO-2 remains consistent with the UK Government’s Clean Growth Strategy, 25-year environment plan and commitments on climate change. This approach links to the Ofgem priority ‘Deliver a sustainable network’.

What have you told us?

You’ve said that we have an important role to play in protecting the environment and moving towards decarbonisation, particularly around emissions and air quality. Your responses to our playback consultation confirmed that you would like us to demonstrate the value and cost of going beyond the legal requirements, and to consider the value of those actions to current and future generations.

What will we deliver?

We will shift our focus from environmental protection to environmental enhancement and:

- improve air quality and reduce emissions by replacing two compressors with more efficient ones in RIIO-2. We’ll start work on delivering five more units in RIIO-3
- increase our focus on reducing all methane emissions because methane is a major contributor to climate change. We’ll monitor leaks on the network and work on ways to reduce them
- reduce the carbon footprint of our business by moving to 30% low carbon-fuelled vehicles in our commercial fleet by the end of RIIO-2, installing solar panels on our sites, ensuring the energy we use in our office buildings is from sustainable sources and reducing carbon in construction projects
- focus on 77 redundant sites, assets and asset groups, enhancing the natural environment around these and make sure new construction projects include initiatives to protect and promote biodiversity
- continue our support for the communities we work in and commit 0.3% of the value of major projects spend to support community initiatives
- develop our work on delivering benefits to wider society, through supporting communities, education initiatives, promoting small and medium-sized enterprises, supporting local employment through the supply chain and implementing human rights strategies.

These commitments result in the following outputs to meet this stakeholder priority:

Table 24.1 output summary ‘I want you to care for the environment and communities’

| Output Category | Output | Business Plan Proposal |
|---|---------------------------|---|
| Price Control Deliverable | Compressor emissions | Deliver compressor emissions compliance at Wormington in RIIO-2 and begin work to deliver compliance at Kings Lynn, Peterborough and St. Fergus in RIIO-3 |
| Price Control Deliverable | Redundant assets | Address redundant assets across 77 sites, assets and asset groups. |
| Price Control Deliverable / Output Delivery Incentive | Environmental Action Plan | A requirement from Ofgem’s May decision, across all sectors, was the delivery of an Environmental Action Plan and Annual Environmental Report. This is new for gas transmission. We have included an initial draft EAP in our submission. This is in early stage development, is due to be updated as per Ofgem’s revised guidance, and stakeholder views will be sought. |
| Output Delivery Incentive | GHG emissions (venting) | Retain scheme with incentive set with appropriate rewards and penalties to meet the needs of consumers. Include upside to encourage further performance improvements. Potentially develop further as part of broader environmental incentive package. |
| Output Delivery Incentive | NTS shrinkage | Retain scheme with potential improvements to drive further consumer savings for RIIO-2. Incentive set with appropriate rewards and penalties to meet the needs of consumers. |

The total RIIO-2 spend for this priority is £361m, with an annual spend of £72m (compared to £48m per year in RIIO-1). This is around 12% of the value of our full business plan. Nearly three quarters of this relates to our compressor emissions compliance programme. The spend profile across price controls is shown in figure 24.2 below. Table 24.3 shows the spend for this chapter in RIIO-2 by activity.

Figure 24.2 RIIO-1 and RIIO-2 spend profile ‘I want you to care for the environment and communities’

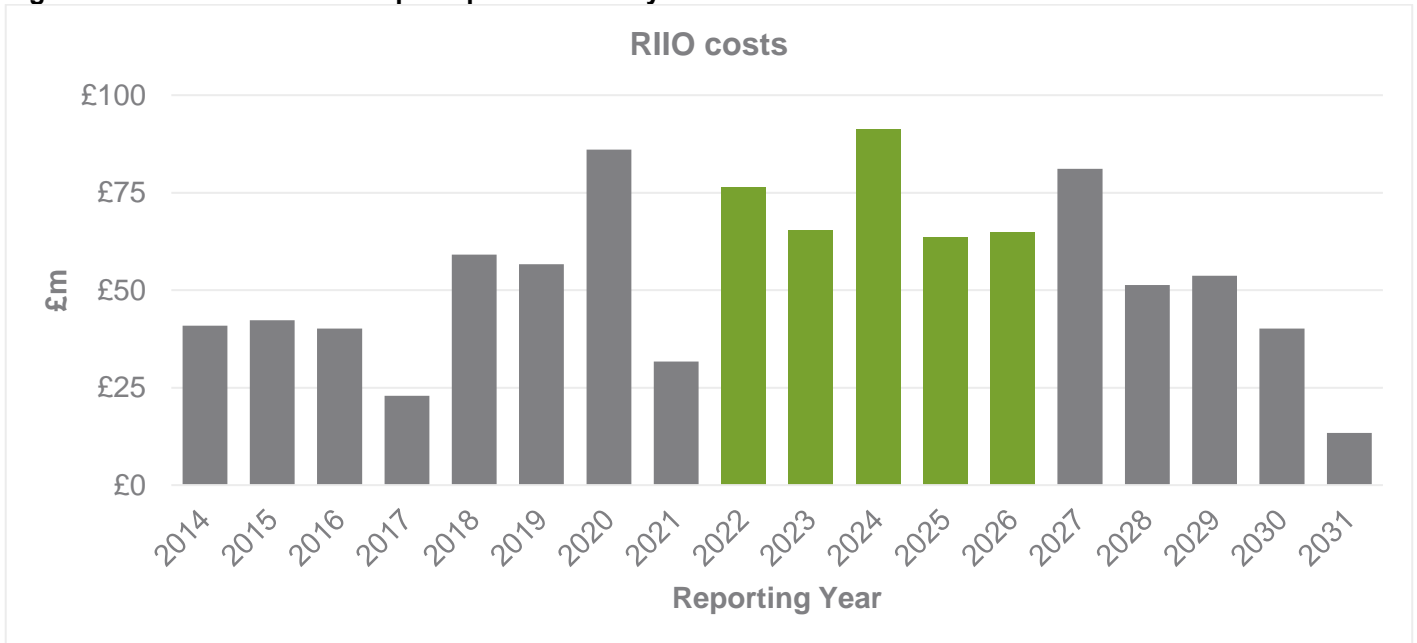


Table 24.3 activity spend ‘I want you to care for the environment and communities’

| Activity Spend | 2022 | 2023 | 2024 | 2025 | 2026 | Total RIIO-2 | Annualised RIIO-2 | Annualised RIIO-1 |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------------|-------------------|
| Compressors - emissions legislation | 46.2 | 46.2 | 65.2 | 48.4 | 50.3 | 256.3 | 51.3 | 37.8 |
| Redundant assets | 19.6 | 13.1 | 20.0 | 10.7 | 10.0 | 73.3 | 14.7 | 2.7 |
| Quarry and loss | 4.3 | 4.4 | 4.4 | 3.0 | 3.0 | 19.1 | 3.8 | 5.3 |
| Our climate commitment | 6.2 | 1.7 | 1.7 | 1.5 | 1.4 | 12.5 | 2.5 | 1.7 |
| Total spend (£m) | 76.3 | 65.3 | 91.3 | 63.6 | 64.7 | 361.2 | 72.2 | 47.4 |

This is broken down by Business Plan Data Template (BPDT) category as follows.

Table 24.4 Business plan data template spend ‘I want you to care for the environment and communities’

| RRP Category | 2022 | 2023 | 2024 | 2025 | 2026 | Total RIIO-2 | Annualised RIIO-2 | Annualised RIIO-1 |
|---------------------------------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------------|-------------------|
| Closely associated indirects | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 5.9 | 1.2 | 1.6 |
| Cost subject to uncertainty mechanism | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.1 |
| Direct costs | 4.5 | 4.5 | 4.5 | 3.1 | 3.1 | 19.7 | 3.9 | 0.7 |
| Non load related | 70.5 | 59.4 | 85.4 | 59.2 | 60.3 | 334.9 | 67.0 | 41.9 |
| Non-operational capex | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.7 | 0.1 | 0.1 |
| Grand total | 76.3 | 65.3 | 91.3 | 63.6 | 64.7 | 361.2 | 72.2 | 47.4 |

How do our RIIO-2 proposals benefit consumers?

Our proposals deliver benefits for industrial and domestic consumers:

| Consumer Priorities | How does our plan support this? |
|--|---|
| “I want to use energy as and when I want” | Our plan supports security of GB gas supply because: <ul style="list-style-type: none"> - compressors are vital to moving gas around the system, enabling consumers to use gas as and when they want. We are installing new compressors to reduce the environmental impact of doing so and will plan to limit running hours or decommission others by 2030, subject to meeting stakeholder needs. |
| “I want you to facilitate delivery of a sustainable energy system” | Our plan supports a sustainable lower carbon future by focusing on: <ul style="list-style-type: none"> - reducing greenhouse gas emissions such as methane, carbon dioxide and other emissions to reduce our impact on climate change, with clear benefits for society - improving air quality through our compressor emissions compliance programme, ensuring the most polluting compressor trains are decommissioned and replaced where necessary with cleaner machinery - responsible demolition including asset re-purposing - releasing materials back into the value chain to reduce the need to mine raw materials - improving biodiversity on non-operational land and reconstructing the environment when we have demolished a site, to bring positive benefits to nature and communities - having a certified environmental management system to prevent incidents. |
| “I want an affordable energy bill” | Our plan supports an affordable energy bill: <ul style="list-style-type: none"> - responsible demolition – protecting future consumers from the costs of disposing of assets they may not have benefited from - prioritising and innovating to deliver compressor replacement, to bring consumers value for money. |

Chapter overview

1. What is this priority about?

We care about the environment and the communities we work in. This topic is important for National Grid, as well as for consumers and society. Having a positive impact on the environment and communities is vital if we are to operate as a socially responsible business and meet the challenge of decarbonisation.

Our business operates at the centre of one of society's greatest challenges: to build affordable, reliable and sustainable energy systems meeting the needs of current consumers and supplying tomorrow's world with energy to thrive and prosper. A key strand in our vision for the future of the energy sector is concerned with limiting the dramatic impacts that climate change could have on our environment and way of life.

Our commitments around caring for the environment and communities are aligned to global and government ambitions as well as to stakeholder, society and end consumer impacts. We have signed the United Nations Global Compact, which has a strategy to drive business awareness and actions to achieve the UN Sustainable Development Goals (SDGs) by 2030. The goals promote prosperity while protecting the planet. More information on how these SDGs link to our business areas can be found on our website⁷⁰, and the relevant SDGs are shown under each section of this chapter.

Our approach in RIIO-2 will continue to be consistent with the UK Government's Clean Growth Strategy⁷¹, 25-year environment plan⁷² and commitments on climate change.

We are also mindful of potential future changes to emissions legislation (for example new air quality legislation) and where possible test our proposals to ensure solutions are future-proofed.

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Figure 24.5 relevant UN Sustainable Development Goals for this chapter



At a corporate level our strategy is to move from environmental protection to environmental enhancement. At a gas transmission level, we have an environmental action plan, see Annex A24.01, which sets out how we plan to take forward our business-specific actions relating to the environment. This covers both legislative and non-legislative drivers. We recognise that much of this work provides wide benefits for society and you have told us that you support going beyond legislative requirements in some cases to deliver additional environmental benefit.

The rest of this chapter focuses on these areas:

Sustainability and leadership for change: our role in the environment and communities, and our sustainability strategy.

Air quality – compressor emissions: our work to comply with relevant emissions legislation to 2030, making sure there is adequate, compliant compressor capability on the network. This is needed to allow customers to take gas on and off the system as and when they want to, while ensuring local air quality is maintained and GHG emissions are reduced.

Air quality and compressor emissions account for the largest area of spend in this chapter. Legislation is driving increasing requirements in air quality. To meet these requirements we need to invest in our compressor fleet to ensure compliance. Our investment programme covers the period up to 2030. Spend is required during RIIO-2 to respond to this challenge without jeopardising gas supplies and make sure we continue to have a robust compressor fleet that can meet changing customer requirements.

⁷⁰ <https://www.nationalgrid.com/group/responsibility-and-sustainability/our-progress/defining-our-priorities>

⁷¹ <https://www.gov.uk/government/publications/clean-growth-strategy>

⁷² <https://www.gov.uk/government/publications/25-year-environment-plan>

If tighter emissions legislation is introduced (for example air quality) it would affect our older, non-electric compression fleet before the new gas units we propose to install in RIIO-2 and RIIO-3. Compressor equipment manufacturers are continuing to invest in new technology and innovate to reduce emissions from compression. We will include all commercially available technologies in our tenders and use Best Available Techniques (BAT) to minimise the risk of new compressors being caught out if legislation is tightened further.

Climate change - our climate commitment: our commitments around decarbonisation include better monitoring to reduce methane emissions, plans to decarbonise our vehicle fleet, moving to clean renewable energy on site, our participation in the EU Emissions Trading Scheme and our environmental incentives on reducing GHG emissions and shrinkage.

Responsible asset use and caring for the natural environment: our plans to address our redundant asset base and move to develop our sites, undertaking responsible construction to promote better environmental outcomes and improve biodiversity where possible.

Quarry and loss: how we continue to deal with our contractual obligations with landowners where our assets impact on their businesses

Supporting the communities we work in: our ongoing commitment to supporting communities that are impacted by our work and also wider society.

Sustainability and leadership for change

We play an important role in the sustainable development of Great Britain's energy sector, building affordable, reliable and sustainable energy systems to meet the needs of our current and future stakeholders. By embedding sustainability in our business strategy, we are future-proofing our organisation against environmental and social change, ensuring we continue to operate as a responsible business.

Our group environmental sustainability strategy focuses on managing the direct environmental impact of those of our operations that can make the greatest

contribution to a more sustainable future. These National Grid commitments are:

- **Our climate commitment** – as an infrastructure business, our day-to-day activities result in GHG emissions and by cutting these we can reduce both costs and our environmental impact. Our targets are a 45% reduction in GHG emissions by 2020, a 70% reduction by 2030 and an 80% reduction by 2050 (against a 1990 baseline).
- **Responsible resource use** – making the most of our assets through reuse and recycling of recovered assets. Our target is to reuse or recycle 100% of recovered assets by 2020 and send zero office waste to landfill from major office sites by 2020.
- **The natural environment** – working in partnership with local and national stakeholders to manage our natural assets, enhance ecosystems and improve the quality of nature across our UK landholdings. Our target is to recognise and enhance the value of our natural assets on at least 50 sites by 2020 and drive net gain in environmental value (including biodiversity) on major construction projects by 2020.

During 2019 we are reviewing and updating our corporate commitments in this area beyond 2020. We recognise the role we have to play in decarbonisation of our industry and the importance we give to this is demonstrated by senior management's targets on environmental performance.

Our focus on environmental sustainability is underpinned by an Environmental Management System (EMS) that is certified to ISO14001:2015⁷³, covering all our operational and non-operational businesses in the UK. The EMS gives us a clear, systematic process to manage environmental risks and to realise opportunities to enhance the environment. This can be found in Annex A24.02 and our Business Management Standard can be found in Annex A24.03.

We also have a stakeholder, community and amenity policy⁷⁴, which we apply to all our work in the local community. Under this policy, we look to enhance the local environment, mitigate our works or where this is not possible, provide other benefits that deliver lasting value to the people and communities affected.

⁷³ ISO 14001 is the international standard that specifies requirements for an effective environmental management system (EMS).

⁷⁴

<https://www.nationalgridgas.com/document/81026/download>

We have undertaken benchmarking exercises across environmental and supply chain sustainability activities. These can be found in Annexes A24.04 and A24.21 respectively.

Air quality - compressor emissions compliance



1. What is this sub-topic about?

This sub-topic is about delivering consumer value through cleaner air in the local environment. There is a greater focus on local air quality as society starts to understand the causes and implications of poor air quality. Here we look at how we play our part in improving air quality while continuing to deliver reliable energy supplies to consumers.

We use compressors to move gas around the network to meet your need to move gas on and off the transmission system as and when you want. We have 71 operational units⁷⁵ on 24 compressor sites across the network. These compressors maintain the pressure of the gas in the network and move it around the country to areas of demand. There's more information about the need for compressors in Chapter 22 'I want to take gas on and off the transmission system where and when I want'.

Our activities in operating and maintaining the network can have a negative impact on the

environment. The most significant of the environmental impacts comes from emissions to air, from burning gas in gas-fired compressors to keep the gas flowing through the system and from methane emissions when compressors vent. Carbon emissions from compressors are covered in the next topic 'climate change: our climate commitment'.

Deteriorating air quality as a result of Nitrous Oxide (NOx) emissions is linked to increased health risks such as asthma and other lung conditions. To combat this, legislation has been introduced through the clean air programme⁷⁶ to encourage a reduction in NOx emissions. The legislation affects 28⁷⁷ of our gas turbine-driven compressor units as well as a small number of water bath heaters, boilers and standby gas generators, which are also used in the operation of the gas transmission system.

The key pieces of legislation that affect our compressors are:

- **the Industrial Emissions Directive (IED) 2010**, which combines the Large Combustion Plant Directive (LCP) 2001 and the Integrated Pollution Prevention and Control Directive (IPPC) 2008. The IED has driven much of the RIIO-1 compressor work
- **the Medium Combustion Plant Directive (MCP) 2015**, applies specific limits on emissions to air from combustion plant and is the major driver behind our RIIO-2 emissions investment programme.

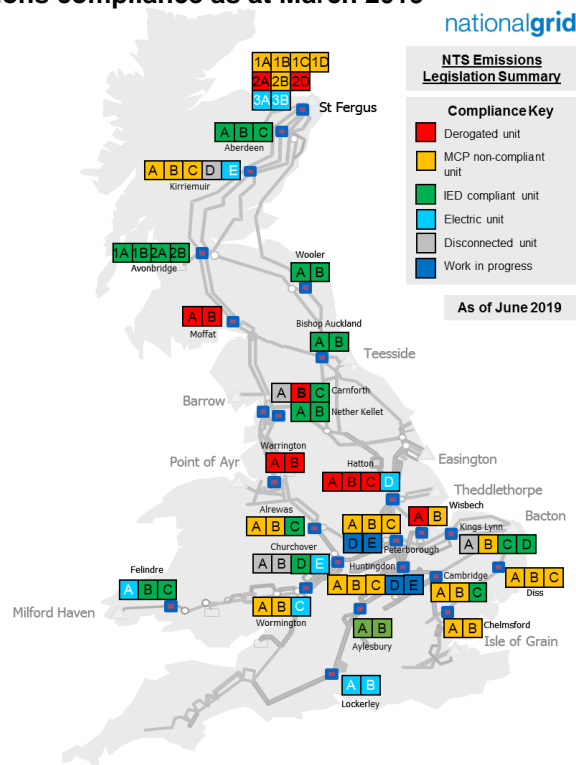
Figure 24.6 shows our compressor compliance as at the end of March 2019.

⁷⁵ 71 operational units do not include new units at Peterborough and Huntingdon that are currently not commissioned

⁷⁶ http://ec.europa.eu/environment/air/index_en.htm

⁷⁷ Including Kings Lynn A which was recently disconnected

Figure 24.6 – compressor emissions compliance as at March 2019



We need to be compliant with the MCP legislation by 1st January 2030 and we can achieve that in the following ways:

| | |
|---|---|
| Decommission and reduce network capability | Close and decommission units if changing gas flow patterns render them no longer required. |
| Derogate | Existing medium combustion plant operating for no more than 500 hours on a rolling five-year average after 1 st January 2030 does not need to comply with the new Emission Limit Values (ELVs). |
| Make compliant | Two high-level options for achieving compliance: <ol style="list-style-type: none"> 1. Install abatement technology to achieve the specified Emission Limit Values with asset health work as required on the machinery train. This doesn't come out as a preferred option due to the age of our non-MCP compliant assets. 2. Install a new, emissions-compliant compressor machinery train. |

Where building new compressors is the best option for maintaining legislative compliance this will require an investment of time and resource. Several of our compressors will have to be replaced and there is only limited availability of network outages to accommodate the work. This means we can't wait until RIIO-3 (2026 onwards) to make a start and we need a programme that allows us to provide continuous use of the network from 2021 to 2030. Activity is required during RIIO-2 to achieve the compliance date.

Even for compressors that can be addressed in RIIO-3, some of the initial costs will need to be incurred in

RIIO-2. We set out what (and how) we intend to deliver at a high level in this chapter, and in more detail in our Compressor Emissions Compliance Strategy (CECS) annex A24.05.

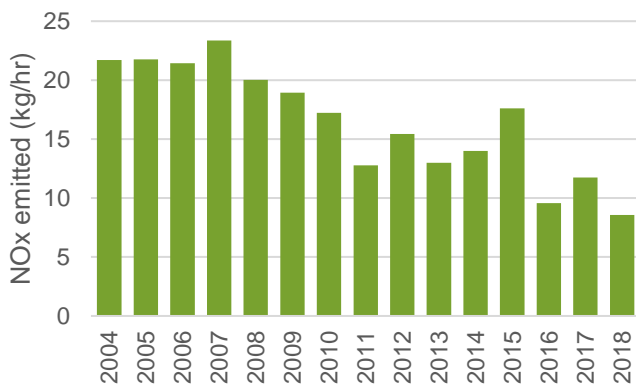
2. Our activities and current performance

At the outset of the RIIO-1 period, the requirements for our compressor fleet to achieve Industrial Emissions Directive (IED) compliance were still uncertain. But now we've reached greater understanding of what's needed and the costs of doing it. We have completed Aylesbury and Wisbech in RIIO-1 under Large Combustion Plant emissions legislation. In delivering our first IED-compliant unit at

Aylesbury, using an innovative catalyst solution, we saved around £68m against our allowance for entire new units.

Our investment in RIIO-1 led to a reduction in the amount of NOx emitted for each hour of compressor running.

Table 24.7 NOx emitted for each hour of compressor running (Kg/hr)



In total we spent £279.7m on compressor emissions compliance in RIIO-1. We also achieved derogations for a number of units. This allowed us to deliver the network capability customers needed at a cost that is best for consumers, while meeting compliance requirements. As a result of a successful derogation request we've been able to schedule capital works across RIIO-2 and RIIO-3 to ensure compliance while making sure outages can be scheduled in a way that ensures minimal disruption and cost to our customers while ensuring compliance with legislation. For some compressor sites, where they won't be used for enough hours to make investment in new ones worthwhile, it may be in consumers' interests for the compressors to continue to be derogated rather than replaced.

Work is in progress to make sure Huntingdon and Peterborough can become compliant with IPPC emissions legislation. We are continuing to work with Ofgem on our proposed solutions for emissions compliance at St Fergus and Hatton. We expect a decision on the needs case in July 2019.

Learning from RIIO-1

RIIO-1 has given us experience of managing changes on live compressor sites, and our cost confidence has improved as a result. We have also been investigating whether innovative techniques such as abatement (making an existing unit compliant through additional works) might be an option in RIIO-2. However, abatement seems unlikely to achieve the necessary reduction in NOx emissions

and isn't a cost-effective option for our non-compliant MCP units because of their age and asset characteristics. We will continue to look at how innovation may be applied during RIIO-2.

Following the 2015 reopener, we undertook further stakeholder engagement, fully assessed requirements of the legislation and challenged ourselves on our cost performance, including: undertaking a comprehensive CBA; for each option considering a comprehensive set of regulatory, commercial and asset options. Given the scale of work required to make all our compressor sites compliant with legislative requirements, we targeted business improvements and learnings from best practice to ensure our programme is delivered in the most efficient way

3. What are our stakeholders telling us?

We engaged extensively with you on emissions compliance across the RIIO-1 period, both for the May 2015 reopener and for the May 2018 Industrial Emissions Directive reopener. However, the reopener timing and decision (Ofgem's decision was published in September 2018) impacted our stakeholder engagement on MCP as part of the RIIO-2 business plan. We did not feel it would be appropriate or productive to start a fresh round of engagement while the reopener consultation was ongoing.

Even so, you have recognised how NOx levels have decreased per hour of compressor running and you acknowledge that we are treating compressor emissions with an appropriate level of seriousness:

“NOx and CO2 reduction systems are very high priority and it seems NG are taking it seriously” –

We have some insight from our broader environmental engagement and this is captured in the environment engagement log in Annex A24.06. This shows some of you feel that emissions affecting air quality should be treated the same as carbon emissions and managed to reduce their impact on the environment as cost-effectively as possible. You have also asked us to appreciate and account for the wider cost of constraints beyond just the financial cost incurred by our business.

Working with our stakeholders is important, and we have heard that you expect us to demonstrate a constructive partnership with Ofgem and the industry in the environmental space, including with the Environment Agency (EA), Scottish Environment

Protection Agency (SEPA) and Natural Resources Wales (NRW). Building on our business as usual interactions, we engaged specifically on the February playback document through one-to-ones and we heard during these engagements about the value of making our compliance strategies clear. So, we've worked collaboratively with the three environment agencies on the development of the Compressor Emissions Compliance Strategy (CECS) through which we aim to improve transparency in investment decisions and address the greatest risks on the network, providing you with the most value from the investment.

Network capability engagement will look at how our compressor fleet contributes to the service we

provide to our customers. Because of this interdependence, we intend to address the two areas together when we talk to you.

4. Our proposals for RIIO-2

Our compressor proposals across RIIO-2 and RIIO-3 is set out in our draft CECS Annex A24.05. It sets out how we intend to meet our legislative deadlines by starting and delivering several compressor projects within the price control period.

Our proposals are measured through the following price control deliverable (PCD) set out in table 24.8 below. Further information on the price control deliverable can be found in annex A29.01

Table 24.8 Output summary air quality - compressor emissions compliance

| PCD name | Business plan proposal - what the PCD measures | Related UM | Supporting info |
|--------------------------------|---|------------|--|
| 4. Compressor emissions | Deliver compressor emissions compliance at Wormington in RIIO-2 and begin work to deliver compliance at Kings Lynn, Peterborough and St. Fergus in RIIO-3 | UM_5 | Compressor Emissions Compliance Strategy (Annex A24.05) Wormington Justification report & CBA (Annex A24.10 & A24.11) Huntingdon Justification report & CBA (Annex A24.14 & A24.15) Kings Lynn Justification report & CBA (Annex A24.18 & A24.19) Peterborough Justification report & CBA (Annex A24.12 & A24.13) St. Fergus Justification report & CBA (Annex A24.16 & A24.17) |

Achieving this compliance delivers value in several ways. For you, delivery of these outputs ensures that you can move gas on and off the system as and when you want. From a consumer and wider social perspective, local air quality will be improved as network reliability is enhanced. We will also meet our regulatory compliance requirements.

The compressor plan is underpinned by our work on network capability and more information this can be found in part three of this business plan.

Table 24.9 summarises the options selected for each unit for RIIO-2 and RIIO-3. To develop our proposals, we have carried out cost benefit analyses (CBAs) for each compressor affected by emissions legislation. It has informed our understanding of the most cost-effective way of meeting our obligations and the needs of our customers while delivering the best value to consumers. We have tested a wide range of options and stress tested our solutions are robust against a range of scenarios. Our draft CECS sets out our consideration of the final options alongside outputs of the CBAs and relevant engineering justification reports as appendices.

Commercial options are an important consideration when assessing how to meet the network needs. These solutions potentially avoid compressor use and so reduce the emissions impact of the fleet overall. Typically, the commercial and regulatory options are suited to short-term scenarios, meeting a peak demand and supply pattern linked to a single-entry point; they aren't a complete alternative option to investment in the compressor fleet. It is also important to note that commercial solutions to meet emissions requirements will have corresponding physical requirements in other areas

Compressor proposals detail

We have delivered a strategy across RIIO-2 and RIIO-3 to achieve compressor emissions compliance by 2030. We propose replacing 7 compressor units by 2030. For other units we will need to make a decision on whether to decommission or derogate. Our initial proposals can be found in Table 24.9. However, our proposals for RIIO-3 are only initial thinking at this stage and further work is required to refine which units will be decommissioned and which will be derogated at the end of RIIO-3. As we engage on the broader business plan, we will test the suitability of this plan to achieve the costs and operability that our stakeholders are looking for

Table 24.9 compressor proposals

| RIIO-2 | MCPD | New units | Derogations | Decommissioning |
|------------------------------|------|--|---|---|
| | | Wormington x 2 | - | - |
| | IED | ██████████ ██████████ | Carnforth B ██████████ Moffat A & B Wisbech A | ██████████ Huntingdon A & B** Peterborough A & B** ██████████ |
| 1 st January 2030 | MCPD | Kings Lynn x 2 Peterborough x 1* St Fergus x 2 | Cambridge x 1 Chelmsford x 1 Diss x 2 Huntingdon C | Alrewas A & B Cambridge x 1 Chelmsford x 1 Diss x 1 Kings Lynn A* & B Kirriemuir A, B & C Peterborough C ████████████████████ ██████████ Wisbech B Wormington A & B |
| | IED | - | Moffat A & B Wisbech A | Carnforth A & B |
| Total | | ██████████ | ██████████ | ██████████ |

*we will try to move this unit build into RIIO-2 if it is possible to schedule around other outages.

** Two units at Peterborough and 2 units at Huntingdon are being replaced under IPPC in the May 2018 reopener.

The other compressor sites not impacted directly by this plan are required during RIIO-2 so we can meet our 1 in 20 obligations⁷⁸, facilitate diverse sources of gas supply into the UK as our customers say they need, make it possible to access the network more frequently for asset health work, replace compressor units and deliver our cyber programme.



Compressor MCP compliance and proposals for RIIO-2 & RIIO-3 by site

The next table summarises initial proposals for impacted MCP compressor sites and a summary for our initial proposal decision. Existing processes have been used for these. As the network capability framework develops and we test these proposals with our stakeholders, we will be able to provide further rationale for our proposals.

Table 24.10 compressor summary by site

| Proposal | Rationale |
|--|--|
| <p>Wormington A and B</p> <p>Complement the existing single electric drive compressor with two compliant back-ups (replacing two existing non-compliant units)</p> | <p>Wormington compressor site is essential for providing entry capacity at Milford Haven LNG terminal and it also meets exit capacity requirements, including meeting 1 in 20 obligations, in South Wales when Milford Haven is not flowing.</p> <p>Forecast future running hours at Wormington are driven by assumptions about the decline in UK gas production and how much of this is replaced with LNG (as opposed to shale gas supplies). Under different FES scenarios, forecast running hours range from 1,300-2,200 hours in 2020, and 1,700-12,000 hours in 2045.</p> |

⁷⁸ 1 in 20 defines the level of obligation for capability to meet peak winter demands

| Proposal | Rationale |
|--|--|
| | <p>The electric drive compressor will be the lead unit, but the other units are required to support very high flows from Milford Haven and for periods when the electric drive is unavailable. Assuming the electric drive unit is 80% available there is a need for other units for more than 500 hours per year.</p> <p>Without these additional units there would be a risk that entry and exit capacities or 1 in 20 obligations could not be met should the electric drive unit be unavailable.</p> |
| <p>Peterborough C</p> <p>Complementing two compliant units that will be built through IPPC with one compliant back up unit (replacing a non-compliant unit)</p> <p>Huntingdon C</p> <p>Complementing two compliant units that will be built through IPPC with one derogated back-up unit</p> | <p>There are close links between these sites and are considering Peterborough and Huntingdon in a cluster. There is a joint CBA for these sites and separate justification reports. These will be fully brought together in the next version of the business plan.</p> <p>We cannot meet our 1 in 20 licence obligations for demand in the South of the country without Peterborough and Huntingdon. We have already invested in new units to meet these needs in the long term; however with a need for two units, it is important to have resilience.</p> <p>In 2020 we forecast over 4,800 running hours for Peterborough. This is expected to decline as national demand falls, reaching ~1,200 hours in 2045. In 2020 we forecast over 2,000 running hours for Huntingdon. We expect this to decline in the future as gas demand in the South declines, reaching ~1200 hours in 2045.</p> <p>Both sites operate with two units running in parallel. We propose that one of the non-compliant back up units is replaced at Peterborough and one of the backup units at Huntingdon is derogated to ensure sufficient robustness across the sites.</p> <p>For Huntingdon, should either lead unit not be available, operation of the site would be limited to 500 hours. There is an increased risk of unexpected outages and maintenance costs as existing non-compliant units age.</p> |
| <p>Kings Lynn A and B</p> <p>Complementing two compliant units with compliant back-up(s), replacing two non-compliant back-up units (one of these is already disconnected)</p> | <p>The Kings Lynn compressor site provides entry and exit capacity at Bacton, and entry capacity to the Isle of Grain terminal. It also supports flow profiling and changing flow patterns (e.g. Bacton switching from import to export).</p> <p>Under our FES scenarios, running hours in 2020 are forecast at around 900 hours. Future running hours are dependent on the rate of UK Continental Shelf (UKCS) decline and levels of exports at Bacton. By 2035 forecast flow ranges under the FES scenarios range from ~150 – 6,500 hours per year and 300 – 4,200 hours per year in 2045.</p> <p>The site operates with two units in parallel. Should either lead unit not be available, the site would be limited to 500 hours (per retained back-up unit). There is an increased risk of unexpected outages and maintenance costs as existing non-compliant units age.</p> <p>If the non-compliant back up units were not replaced there would not be availability to cover planned and unplanned outages of either lead unit.</p> |
| <p>St Fergus</p> <p>Complementing two electric drive units</p> <p></p> <p></p> | <p>As one of the highest utilisation compressor sites on the NTS, St Fergus enables UK Continental Shelf (UKCS) and Norwegian gas supplies entry capacity. Peak flow through this subterminal is ca. 75 mcm/d, which represents over 20% of supplies on a winter day. The only route for this gas to reach consumers is via the compression facility at St Fergus, there is no other physical substitute available.</p> <p>Running hours are anticipated to remain high until the 2040s. In the absence of additional new build units there would be a risk that entry capacities at St Fergus would not be able to be met should there be outages on the remaining units on site. This could also have a knock-on impact on oil and gas production.</p> |

| Proposal | Rationale |
|---|--|
| <p>Decommissioning remaining non-compliant units on site.</p> |  |
| <p>South East cluster (Cambridge A & B, Diss A, B & C and Chelmsford A & B) The only compliant unit at these sites is one at Cambridge.</p> <p>We are proposing to derogate a unit on each site and decommission the remaining non-compliant units (2 at Diss, 1 at Chelmsford, 1 at Cambridge)</p> | <p>These sites are considered as a cluster as together these sites deliver 1 in 20 compliance in the south east to support demand when the supply from Isle of Grain is low or to ensure entry pressures at the Bacton terminal are kept low when entry levels are high.</p> <p>Current running hours are often less than 500 per year, but these compressors are required to meet south east exit capacity requirements under certain supply/demand patterns. We saw combined running time of 3000 hours for Chelmsford and Diss in 2017/18. FES suggests LNG flows are increasing overall, however this increase is likely to be volatile on a day-by-day, month to month and year to year basis as LNG supplies respond to commercial drivers.</p> <p>The outcome of our processes is not to replace any of the units. This does introduce risk as it leaves sites where the only units have limited running hours. We will test out stakeholders' appetite for this level of risk in our engagement on the July draft business plan.</p> |
| <p>Kirriemuir ABC</p> <p>Existing electric drive unit E retained</p> <p>Three non-compliant units. Current proposal is to decommission all three in 2030. However, we believe derogate may be a more appropriate solution.</p> | <p>Kirriemuir compressor provides entry capacity at St Fergus and improves resilience if Aberdeen or Avonbridge compressors are unavailable.</p> <p>With its smaller units, the site is likely to move up the merit order in Scotland in the 2020s as UKCS supplies decline in the future (e.g. running hours nearly doubled from 1,776 in 2017/18 to 3,165 in 2018/19 as St Fergus supplies increased compared to the previous year).</p> <p>Whilst our CBA indicates decommissioning three units in 2030, this is fairly marginal and we believe that there are additional factors that need to be considered. We believe that there is a short-term need for the three non-compliant units until flows at St Fergus reduce post 2040, and that customers may value this. As the flows into St Fergus begin to drop, the non-compliant units can be decommissioned. We will test whether it is appropriate to move these units from decommission to derogate as part of our stakeholder engagement on the July draft business plan.</p> |
| <p>Alrewas A and B</p> <p>Existing compliant gas driven unit C retained</p> <p>Two non-compliant units. Current proposal is to decommission both in 2030. However, we believe derogate may be a more appropriate solution.</p> | <p>Alrewas compressor provides within network capability to move gas north from Milford Haven and to accommodate changing flow patterns on the network. This is typically a low-use site but use can increase under certain flow conditions (e.g. 1,700 hours in 2017/18)</p> <p>Whilst our CBA indicates decommissioning two units in 2030, this is fairly marginal and we believe there is a proven need for Alrewas in the future. Most of the duty can be performed by the lead DLE unit with the non-compliant units derogated as back-ups. We will test whether it is appropriate to move these units from decommission to derogate as part of our stakeholder engagement on the July draft business plan</p> |
| <p>Wisbech B</p> <p>Existing non-compliant IED derogated unit to be retained. Propose to decommission remaining non-compliant unit.</p> | <p>Wisbech is used to facilitate Entry flows from Easington and Bacton, and support exit requirements in the south west. The site can also provide some resilience to Peterborough and Huntingdon, although recent and proposed investment on those sites should mean less resilience is required there.</p> <p>Wisbech has been used historically to support flows from Theddlethorpe terminal, which is now disconnected from the NTS. The lead unit at Wisbech is derogated to 500 hours per year under LCPD and there is no longer a need for a further unit on site.</p> |

Our initial draft proposals are not to replace 21 of the 28 units impacted by MCP legislation that will become non-compliant with emissions legislation in 2030 through either derogation or decommissioning.

We have more work to do before deciding whether to derogate or decommission these units during RIIO-3 and beyond, and the network capability framework will help us to articulate these decisions. This includes testing the principle of if we should leave non-compliant units as primary units on a compressor site, which would leave us vulnerable to changes in supply patterns and would mean knowingly running polluting units whenever that site was required. This principle could change our plans primarily in the south east, where, based on the current plan, we would be reliant solely on derogated units at three strategic sites from RIIO-3 onwards. It also includes further

work to capture the associated asset health and cyber investment costs to support some of these decisions. This will be informed by associated stakeholder engagement.

Whether these units are decommissioned or derogated it is currently proposed to leave them in place during RIIO-2. In addition to meeting customer need, keeping these units operational during RIIO-2 supports us as we replace the other compressor units and undertake asset health work. However, there are costs associated with maintaining these units to the required levels of availability and reliability during this period.

Figure 24.11 and figure 24.12 shows where our planned work is due to take place on the network across RIIO-2 and RIIO-3.

Figure 24.11 compressor emissions compliance proposed at end of RIIO-2

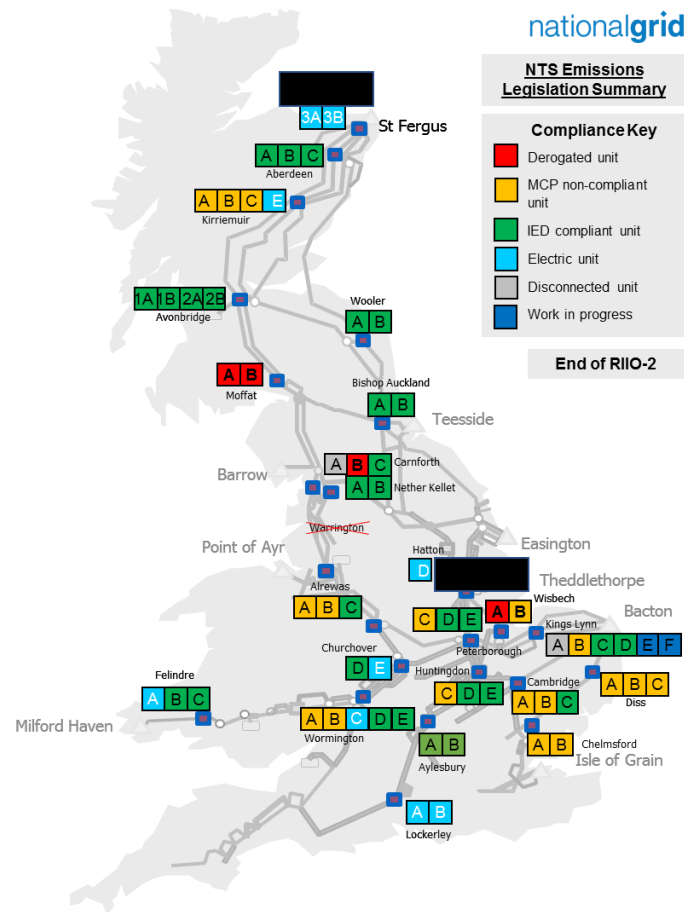
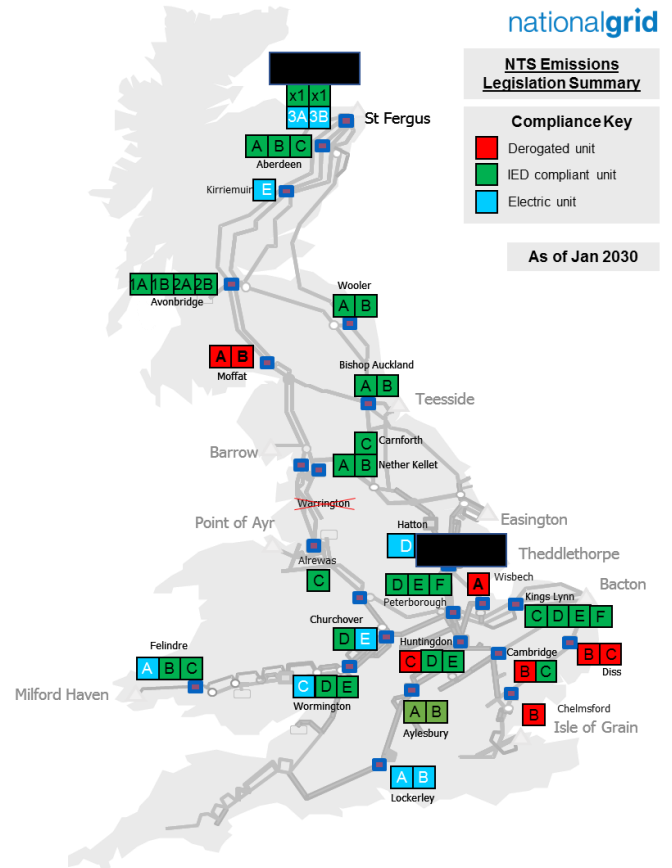


Figure 24.12 compressor emissions compliance proposed at end of RIIO-3



5. How will we deliver?

We are confident about the needs case and solution options for compressors that we propose to deliver in RIIO-2 and these are set out in our CECS in Annex A24.05.

Even for compressors being addressed in RIIO-3, some costs will be incurred during RIIO-2, for example to complete the tender processes. The output of this feeds the best available techniques (BAT⁷⁹) assessment with environmental regulators, which is required starting mobilisation. Further information on BAT can also be found in the CECS. We believe the option that delivers the best outcomes for consumers is requesting ex-ante funding in RIIO-2 to cover the preparatory works for projects due to be started in RIIO-2 but delivered in RIIO-3. This

option minimises the risk of not meeting compliance deadlines if work can't be started until certainty around RIIO-3 is agreed.

We are incentivised to deliver capital projects efficiently through our totex incentive mechanism. Our approach to contracting and procurement is laid out in chapter 28 'Our plan is efficient and affordable, providing value for money'.

The UK government recently committed the UK to a new binding target of Net Zero carbon emissions by 2050. We expect an asset life of around 25 years for new compressor investments (and are currently replacing assets with a life of over 40 years). This means that the compressors we are delivering in RIIO-2 and 3 are likely to remain in use to 2050, so it is important that we consider how they will interact with a Net-Zero world.

As set out in our external context chapter, there are ways in which this decarbonisation challenge may be met in the coming years. The different routes that decarbonisation might take could impact our compressor fleet in a number of ways, from needing to capture carbon emissions to adapting compressors to hydrogen blends.

You challenged us about whether replacement compressors should be electrified to reduce our primary carbon emissions, particularly in the light of Net Zero ambitions. Our analysis of the costs of construction and operation of these units means investment is only cost effective when the

compressors run for more than 5,000 hours per year. This is not the level of operation expected from the currently non-compliant units. Our current UK black start strategy (how the electricity system would be reenergised after a complete or partial shutdown) depends on gas supplies being available to power stations. Therefore the need to move gas around the network means that it is currently not feasible or cost-effective to move to a fully electrified compressor fleet.

We are working across the industry to identify and develop innovations that would support the range of potential decarbonised futures. The gas turbine suppliers are developing their product lines, for example by exploring how to develop existing combustion technology within their machinery that is compatible with fuel gas containing high hydrogen content; at this stage one OEM has a commercial offering capable of running on a fuel mix that's 68% hydrogen. Investing in this technology future-proofs our network by ensuring that we will need to do nothing to adapt our equipment as hydrogen becomes more widely used. Our emissions will reduce by default as the proportion of natural gas in our systems reduces over time.

Innovation also has a role to play in reducing carbon emissions from compressors through the development of Carbon Capture Usage and Storage. We have recently begun our Captivate project to prove the concept of carbon mineralisation from boiler house emissions at our Stallingborough site, building a fully containerised emissions capture demonstrator. As well as our existing projects we will continue to explore how innovation may help us move towards a lower carbon compressor fleet.

6. Risks and uncertainty

We don't think we will need to use Ofgem's proposed reopener for new compressors commissioned during RIIO-2 where we have demonstrated the needs case through CBA and the CECS, which will form part of our final Business Plan submission in December 2019.

If tighter emissions legislation is introduced (for example new air quality legislation), it would affect our older, non-electric compression fleet before the new gas units we propose to install in RIIO-2 and RIIO-3. Compressor equipment manufacturers are

mechanism for all new and substantially modified compressor trains and will continue to be so during RIIO-2 and RIIO-3.

⁷⁹ We are bound through legislation to undertake a process with relevant environmental bodies which defines the Best Available Techniques (BAT) in relation to new build compressors. BAT is the primary selection

continuing to invest in new technology and innovate to reduce emissions from compression. We will include all commercially available technologies in our tender and Best Available Techniques (BAT) process. Using this approach minimises the risk of new compressors being caught out if legislation is tightened further.

A full BAT process requires the outcome from tender events to establish the most cost-effective way of reducing emissions. Tender events cost time and money for us and our supply chain and, if they are conducted too early, they could lead to us not considering the best available emissions reduction technology and/or incur additional costs from the supply chain to hold prices for a number of years. So, our business planning process will involve a preliminary BAT assessment using currently available information. We will carry this out during 2019 in preparation for our December business plan submission.

The future requirement for compression could change depending on how the network is used and this could be impacted by changes in government heat policy or other factors. Some of the new compressors we plan to install in RIIO-3 replace ones with historically low running hours and they are

required to support our 1:20 obligation to maintain gas supplies. At this stage in our business plan development we believe we should not plan to rely on old units with a restriction on running hours to supply gas at critical peak winter supply times, when consumers are reliant on gas to heat their homes. However, we understand that significant change in government policy on environmental legislation or heat could affect our proposals. For these compressors we would support a reopener in year two of the price control. Please see Annex A29.02 relating to our proposed uncertainty mechanisms for how these would work in more detail. This is also summarised in table 24.13 below.

There is a known uncertainty around the EU Emissions Trading Scheme (EU-ETS); the UK government is consulting on the future of the scheme in light of uncertainties around Brexit. These costs are factored into the CBA for compressor investments. However, it is unlikely that these changes would be significant enough to change a proposed build solution.

Table 24.13 uncertainty mechanism compressor emissions compliance

| UM name | Type | Business plan proposal – what the UM addresses | Frequency |
|--------------------------------|--|--|---|
| 7. Compressor emissions | Reopener Upfront allowance & Totex incentive sharing applies for known work with defined outputs. | Reopener for costs relating to compliance with emissions directives. | Year 2 of price control True up at end of period |

7. Our proposed totex costs for RIIO-2

We propose to spend £256m on meeting our compressor emissions legislation requirements in RIIO-2.

Table 24.14 spend compressor emissions compliance

| | 2022 | 2023 | 2024 | 2025 | 2026 | Total RIIO-2 | Annualised RIIO-2 | Annualised RIIO-1 |
|---|------|------|------|------|------|--------------|-------------------|-------------------|
| Compressors – emissions legislation (£m) | 46.2 | 46.2 | 65.2 | 48.4 | 50.3 | 256.3 | 51.3 | 37.8 |

Our proposals will be further tested against network capability and updated to reflect stakeholder requirements in October 2019.

These costs may change in the next iteration of the business plan as we refine the compressor proposals. Linked to this there will be associated changes on impacts on asset health and cyber costs in other areas of the plan.

Climate change: our climate commitment



1. What is this sub-topic about?

This sub-topic is about delivering consumer value by reducing our impact on climate change.

Our climate is in crisis. The Committee on Climate Change (CCC) predicts that, without intervention, global temperatures could rise by as much as 7°C over the next century, exposing Britain to increased inland and coastal flooding, water scarcity and heatwaves. The scale and impact of these events on our population will be dramatic; if we don't respond urgently we will fall far short of our responsibility to future generations to protect our society and environment from irreparable damage.

We fully support the UK government's ambitions to achieve Net-Zero carbon by 2050. As an industry we believe we have the greatest responsibility to address our climate challenge urgently. More fundamentally, we believe that business has a responsibility to lead the transition and secure the investment and shift in consumer attitudes needed to deliver it.

Emissions of greenhouse gases such as carbon dioxide and methane are harmful to the environment. As a gas transmission business, our normal business activities contribute to these emissions. There are ways we can reduce them, ranging from taking actions targeted at particular types of emissions such as methane, to embedding the principles of carbon reduction in our everyday business practices. We are mapping our risks and opportunities from climate change and will be working to reduce these, in line with the recommendations from the Task Force for Climate Related Financial Disclosure. We will also propose incentives to drive performance and innovation in this space.

This part of the chapter will cover:

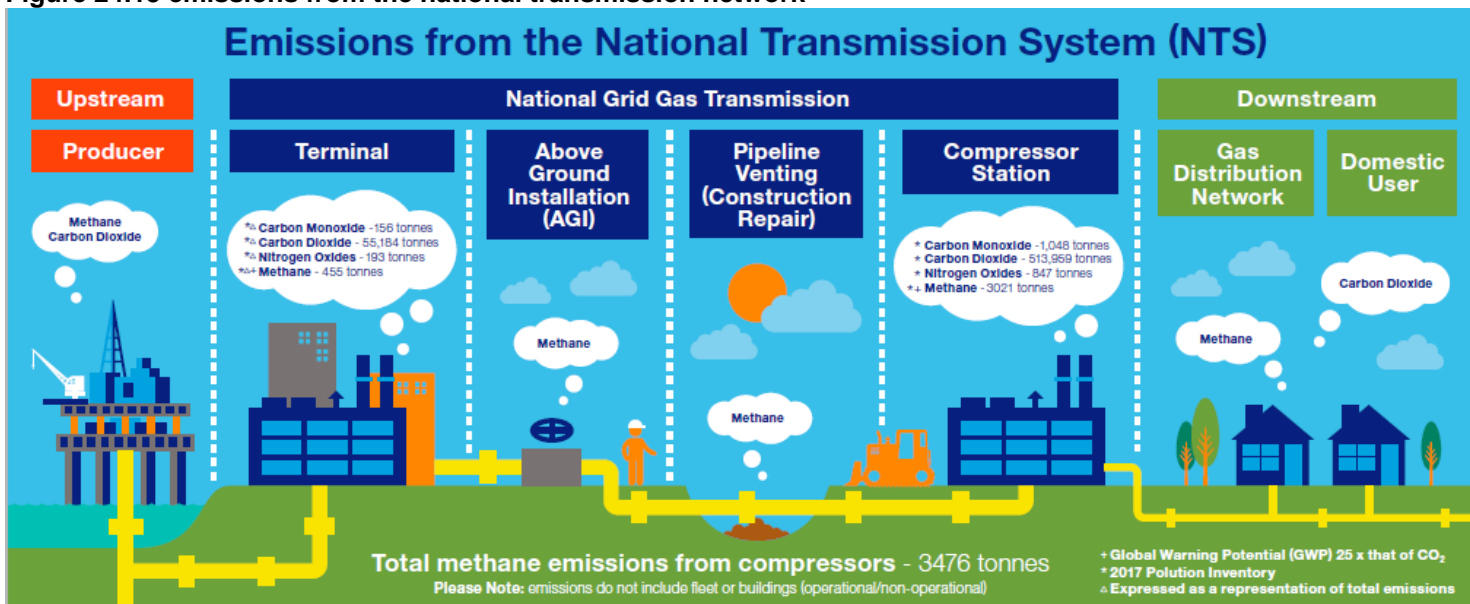
- targeted activities relating to direct and indirect emissions
- reducing emissions associated with our business e.g. offices and fleet
- reducing shrinkage on the network by reducing methane emissions.

2. Our activities and current performance

Emissions of Greenhouse Gases (GHGs) from our assets

Emissions that are produced from the network are shown in figure 24.15 below.

Figure 24.15 emissions from the national transmission network



Note: Methane emissions from compressors calculated relate to 2018.

NO_x - Nitrogen oxide(NO_x) emissions are addressed through relevant emissions legislation in the previous part of this chapter ‘air quality – compressor emissions compliance’.

CO₂ - Carbon dioxide emissions result from the operation of our compressor fleet. The carbon emissions from our gas-fired compressor units are subject to the EU Emissions Trading Scheme (EU ETS). This is a market-based cap and trade programme that applies a carbon price to emissions. We have bought additional credits in three of the last five years to cover our carbon dioxide emissions, because, in those years, we have had to use compressors more frequently due to changes in supply and demand patterns. We also report on carbon dioxide emissions via our Business Carbon Footprint (BCF) reporting⁸⁰.

Methane - Methane, which has 25 times⁸¹ the global warming potential of carbon dioxide, is also emitted through many of our activities. We are currently incentivised to reduce methane from compressor venting activities through our GHG incentive. This is a challenging downside-only incentive that converts methane emissions into carbon dioxide equivalent and uses a non-traded carbon price, sometimes referred to as the ‘social cost of carbon’. Our performance in RIIO-1 demonstrates the level of challenge. During RIIO-1 there was some performance improvement in the initial years of this incentive being set. However, there have been some years where, due to changes in supply and demand patterns and the needs of our customers, venting on compressors has had to be carried out more frequently. This has led to higher than anticipated emissions in relation to this incentive in some years and we incurred penalties. Further information on how this incentive has been set and how we have delivered against it in RIIO-1 can be found in Annex A29.03.

During RIIO-1 we set up the Monitoring of Real-time Fugitive Emissions (MoRFE) project to better understand leaks from equipment on the network. This project is being funded through the Network Innovation Allowance (NIA) and it will identify and quantify methane emissions, accurately and cost effectively. Starting in four locations MoRFE is being used to test against a set of project criteria. If it proves successful, it will be rolled out across all compressor stations to provide a network of real-time

detection equipment for methane leaks.

Shrinkage (system losses and unaccounted for gas)

Shrinkage represents a financial and environmental cost to consumers both in terms of cost for all elements and in terms of methane leaked into the atmosphere through losses related to operation of the network and unaccounted-for gas. During RIIO-1 we were incentivised to reduce the cost of shrinkage to align our interests with those of the end consumer. We performed well in reducing these losses during the price control period by taking risk on price and volume. For example, without these actions, costs would have been increased in the range of £2-12m in 2017/18 compared to target. Therefore, both National Grid and end consumers have benefited by actions we have taken to perform against this incentive. Please see Annex A29.03 for further information on this incentive and RIIO-1 performance against it.

Whole life carbon

Our policy is to implement carbon pricing in our investment decision-making processes. This means that we don’t only consider the capital cost of new assets but the carbon cost of them as well. We’ll roll this out in the gas transmission business during the 2019/20 financial year and it will be in place by the beginning of RIIO-2. We have also worked in RIIO-1 to reduce our capital carbon from construction.

Supply chain

We engage with 250 of our most carbon-intensive global suppliers annually with a target of 80% response rate to complete the Carbon Disclosure Programme (CDP) supply chain submission. We achieved an 85% response rate in 2018 and have received an ‘A’ for our supplier engagement rating as a result of this. We work collaboratively across industry to share best practice in this space and we are members of initiatives such as the Supply Chain Sustainability School, United Nations Global Compact, Achilles UVDB, among others.

3. What our stakeholders are telling us

We have received a great deal of feedback from you about our climate commitments, particularly in relation to emissions and air quality. When asked “Should National Grid Gas Transmission do more, continue as is or do less to manage emissions?” everyone said we should “Do more to manage emissions”. Some stakeholders also felt we should

⁸⁰ <https://www.nationalgrid.com/group/responsibility-and-sustainability/our-progress/our-performance/performance-environmental>

⁸¹ IPCC figure <https://www.ipcc.ch/report/ar5/syr/>

reduce emissions and carbon offset all construction activity.

“You would need funding to be able to deliver low carbon emissions e.g. through the price control”

You also shared your views around the desire to see an increased focus on methane.

“Would like to see more focus on methane emissions such as there are in Europe”

In terms of incentives, we received feedback related to managing our vented compressor emissions. The key point from this was the importance of getting the right framework for an emissions incentive to deliver maximum benefit to consumers.

Regarding carbon, we received the feedback that we should be applying a single cost of carbon in our decision-making processes. We have adopted carbon pricing in our decision-making processes and will be clear about where it is not possible to use consistent pricing due to legislative requirements etc.

You said you support moves to decarbonise our vehicle fleet, with one stakeholder suggesting a 2030 target was appropriate while others felt this should be phased in as vehicles came to the end of their life. Support was also given for generating own-use electricity on site from renewables.

We also heard from our February stakeholder playback consultation that working with our supply chain in environmental matters is important.

We will be doing more work with consumers to understand the level of ambition for us to manage our global emissions alongside our other commitments. Outputs from this will be available for the next iteration of the business plan.

Your detailed views are set out in our engagement log in Annex A24.06.

4. Our proposals for RIIO-2

We aim to reduce the GHG emissions our business produces. We will do this on a carbon dioxide equivalence basis because methane is about 25 times more damaging to the environment than carbon dioxide.

Emissions from our assets

NO_x - meeting compliant levels of NO_x emissions from our compressor fleet is addressed elsewhere in this chapter in ‘air quality – compressor emissions compliance’

CO₂ – we don’t anticipate that our CO₂ emissions will reduce significantly as a result of compressor investment; technological advances in the compressor space focus on NO_x rather than fuel efficiency. However, we will continue to participate in the EU ETS as required and use this as an opportunity to provide focus on our CO₂ emissions across the business.

Methane - industry focus over the last couple of years has pushed methane emissions up the environmental agenda and this is reflected in your feedback. This implies we should be treating all emissions the same. During RIIO-2 we will establish a baseline for methane emission leaks on the network through improved monitoring using equipment trialled as part of the MoRFE RIIO-1 innovation project and use that information to understand how to begin to reduce these where possible. This is important in the path to achieving Net Zero by 2050.

Whole life carbon

We will also continue to use a single consistent carbon price in our investment decisions for each tonne of controllable carbon dioxide equivalent (CO₂e) emitted. Using a carbon price is an effective way of weighting carbon in the decision-making process so it can be considered alongside all other factors.

Other emissions associated with our business

This covers emissions where we have some, or full control.

In RIIO-2 we will trial low carbon fuel vehicles with the commitment to rolling out to 30% of our commercial vehicle fleet by 2026. This will enable a smooth transition to full roll-out by 2030, delivering consumer benefit through reduced local air pollution from particulates.

We will also reduce indirect emissions from electricity generation for our own use on operational sites. We are committing (where practical) to deploy renewable generation on our sites for our own use.

In addition, we plan to:

- continue to reduce the carbon impact of our construction activities, and will seek to offset any residual carbon emissions in 2025-2026.

- progress our work with our supply chain through the CDP submission by setting targets on the number of suppliers with their own carbon reduction targets
- embed sustainability and low carbon requirements in the tender process to select carbon efficient contractors and supply chain partners, including for 75% of our top 250 suppliers to have carbon reduction targets reported through the CDP climate change supply chain programme
- select contractors who demonstrate they will be more sustainable and deliver lower carbon projects by including sustainability in our tender process
- reduce carbon emissions through sustainable energy procurement for energy used in office buildings.

Output delivery incentives

We have summarised the incentives in this part of the chapter as follows. They are addressed in more detail in our incentives annex A29.03:

Table 24.16 incentives relating to climate change: our climate commitment

| Incentive name | Type | Business plan proposal |
|----------------------------------|----------------------|---|
| NTS shrinkage | ODI financial | Retain scheme with potential improvements to drive further consumer savings for RIIO-2. Incentive set with appropriate rewards and penalties to meet the needs of consumers. |
| Environmental action plan | Potential ODI or PCD | A requirement from Ofgem’s May decision, across all sectors, was the delivery of an Environmental Action Plan and Annual Environmental Report. This is new for gas transmission. We have included an initial draft EAP in our submission. This is in early stage development, is due to be updated as per Ofgem’s revised guidance, and stakeholder views will be sought. |
| GHG emissions (venting) | ODI financial | Retain scheme with incentive set with appropriate rewards and penalties to meet the needs of consumers. Include upside to encourage further performance improvements. Potentially develop further as part of broader environmental incentive package. |

5. How will we deliver?

Emissions from our assets

We will measure and reduce methane leaks on our network by:

- Following on from MoRFE, installing real-time methane monitoring equipment at the highest risk areas of the network (compressor stations). This will give us accurate emissions readings at these locations, improving intelligence for maintenance and asset health programmes and providing the basis for more accurate emissions reporting.
- Using innovative recompression equipment at points in maintenance works that require pressure reduction through gas venting. This will prevent more methane from escaping to the atmosphere, which will be even more important in RIIO-2 due to anticipated higher workloads.

Other emissions associated with our business

To reduce our carbon emissions from transport, we will start a trial of low carbon vehicles and install electric vehicle charging infrastructure on operational sites. We will learn from this trial and seek to replace 30% of our commercial vehicle fleet with low carbon-fuelled vehicles by 2026.

We are committed to deploying renewable technologies and we will install solar panels on our compressor sites to generate own-use electricity.

We will

- achieve carbon neutral construction for major projects by 2026 by following an external framework to reduce our capital carbon from construction as much as possible, then offset the remaining emissions
- buy 100% of our energy from renewable tariffs where available, and where possible replace

other fuel sources such as diesel for generators with low carbon fuels

- target 75% of our top 250 suppliers to have carbon reduction targets reported through the CDP programme.

Output delivery incentives

GHG (venting) incentive, Business Carbon Footprint reporting and Environmental Action Plan

We believe that the GHG and BCF reporting incentives have provided an opportunity to focus efforts to deliver significant societal benefit for consumers at global level with regards to reducing our carbon footprint. However, we do not believe a downside-only incentive is the most appropriate way to incentivise this. Beyond our current GHG incentive, Ofgem proposes an Environmental Action Plan and we agree there could be further consumer value from incentives on our wider environmental impacts. During this business planning cycle we intend to work with you to better understand how this might work.

Shrinkage (system losses and unaccounted for gas)

We propose to retain the shrinkage incentive in RIIO-2. Shrinkage represents a cost that is borne by customers and ultimately by consumers, and the incentive provides for a closer alignment of all interests since we are exposed to a proportion of those costs.

We believe there may be opportunities to make some incremental improvements to the design of this incentive. We will work with you in the next few months before we submit our final business plan to understand potential for improvements in this space.

6. Risks and uncertainty

We believe it is important to reduce our emissions as much as possible, and this aligns with your feedback. We propose to use recompression equipment to help us reduce methane emissions during asset works. However, there will be a residual amount that cannot

be recompressed, and it would therefore need to be vented. Black box flaring is a technology we haven't used before and it could further reduce methane emissions. We would have to install vents which enable combustion of the vented gas to produce CO₂ instead of methane, with reduced environmental impact. We need to do more work to understand if this would deliver consumer benefit and we will seek to explore the costs and application of the technology in the run up to RIIO-2. We will also continuously look for innovative techniques to further improve performance and delivery to meet your needs and those of end consumers.

Our work to enhance our understanding of methane emissions from our network will stand us in good stead should there be further tightening of emissions legislation in this space.

In terms of other uncertainties, there is a known uncertainty around the EU Emissions Trading Scheme; due to Brexit the future of the scheme is being consulted on by the UK government. The outcome may increase costs for us as a business in meeting our climate change commitments, but this is currently unknown.

7. Our proposed totex costs for RIIO-2

We are requesting £12.5m across the RIIO-2 period to reduce the impact we have on climate change. Of that, £0.4m relates to deployment of renewable generation on our operational sites, and £0.9m to rolling out low carbon-fuelled vehicles as part of our fleet. It also includes support staff for delivery of our environmental commitments.

The largest expenditure in this chapter relates to methane monitoring and recompression, and the proposed expenditure for RIIO-2 would be approximately £5.3m. This will deliver long-term value for consumers by allowing us to identify leaks and make repairs earlier, reducing venting quantities.

Table 24.17 spend 'our climate commitment'

| Activity spend | 2022 | 2023 | 2024 | 2025 | 2026 | Total RIIO-2 | Annualised RIIO-2 | Annualised RIIO-1 |
|---------------------------------|------------|------------|------------|------------|------------|--------------|-------------------|-------------------|
| Methane monitoring | 4.7 | 0.2 | 0.2 | 0.1 | 0.0 | 5.3 | 1.1 | 0.0 |
| Methane recompression equipment | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0.1 | 0.0 |
| Fleet emissions reductions | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.9 | 0.2 | 0.1 |
| Renewables on site | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0.1 | 0.1 |
| Support staff | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 5.5 | 1.1 | 1.5 |
| Total spend | 6.2 | 1.7 | 1.7 | 1.5 | 1.4 | 12.5 | 2.5 | 1.7 |

Responsible asset use and caring for the natural environment



1. What is this sub-topic about?

This topic delivers consumer value through reusing sites and materials once they are no longer required for operational purposes and improving the biodiversity of land on and around our sites.

The UK government’s 25 Year Environmental Plan, published in January 2018, sets out a comprehensive long-term approach to protecting and enhancing the environment. The vision at the heart of the plan is that the current generation will be the first to leave the environment in a better state than they found it. As an asset-based business, the impact of our assets on the environment is incredibly important. This impact can be minimised through responsible procurement and construction processes, reusing and recycling assets and materials where possible and being responsible custodians. We will look to enhance the environment on and around our sites where appropriate in the interests of consumers.

Our network is getting older and we are faced with a challenge about how we should manage redundant assets in a way that is in line with our environmental and sustainability goals and delivers value for consumers. Assets become redundant for a number of reasons. The needs of stakeholders or individual customers may have changed, legislation changes may mean that assets can no longer be used, or

investment in new assets may mean that life-expired assets are no longer required. We are anticipating more work in this area, exacerbated by the changing uses of the network.

Looking at the current network and anticipated requirements, we have identified 77 sites, asset groups or single assets that are already redundant or will become so during RIIO-2. This represents a small proportion of our asset base such as 132km of our 7660km pipeline network and 3 out of 240 block valves. We will continue to monitor operational assets using our normal annual planning processes and when customers tell us of a change in system use so more assets may become redundant before and during RIIO-2. Our approach to addressing redundant assets should be driven by our social, economic, health and safety and environmental responsibilities. We are also mindful that there may be increasing mandates set by government in this space in the future.

We have considered what we should do with these types of sites. Broadly, our options are:

- **Do nothing.** We would still incur maintenance spend.
- **Disconnection.** Disconnecting the asset or site from energy supplies and leaving it in place, with expenditure to ensure the site environment remains safe.
- **Decommissioning.** Disconnecting the asset or site from energy supplies and removing part or all of the asset. Assets could then be re-purposed or the materials could be sent for recycling.

In this section we will describe our commitments around land and resource use and improving

biodiversity as well as how we are embedding sustainability into the supply chain.

2. Our activities and current performance

Redundant assets

We have spent more than our allowances in RIIO-1 (£13.15m compared to £12.41m) as we have seen more customer disconnections than anticipated. Unless specified in customer connection agreements, the costs of decommissioning fall to us. We also had unanticipated expenditure on rationalisation of Paull AGI which was not in our original business plan. However, this was partly offset by deferring the removal of Feeder 1 as this decommissioned pipeline was too close to our Feeder 9 Humber river crossing to be able to carry out work safely.

Land and resource use

Over RIIO-1 we have worked to improve our non-operational land. To do this we have developed sustainability action plans for five sites.

National Grid also has a strong history of supporting local communities. One way we do this is by managing our non-operational land in innovative ways. In 2015 we developed an innovate tool to recognise and account for the value of benefits provided by these natural assets, both to National Grid and our neighbours and communities, and this approach is called Natural Capital. A natural capital valuation is an assessment that looks at the services we get from the natural environment - e.g. air quality, visual screening, noise, wellbeing, flood defence - based on the habitat. We cost these services and this gives us the natural capital value. It is a way of monetising these services to effectively incorporate them into decision-making.

We are reusing and recycling materials. From a group perspective, in the last year, we reduced waste (in tonnage) from our offices by 20% and eliminated 8 types of single-use plastic from our main head office site. We already divert 100% of our office waste from our main sites away from landfill.

Supply chain

In line with our approach on responsible asset use and caring for the natural environment, we have a supplier code of conduct which sets out how we expect our suppliers to operate.

3. What our stakeholders are telling us

Redundant assets

We received feedback from you that doing nothing in this space is not acceptable. We asked as a principle if current or future consumers should pay for demolition of assets that are no longer required for operational use. Eighty-seven per cent of you told us that we should prioritise projects on a risk basis and maintain the remaining assets until the point of removal, then share costs between current and future consumers. A further 10% told us we should deliver it all in RIIO-2 even if it means costs for current consumers are increased. Only 3% believed we should defer all works and pass the costs on to future consumers.

“From a societal fairness view you should pay now. Passing on the cost doesn't seem socially fair”.

There was general agreement that assets and land should be reused wherever possible, and you told us that we should seek to repurpose pipelines and not remove them until it is clear they are not likely to be reused.

Use redundant pipelines for electricity cables or water rather than removing/scraping

Which other utilities can we engage with to re-life or re-use our redundant assets? Fibre, carbon capture?

We also received feedback about the visual impacts when assets aren't decommissioned, and you asked us to consider the societal impact on local communities when considering what to do, particularly with above ground assets.

We have asked you specific questions on redundant assets as part of our stakeholder engagement, and you can find our engagement log in Annex 24.07.

Land and resource use

You encouraged us to consider returning land to a good state when we have used it.

“Want to see the decommissioned sites/land returned to a good state for community benefit. Returned to good as a bare minimum”

We are now talking to consumers to understand their views on using sites once assets have reached the end of their life, and how we should use land around

our sites. We will incorporate feedback from this in the next iteration of our business plan.

Supply chain

In our February stakeholder playback consultation you told us that we should consider our supply chain practices and their impacts on the environment and communities.

4. Our proposals for RIIO-2

Redundant assets

We believe it is important to address redundant assets in RIIO-2 and propose to address the 77 identified sites, assets or asset groups during this period. We propose these are addressed under a price control deliverable, as set out in Annex A29.01 and summarised in table 24.18 below:

Table 24.18 Output summary redundant assets

| PCD name | Business plan proposal - what the PCD measures | Related UM | Supporting info |
|----------------------------|---|------------|-------------------------------------|
| 5. Redundant assets | Address redundant assets across 77 sites, assets and asset groups | - | Justification report (Annex A24.08) |

We feel that deferring these actions would not be in line with the direction of travel from government policy or stakeholder feedback. Future costs and requirements for decommissioning are uncertain as legal requirements around them are subject to change. Therefore, there is a potential that the impact of delaying this work could result in increased costs through more stringent specifications for the management of waste from decommissioned assets, and for the remediation of land or higher costs of disposal. Any increased costs would be passed on to future consumers who have not had the benefit of using those assets and, if delayed for many years, could fall on a smaller number of consumers who haven't benefited from the assets.

Based on the environmental impact of our redundant assets our opinion is that addressing these now rather than later is the correct approach to take. We plan to develop a programme to prioritise action on assets that pose greatest environmental and safety risks and to comply with our contractual obligations.

When assets become redundant, we commit to considering how they could be reused for existing and future customers before disposal. Based on your feedback about what we should be doing around the re-purposing of assets, we are mindful that the future needs of network users may change. This is likely to be particularly relevant for pipelines. The few small sections of pipelines identified as redundant are predominantly customer driven. Physically removing redundant pipeline can be disruptive for the environment and costly, therefore as well as potential options for reuse, leaving pipelines in place isolated and made safe reduces the environmental impact and saves money for end consumers. We will reassess these pipelines for RIIO-3.

Where whole sites are affected, we will remove equipment totally, and for partial sites reduce to ground level. On top of this, we will take proactive steps to return redundant sites to a better state than they were in before, in line with government strategy and stakeholder feedback.

Land and resource use

Throughout RIIO-2 we aim to expand our work to improve non-operational land around our sites. We propose baselining the natural capital and biodiversity unit value of our non-operational land and to set a target to improve this year on year. Working with local partners such as wildlife trusts, we will try to change how we manage our land to deliver benefits both for our business and for the natural environment.

Our construction activity also has an impact on the local environment and biodiversity. We supported a Construction Industry Research and Information Association (CIRIA) working group to develop industry guidance 'Net Gain Best Practice Principles' for how to approach to net gain in biodiversity and have been working to embed it as a requirement on our major construction projects. Throughout RIIO-2 we will continue to expand on this by ensuring all our construction projects result in a net gain in environmental value.

In terms of waste, we will increase the recycling rate at our offices by 60% and deliver a 20% waste tonnage reduction target for our offices by 2025-26. We will also seek to minimise waste in construction activities through achieving zero waste to landfill, increasing the amount of recycled materials used in construction projects and reduce the waste intensity of our construction projects year on year.

For our main offices, we will develop a 2019/20 water use baseline, against which we will set a 20% water use reduction target, to be achieved by the end of the RIIO-2 period.

Supply chain

We will embed sustainability and responsible sourcing in the procurement tender process even further and be more proactive through our contract management processes in RIIO-2 in holding our suppliers to account in relation to the code of conduct.

5. How will we deliver?

For redundant assets, we propose a Price Control Deliverable (PCD), and this can be found in Annex A29.01. In summary, it will address work across the 77 sites we've identified so far as well as any others we identify during RIIO-2. Within this PCD we propose to build in flexibility so that we can respond to newly identified changes by removing the highest risk (commercial, safety or environmental) assets first. The justification report for the work being undertaken under this proposed PCD can be found in Annex A24.08.

As part of decommissioning activities, we will return sites to a more natural state. This contributes to restricting the general biodiversity loss, which is currently accelerating around the globe; it controls the risk of ground and water contamination and promotes environmental net gain.

We will continue to embed our values around

sustainability into the supply chain. We will ensure that tenders are all assessed against a set of prequalification questions about sustainability to make sure we take relevant metrics into account.

6. Risks and uncertainty

During RIIO-1 more assets became redundant than we'd anticipated so we have completed an exercise to understand how many redundant assets we should expect over RIIO-2. However, the final number will be influenced by customer behaviour. Where possible, we will recover costs from customers but, as many of our older contracts don't allow this, we propose the allowance enables us to re-prioritise smaller projects based on risk.

7. Our proposed totex costs for RIIO-2

For our work on responsible asset use and caring for the natural environment we anticipate a spend of £73m across the RIIO-2 period as per Table 24.19 below.

We will commit to funding costs for other elements of this chapter such as sustainable procurement and biodiversity investments from within the wider business and so we are not requesting specific funding for these activities during RIIO-2.

Table 24.19 – Spend 'redundant assets

| | 2022 | 2023 | 2024 | 2025 | 2026 | Total RIIO-2 | Annualised RIIO-2 | Annualised RIIO-1 |
|-------------------------------|------|------|------|------|------|--------------|-------------------|-------------------|
| Redundant assets spend | 19.6 | 13.1 | 20.0 | 10.7 | 10.0 | 73.3 | 14.7 | 2.7 |

Quarry and loss

1. What is this topic about?

We have contractual relationships with owners of the land that our pipelines pass through. As part of these contracts we are liable for the impact of our pipelines and this includes a responsibility to compensate and make good where the presence of a pipeline affects drainage or crop production. Some contracts require us to divert our pipeline if the land is needed for other purposes such as quarrying or development.

2. Our activities and current performance

We are committed to honouring these long-standing contracts. However, we have well-established processes to validate the claim and challenge the amount of any compensation when landowners apply for it. In each case we adopt the solution that delivers value for consumers. For example, we might make annual payments, make full and final settlements, or carry out investigation and repairs (e.g. for drainage issues). During RIIO-1 we made a number of full and final settlements (106 at the time of our reopener submission) and these reduce some elements of our RIIO-2 liabilities.

Funding for this suite of activities during RIIO-1 was provided via a quarry and loss reopener rather than through ex-ante funding. Ofgem observed during the RIIO-1 reopener that some of our costs in this space were predictable and therefore should be part of funding in the future.

3. What our stakeholders are telling us

We understand that a key stakeholder priority is for us to be efficient and affordable, and this principle feeds into driving down costs wherever possible.

4. Our proposals for RIIO-2

We will continue to work with landowners to meet our legal and contractual obligations relating to the presence of our pipeline network. This will cover issues such as loss of crop, impacts on drainage, loss of development or restrictions on extracting minerals.

5. How will we deliver?

We will deliver the best possible value for consumers while ensuring our legal obligations relating to quarry and loss are met. As in RIIO-1 we will negotiate outcomes that keep costs low in the long-term, such as the use of full and final settlements.

6. Risks and uncertainty

We are requesting funding for £19m for costs relating to compliance with our contractual requirements. However, for loss of development and costs relating to loss of mining of sterilised minerals we propose to retain an uncertainty mechanism in case these breach the base revenue funding requested. This avoids us being subject to a windfall gain or loss because of circumstances that we can't control or predict. This uncertainty mechanism proposal is outlined in more detail in Annex 29.02 and is summarised in Table 24.20 below.

Table 24.20 uncertainty mechanism 'quarry and loss'

| UM name | Type | Business plan proposal – what the UM addresses | Frequency |
|---|--|---|---|
| 6. Quarry & loss development | Reopener Upfront allowance & Totex incentive sharing applies for known work with defined outputs. | Reopener to deal with unpredictable loss of development and mineralisation costs. | Year 2 of price control True up at end of period |

7. Our proposed totex costs for RIIO-2

Table 24.21 spend 'quarry and loss'

| Activity Spend | 2022 | 2023 | 2024 | 2025 | 2026 | Total RIIO-2 | Annualised RIIO-2 | Annualised RIIO-1 |
|----------------------|------|------|------|------|------|--------------|-------------------|-------------------|
| Quarry and loss (£m) | 4.3 | 4.4 | 4.4 | 3.0 | 3.0 | 19.1 | 3.8 | 5.3 |

Supporting the communities we work in



“Our purpose is to bring energy to life. In its simplest form ‘Bring energy to Life’ means getting the heat, light and power that customers rely on for their homes and businesses. But for me ‘life’ also means supporting the communities that we are part of and live amongst to support economic growth and the sustainability of wider society” **John Pettigrew, Chief Executive Officer**

1. What is this sub-topic about?

We have an impact on many communities when we carry out work such as new connections or refurbishments. The expectation from external stakeholders, shareholders and communities affected by our work is that we should ‘give something back’. Our purpose, vision and values articulate our desire to exceed the expectations of communities.

Our citizenship work through our employee volunteering and fundraising programmes supports charities and community organisations. We also give grants to community groups, so they can deliver a range of social, economic and environmental benefits.

2. Our activities and current performance

We have built on our track record for supporting communities in all these ways and worked on a number of activities that support wider society, including social mobility projects.

Highlights of National Grid’s activities during RIIO-1 include:

- investing £103m (so far) for 32,000 first-time central heating systems for vulnerable households across England, Scotland and Wales through the Warm Homes Fund
- launching a pilot programme called 'Grid for Good', which is a social mobility project to connect those in need to support services and networks. We are currently running a pilot to help us define the initiatives that could offer the best value for communities
- partnering with designated charities each year including Macmillan Cancer Support, the Alzheimers Society and City Year UK, raising £2.24m for partnered charities in RIIO-1 to date
- encouraging and supporting 5,000 employee volunteering hours and providing £1.13m to their chosen charities in matched giving
- awarding £1.2m in grants for communities located near to (or impacted by) our business activities
- spending more than 2,500 hours with young people to inspire them about science, technology, engineering and maths (STEM) subjects
- implementing human rights and supply chain due diligence strategies (including meeting modern slavery and conflict minerals commitments). We are now 12th in the FTSE100 Modern Slavery rating index
- supporting the government’s Inclusive Economy Partnership to protect and improve mental health and equip people to get back to work
- being a member of the Living Wage Foundation and promoting commitment to the real living wage, both in our organisation and in the wider supply chain
- delivering the Energy & Utility Procurement Skills Accord commitments, which promote skills development and work towards bridging the skills gap in the energy sector; we received a recognition of our contribution
- committing to align with the government’s own targets by awarding 33% of annual spend to small and medium-sized enterprises (SMEs) by 2020
- promoting local employment by using the CompeteFOR tool for major projects with packages of work advertised to the local supply chain
- managing our environmental education centres with 35-40k visitors on average per year
- providing grants for community projects that are focused on delivering local social, economic or environmental benefits, where communities are affected by our work
- managing EmployAbility, an employee-led supported internship programme for young people aged 17-25 years with special educational needs. In 2018/19 we provided 13 placements at three of our office locations. We have achieved great results so far with 68% of our supported interns going into paid employment.

3. What are our stakeholders telling us?

We asked you about our role in local communities. Sixty per cent of respondents told us that we should do more with local communities while 40% said to continue as we currently are.

We also asked you who should be funding our activities in this space, and we will do the same thing with consumers in our Willingness to Pay research. The results will inform the next version of the business plan.

We have also done some new, evidence-based research to understand consumer preferences and what the resulting business behaviours are, to inform how we should direct our activity. This cultural analysis, combined with our team's research into Total Societal Impact (TSI), has concluded that the biggest positive societal impact will be felt if we focus on clean electricity, transport and heat. We know you are concerned that vulnerable and fuel-poor consumers are at risk of being left behind when major infrastructure changes take place so we will focus our societal impact work on mitigating these effects.

4. Our proposals for RIIO-2 and how we will deliver

We will reduce and simplify our RIIO-1 period initiatives to make sure that we prioritise the activities that offer the most value for society. [We have signed the Social Mobility Pledge which means that we will work towards accreditation as well as adopting apprenticeship and employee recruitment practices that promote a level playing-field.](#) We have other initiatives supporting the social mobility priority. One example, a pilot called 'Grid for Good' connects people to zero-cost basic needs services in their area. At the same time, the pilot helps them gain key skills – through our volunteering employees, which will support them on the road to achieving meaningful employment. We hope to have further updates on progress in the October submission.

We are dedicated to working with young people, who are the future of our business – and our country. The Engineering UK 2018 report showed that engineering companies will need 203,000 more people with Level 3+ engineering skills every year to 2024. Based on our stakeholder feedback, our plan for RIIO-2 is to build on our current initiatives and work with schools, parents and children, particularly those in more deprived areas. [We will promote engineering as a modern, dynamic and desirable career with a great future and continue to support our employees to act as education ambassadors.](#) They can volunteer their

time for a range of activities including careers education and work experience.

We work hard so that our construction activities tread softly in the community we impact by listening to local stakeholders, keeping them informed, minimising disruption, reinstating like for like and looking for opportunities to make enhancements for the local community to enjoy. [We will assign 0.3% of all major project funding to consumer-led community improvement in locations where we have a presence, without requesting additional funds.](#) Spend for support in areas where we are not building will continue to be discretionary.

[We will change our volunteering approach.](#) This will allow all charity and community partners the opportunity to showcase their volunteering opportunities directly to our employees. Employees will then be able to choose to support our strategic goals for supporting social mobility through education and employment, or will have the freedom to dictate support for an organisation of their choice.

Our reach as a business extends beyond our direct impacts. Just as our daily activity drives change, we want our procurement activity to drive a positive environmental, social and economic impact too. We will use our position as a client organisation to drive positive change down the supply chain. Further information on this can be found in our Ethical Procurement Action Plan annex 24.20.

[We will continue to embed sustainability and responsible sourcing in the procurement tender process and be more proactive through our contract management processes in RIIO-2 in holding our suppliers to account in relation to the Supplier Code of Conduct.](#) We are committed to providing small and local businesses, minority ethnic, female-owned and diverse business enterprises with an equal opportunity to participate in National Grid's procurement and sourcing processes and so [we'll set ourselves the same target as the one the UK government has set itself - to award contracts for 33% of annual spend to SMEs.](#) We care about our business's social footprint and our sourcing strategy can play a part in improving the lives of people in our communities. [We plan to continue our activities to implement human rights and supply chain diligence, retain our top quartile performance on modern slavery and employ locally where possible. Where we can, we'll include social enterprises in our sourcing process to contribute to the initiatives they support.](#)

In the UK, we have committed to pay all our employees and contractors working on behalf of National Grid the real living wage as defined by the Living Wage Foundation (LWF) and continue to meet the annual commitments agreed by the LWF. Through RIIO-2 we'd like to make sure our commitments supporting the Living Wage are applied consistently and reach further into the supply chain by requiring sub-contractors beyond tier 1 into tier 2 to apply the real living wage principles and encourage adoption of the Supplier Code of Conduct beyond tier 1. We will also encourage technical skills development in the supply chain.

4. Our proposed totex costs for RIIO-2

We have not requested specific allowances for spend in this area for RIIO-2. This was similar to RIIO-1 where we didn't set RIIO-1 targets to cover citizenship activities but many of our programmes have featured in the annual customer and stakeholder submissions to Ofgem.

Next steps for this priority

- **The following updates will take place targeting the October submission**
- Update our Environmental Action Plan in line with Ofgem's revised guidance.
- **Climate change - our climate commitment** – further develop environmental incentive propositions.
- **Responsible asset use and caring for the natural environment** – Stakeholder engagement relating to Theddlethorpe, make detailed site assessments including asbestos and other environmental issues, update delivery costs for decommissioning following an exploration of innovation options in this space.
- Further results from our consumer research will feed into the October submission.
- Engagement with environmental and procurement experts to ensure our targets are stretching enough and our measures suitable.

The following updates will take place targeting the December submission

- **Air quality - compressor emissions** – undertake preliminary BAT assessments.