



Our plan is efficient and affordable, providing value for money

## 20. Our plan is efficient and affordable, providing value for money

### What is this stakeholder priority about?

One of our key priorities is keeping energy affordable. We strive to keep our impact on domestic and non-domestic consumer bills low and we work with our customers to keep energy affordable. We have a strong cost-focused culture, but we also are fully aware of the requirement to balance this with the service we deliver. The current RIIO framework gives us a strong incentive to deliver our outcomes as efficiently as possible whilst protecting long-term consumer outcomes. We've shown how we continually balance this challenge during RIIO-1 by overspending allowances set by Ofgem by over £300m, as we believe this is the right thing to do to maintain a safe and reliable network today and into the future.

### What have our stakeholders told us?

Our stakeholders said we must help to keep energy affordable for domestic and non-domestic consumers. We work hard to keep our impact on bills low, recognising that natural gas is the current low-cost solution as a heat source for vulnerable consumers and fuel for many non-domestic consumers. The services we provide currently contributes ~£9 to the average annual domestic energy bill. 82 per cent of non-domestic consumers and 88 per cent of domestic consumers find on average our RIIO-2 plan acceptable.

### Being more efficient to deliver value for money

To deliver our proposals as cost-efficiently as possible we have challenged ourselves to drive efficiencies across all the activities of this business plan.

- We will continue to extract value from the supply chain using native competition, having used it for 82 per cent of all external expenditure during RIIO-1.
- For our business support costs, we have reduced our plan by £2m per year in response to benchmarking analysis and can demonstrate that our costs align with upper quartile efficiency levels.
- For our asset health plan, we have used outturn costs from works delivered in RIIO-1 and built-in forecast efficiencies from delivered innovations into our RIIO-2 baseline.

Our plan includes the following efficiency commitments;

- **Sustaining** all operational cost efficiencies from our stretching UK efficiency programme, undertaken during the latter years of RIIO-1. **This saves £30m per year** over the full RIIO-2 compared to our forecast cost before we began the programme period.
- **Delivering a further £6m per year of operational cost efficiencies** on our activities today by the end of RIIO-2, which is driven through an ambitious 1.1 per cent per year productivity growth target that is almost three times the current UK trend.

The resulting underlying operating costs will be 11 per cent lower by the end of RIIO-2 than they are today.

- **Delivering £11m per year (4 per cent) efficiency forecast on our baseline direct capital investments.** This is additional to the benefits of previous engineering and asset management innovations that are built into the forecast costs of our business plan. To achieve the 4 per cent efficiency on our baseline direct capital investments we will continue to innovate, benchmark, market test and use native competition throughout RIIO-2.

**Overall the above deliver a £47m per year reduction in our RIIO-2 costs, which is an 8 per cent efficiency.** Beyond our own efficiency, we will work with Ofgem to identify where competition could be introduced to specific new, large and separable investment projects.

This chapter demonstrates the value for money of the entire business plan. It also discusses costs not mapped separately to other stakeholder priorities, including business support costs and non-controllable costs. We include a narrative on IT costs, to provide a holistic overview of our IT strategy (with specific activities detailed within each stakeholder priority).



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### 1. What is this stakeholder priority about?

We develop, maintain, and operate an economic and efficient network. The essential role that we play enables diverse sources of gas to enter the GB wholesale market and allows market participants to optimise their commercial operations, enabling competition in the supply of gas and keeping energy costs to consumers as low as possible.

We know that undertaking our activities has a wider impact on consumer bills than the cost of our activities alone. By facilitating the effective functioning of the gas market, we have a positive impact on the wholesale energy cost in a way that benefits consumers. This impact was supported by a recent study by professional services firm EY<sup>111</sup>. This concluded that, even with perfect foresight and without taking account of unexpected short-term shock, failure to maintain the existing capability of the national transmission system (NTS) could have significant impacts on GB consumers, adding up to £877m per year to gas and electricity costs by 2035.

In a time of rising energy bills, it is vital that we play our part in keeping our costs down for all consumers, especially those who are in fuel poverty. **In this priority, we cover how we will continue to focus on carrying out our activities as efficiently as possible for the benefit of end consumers.**

### 2. Our activities and current performance

#### We have a strong track record of delivering more for consumers

In RIIO1 we have **undertaken transformation programmes to improve capability** and drive efficiency in our activities, for example, through investing in our data and our data analysis capabilities to assist with building a modern asset management capability.

We have **undertaken major restructuring programmes**, both early in the period (which optimised our organisation to respond to the challenges of the RIIO1 period), and more recently to drive further efficiencies in our operating model.

We have balanced the challenge of keeping costs low with protecting long-term consumer outcomes. **We have overspent allowances set by Ofgem by over £300m** (on asset health, opex and non-operational capex), as we believe this is the right thing to do to maintain a safe and reliable network today and into the future.

**We have sought innovation opportunities** to deliver the greatest value for consumers and applied them across our business activities – we do this throughout our activities but, specifically for network innovation allowance expenditure to date, we have delivered £4 in value for every £1 we invested in implemented innovation.

**We have sought opportunities to extract value from the supply chain** through greater competition in contracting to achieve lower tender prices and greater innovation in both procurement and delivery. We have used native competition for 82 per cent of all external expenditure during RIIO-1. We have developed our own capability in contract and project management excellence so that we are well-positioned to realise the contracting efficiencies in the delivery phase of our projects.

**We have proactively influenced legislation** regarding the emissions of our compressor fleet. Within the Medium Combustion Plant (MCP) Directive, the time derogation for gas-driven compressors was originally 2025. This would have resulted in significant overlap with investments associated with the earlier large combustion plant derogation of 2023. Through direct liaison with UK government, using our network of industry contacts within the EU and MARCOGAZ (the Technical Association of the European Natural Gas Industry), we were able to lobby EU stakeholders. These actions resulted in successful influencing of the directive. Crucially, we secured a longer derogation for gas compressors that are required to ensure the safety and security of a national gas transmission system. These have been given a further five years, until 2030, to comply with the requirements.

We have delivered a service that our stakeholders value. Maintaining reliability and playing our part in allowing consumers to use gas as and when they want. **This has not been easy given some of the challenges we have faced, including the trend for our customers to use the network in different, more flexible ways and the periods of extreme weather conditions we have experienced.** We have delivered timely customer connections, flexing the network to avoid the need for deeper reinforcement, and we have exceeded our targets for customer and stakeholder satisfaction, although we acknowledge we have more to do in this area.

#### Outputs and costs are linked to ensure accountability for outcomes

Over the last decade, we have seen more uncertainties affecting our activities. During RIIO-1 uncertainty has been driven by emerging legislative requirements and a better understanding of the condition of our assets. **Uncertainty mechanisms (UMs) have been in place to adjust our allowed revenue during the period to reflect uncertainty of requirements, solutions and associated costs.** This manages the risk to consumers by ensuring we spend money when the right level of certainty and cost justification is reached. An example was the Avonmouth pipeline output, designed to help manage the consequences of the Avonmouth liquefied natural gas (LNG) storage facility closure. Working collaboratively with key stakeholders, we found this was not necessary and we returned the relevant revenue allowance to consumers.

<sup>111</sup> Please see annex A12.01.



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Decisions we make now will affect the outputs and the costs of the network for many years and we have had to balance current and future consumer requirements in our plan. These decisions cover the spending we are proposing in RIIO-2, the recovery of historic costs and the financial framework used to calculate our revenue.

The returns delivered by many networks in the RIIO-1 period have been heavily scrutinised over the last few years. Our returns have not been to the same level because we have needed to spend above allowances to maintain an appropriate level of risk on the network. We do, however, recognise that there are economic reasons why the base return due to shareholders (called the 'cost of equity') should be lower in the RIIO-2 period.

### We contribute 1.6 per cent to the average household energy bill

In RIIO-1, our costs contribute around £9 (1.6 per cent) of the average annual household bill of £569.

### 3. What have stakeholders told us?

Our stakeholders have said **we must help to keep energy affordable for domestic and non-domestic consumers**. Our stakeholders expect us to manage costs and risk in the interest of our direct customers and wider consumers. We invest to make sure our network provides the service that our stakeholders need and expect. Stakeholders see us as the experts managing the gas transmission system. Our stakeholders are also clear that **we must do this economically and efficiently**. More broadly, stakeholders want us to build both transparency and trust.

Consumers care about keeping their energy bill affordable. They see energy networks as dependable. This reflects well on how we have managed risk on consumers' behalf in the past and we must continue to do so in the future.

### We worked with consumers to ensure our plan delivers what they need, at a price they are willing to pay

We spoke to organisations with previous consumer experience to help build our approach and we asked the independent stakeholder user group and Citizens Advice to challenge our proposals at appropriate points in the process.

### We tested consumer willingness to pay

Working with the other transmission networks<sup>112</sup> we appointed consultancy firms Explain and NERA to deliver a joint study into willingness to pay (WTP). The research took place in early 2019 and has been incorporated within our plan. We covered the topics of risk of supply interruptions, improving the environment around transmission sites, supporting local communities,

investing in innovation projects to create future benefits for consumers and supporting consumers in fuel poverty.

The nature of the willingness to pay methodology means that some topics are not appropriate for this type of research. For example, anything safety-related tends to generate an inflated willingness to pay value, which can also impact results for other topics. It is also not appropriate for topics where there is already an established value, such as carbon pricing.

Willingness to pay is useful in providing information on a range of consumer values for changes in service levels. Overall our findings concluded that non-domestic and domestic consumers expressed a statistically significant willingness to pay for the range of services considered.

We have not used these findings to set the size of our plan, their magnitude is greater than our proposed costs and they are a sole data point. Instead, **we have used them as an indication of where we may or may not have consumer support** and, for topics where there are options, as an indication of priorities. They have also been triangulated with the output of other research and stakeholder engagement. A full report on our willingness to pay research can be found in annex A20.01.

### We have tested the acceptability of our plan

Following our July 2019 draft submission, we carried out nationally representative quantitative research with the specific aim of testing the acceptability of what we're proposing. Working with NGET, we appointed Eftec and ICS to deliver this joint study.

The study presented consumers with our business plan to confirm if it delivered what consumers need from the gas transmission system at a cost acceptable to them. The study included domestic and non-domestic consumers, featuring both qualitative and quantitative research techniques.

### Results demonstrated a high level of acceptability for the business plan:

- 82 per cent of business consumers and 88 per cent of domestic consumers find that the average impact of our RIIO-2 plan is "acceptable" (*note that the average annual consumer bill we presented was £9.54 by 2026, our final RIIO-2 plan presents a final bill impact of £8.85 per year*).
- When consumers were asked "*what is the maximum acceptable change in your transmission bill by 2026?*" the average response was payment of a further £11 for domestic consumers and a 7 per cent increase for non-domestic consumers.
- For those who did not find our plan acceptable, reasons mainly related to financial considerations including objections to paying a higher bill and energy companies making too much profit.

<sup>112</sup> National Grid Electricity Transmission, Scottish Hydro Electric Transmission, Scottish Power Transmission



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- Acceptability was largely driven by perceived affordability of the transmission bill, as well as the need to maintain high levels of reliability for business consumers. This high level of acceptability is subject to limits to changes to the overall energy bill.

The output of this research was triangulated with the output of other research and stakeholder engagement to inform the business plan.

**Table 20.01 stakeholder engagement**

	Our plan is efficient and affordable, providing value for money
<b>Stakeholders</b>	Consumers, consumer groups, network companies, regulators, academics, industry trade bodies, supply chain, shippers, customer entry, customer exit, interest groups, other non-energy.
<b>Objective</b>	Understand views on how we provide and demonstrate the value for money of the services we provide.
<b>Channel</b>	RIIO-2 stakeholder regional events, stakeholder 1-2-1s, webinars, consumer listening, willingness to pay study, acceptability study.
<b>Key messages</b>	Keeping energy bills affordable is an important priority for domestic and non-domestic consumers and we have a part to play. Our stakeholders expect us to manage costs and risk in the interest of our direct customers and wider consumers. We should be as efficient and affordable as possible, explain our performance and what causes changes in cost.
<b>Trade-offs and stakeholder influence on the plan</b>	Independent triangulation of our engagement found the fact that consumers (domestic, and small and large non-domestic consumers) are willing to pay more across a range of service areas, suggests that our proposals are affordable. It is clear on the one hand that consumers and stakeholders are very concerned about affordability, and on the other hand that they are generally happy with our performance in this area. The overall conclusion is that consumers and stakeholders are accepting of our proposals in this area.
<b>SUG and challenge group feedback</b>	Following the independent SUG feedback, we have provided more information on the impact of our plan on non-domestic consumers and customers; ensured benchmarking is weaved into the plan and included more on competition; challenged ourselves to articulate more clearly our efficiency story, including appropriate RIIO-1 to RIIO-2 comparison; included a more detailed explanation of how we will account for real price effects.

### 4. Our proposals for RIIO-2

The total cost of delivering the key stakeholder priorities in this plan is £553m per year, excluding real price effects, pass-through costs and non-baseline funded uncertainty mechanisms. This includes our forecast business support costs which are described in this chapter, with a forecast cost of £75m per year in RIIO-2, compared to £73m per year in RIIO-1.

**Figure 20.02 our costs**

Stakeholder priority	Annual RIIO-1	Annual RIIO-2	Comparison of RIIO-2 vs RIIO-1
I want the gas transmission system to be safe	£17m	£14m	-£3m
I want to take gas on and off the transmission system where and when I want	£207m	£280m	+£73m
I want you to protect the transmission system from cyber and external threats	£36m	£118m	+£82m
I want you to care for the environment and communities	£43m	£55m	+£12m
I want you to facilitate the whole energy system of the future	£13m	£17m	+£4m
I want all the information I need to run my business	£8m	£8m	£0m
I want to connect to the transmission system	£4m	£3m	-£1m
I want you to be efficient and affordable			
Business support	£73m	£75m	+£2m
Additional capital efficiency commitment		-£11m	
Operational cost and productivity efficiency commitment		-£6m	
<b>Grand total</b>	<b>£399m</b>	<b>£553m</b> (Capex £355m, Opex £198m)	<b>£154m</b>
Non-controllable RPEs	£201, £4m	£192m £26m	-£9m +£22m

### 5. Being more efficient to deliver value for money

To deliver our proposals as cost effectively as possible, **we have challenged ourselves to make sure our costs are as low as they can be, by embedding the benefits of past innovations, benchmarking analysis and making stretching efficiency improvement commitments.** In this section, we describe the steps we

have taken to give confidence we are providing value for money across our capital and operating expenditures.



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### Cost assessment

We use a range of tools and techniques to assess costs and give confidence in the efficiency.

#### Capex

- Utilising outturn costs from RIIO-1
- Detailed unit costs process
- Native competition
- Benchmarking and best practice
- Robust capital investment process

#### Opex

- Market tested
- Cost benchmarking (pay, business support & IT)
- Industry benchmarking (e.g. European studies)

### Capital expenditure

Capital expenditure covers all expenditure on our assets, whether building new ones, replacing or extending the lives of old ones. As such the associated activities are detailed across all the stakeholder priorities in our RIIO-2 plan.

#### Our capital costs are efficient as we enter RIIO-2

**We use benchmarking evidence, when available, to demonstrate the efficiency of our costs. We use native competition to extract value from our supply chain**, with 82 per cent of all external expenditure during RIIO-1 going through a competitive process. For asset health, 100 per cent of our capital expenditure over £100k was subject to competitive tendering. **We also drive innovation across all of our activities to seek the most efficient and effective long-term solution for consumers.**

#### We internally benchmark, drawing on analysis of work completed with the RIIO-1 period

**Our approach considers historical outturn information as the strongest indicator of future unit costs.**

Driven by our commitment to achieve deliverable and efficient RIIO-2 investment costs, we have comprehensively developed, explored and tested our proposed unit costs with significant focus on our asset health and cyber cost base.

We have developed a comprehensive methodology for achieving unit cost confidence, where more than one activity can support the production of final proposed unit cost, therefore utilising the best information available (in preferential order):

- historical outturn cost information, where we can match like for like units against delivered programmes;
- supplier quoted costs, matching like for like units against a tendered but not delivered programme of work;
- extrapolation to similar types of work or subcomponents of work; and

- review of industry wide benchmarking or internal cost data.

Our asset health work involves a wide range of activities, from repeatable, standard jobs with low levels of differentiating factors, through to those that are more bespoke, which are therefore, more difficult to apply standard costing. We have, however, employed an approach that considers historical outturn information as the strongest indicator of future unit costs, with over 81 per cent of our plan using unit costs calculated in this way. Only where this level of information is not available have we turned to either supplier quotations (which underpins 15 per cent of our plan), or other estimation techniques (upon which the remaining 3 per cent of our plan is built). Further detail on this approach can be found in annex A20.17

Our operational technology cyber unit cost build has gone through an identical process. We have used internal UK benchmarks from some 36 projects undertaken in the RIIO-1 period to inform our unit costs. This data inherently reflects the outcome of native competition, where suppliers have been selected through competitive tender events for the relevant projects in question. Our most advanced cyber project has been used to inform the additional costs to achieve cyber security levels in accordance with ISA 62443 and, in the case of control systems, to meet latest HSE expectations with regard to human factors (human-machine-interface, displays, ergonomics and streamlining of alarm and trip management). This up-to-date information is representative of the RIIO-2 work required at other sites, so the knowledge has been transferred with confidence that it is a highly applicable benchmark.

#### We have a native competition plan

**We utilise competitive processes (which follows best practice outlined in the sector specific methodology decision) for all procurements and projects, except where the potential benefits of doing so are outweighed by the costs.**

- We comply with the European Utilities Contracts Regulations 2016 (UCR) which require the use of competitive processes for the purchase of goods and services above a financial threshold (currently ~£363k for Goods and Services and ~£4.55m for Works).
- A competitive process is followed for purchases over £20k, with any exceptions to be authorised through appropriate delegations of authority. For all purchases greater than £100k, we follow a more defined sourcing and tendering process. This is lower than the legal threshold set by the UCR; we choose to do this because we believe we can drive more value.

**Our competitive process is robust, transparent and provides equal treatment of potential bidders and protects information appropriately.**

- We treat all bidders fairly and with the appropriate level of transparency. Bidders trust us not to reveal



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confidential information to the market before they make their best submission and share innovations.

- We ensure confidential information is handled appropriately.
- We offer fair payment terms, adopting construction supply chain payment charter standards and ensuring these principles are cascaded through all levels of the supply chain.
- We drive performance in our contracts by ensuring they contain appropriate measures (Key Performance Indicators) to incentivise suppliers. We measure supplier performance on a quarterly basis and the outcomes affect future workload allocation.

### The complexity of the competitive process used is proportionate to the value and time-sensitivity of the project or system need in question

- Our strategic sourcing process enables us to identify the optimum way to contract our work considering the value, risk and urgency of the work.
- We have set up frameworks to speed up the commercial process, reduce tendering costs, drive optimal designs, leverage volume and introduce innovation. Our framework agreements allow enough flexibility to ensure that suppliers can introduce innovation and optimise designs whilst we remain able to leverage our volume through the workload allocation processes.
- For complex, high-value, bespoke or unusual projects where we believe we can drive additional value, we retain the option to spot tender and can allow a longer period for tender receipt than the legal minimum.

### Information is provided equally to all parties, and any conflicts of interest are managed

- We will continue to provide early visibility of the work plan through quarterly webinars and issuing project briefs to enable our supply chain partners to plan more effectively. We have already shared our RIIO-2 plan through our ongoing six-monthly senior engagement forums with our key framework suppliers.
- We have appropriate checks in place to identify and manage any conflicts of interest.

### We are agnostic to technology and bidder type

- We continue to drive competition into our supply chain by introducing new suppliers. We are open to innovative solutions and remain technology agnostic (where practicable).
- Our frameworks are expanding to include installation-only contractors, to increase technology agnosticism by decreasing our reliance on primary equipment manufacturers.

### Competition is structured to generate outcomes in the interests of current and future consumers

- We constantly work to increase efficiency, mitigate risks and optimise whole-life costs.
- We leverage value by being a better client, regularly seeking feedback from our supply chain as to how we

can help them be more efficient, which in turn leads to lower costs and better outcomes for customers and consumers.

### We undertake benchmarking and best practice sharing activities across a wide range of our business activities

We do this to identify best practices and find further business improvements. We invest time and effort to understand how other businesses perform and how we can adopt approaches that will allow us to drive benefits for consumers. We participate in various industry associations which allows us access to joint research, innovation projects, benchmarking studies and direct relationships with other similar organisations. We also engage external benchmarking consultancies to bolster understanding of our cost base.

We are in a unique position of being the only gas transmission business in Great Britain. This means for asset management costs we need to take a different benchmarking approach than other network companies, such as gas distribution networks, where they can look across the four separate network owners. Our approach covers:

- how we build our asset health costs, which allows comparisons from previous schemes
- benchmarking across European transmission system operators for specific spend areas
- implementing a strategic sourcing approach and using various contracting and procurement strategies
- wider benchmarking initiatives and bespoke activities to identify comparators, such as the project management review of our Feeder 9 project and appointing an external challenge group to review our future asset management project to learn from best practice.

### European Transmission System Operator (TSO) benchmarking study

We have participated in an international TSO benchmarking study commissioned by the Council of European Energy Regulators (CEER) of which Ofgem is a member. The study commenced in February 2018 and the final report was recently published by CEER. Participants, which comprised of 29 gas TSOs from 16 European countries.

The study examined total costs incurred to deliver high-level outputs associated with transmission provision, maintenance and planning (excluding system operation activities). Although the study examined data for the period 2012-2017, only results for 2017 have been published so far. Consistent with the previous gas TSO benchmark of this type, we feature as an efficient peer across the range of models.

The CEER study seeks to identify the efficiency of the overall company approach in terms of the choices made about the mix of activities. To compare TSOs on such a basis meaningfully requires many adjustments to eliminate uncontrollable factors and so is challenging. Currently, participating TSOs are still seeking to



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understand which results show real differences in performance.

### Gas transmission benchmarking initiative (GTBI)

We are a founding member of the Gas Transmission Benchmarking Initiative; a voluntary group of 11 Pan-European Transmission System Owners who have worked for over a decade, sharing best practice to help drive efficient network operation and asset management. The group is facilitated by a benchmarking consultant, Juran, who also act to ensure confidentiality and anonymity where required by Competition Law.

Noting the GTBI's purpose is to share best engineering practice, we asked this group to participate in a cost benchmarking study, requesting cost and volume information for equipment groups that represent 42 per cent of our forecast ten-year asset health plan.

Early indications from Juran are that it is difficult to draw concrete conclusions about the unit costs observed. This is caused by limitations on the granularity of data acquired and the lack of full clarity on each company's costing and accounting systems. To date the most relevant output from the study to note is that, of the entities considered, our network in general comprises the oldest infrastructure. From this we may extrapolate that you would expect the most significant asset health interventions required on our network compared to the other entities in the study.

### Our robust capital investment process locks in efficiency

All capital investments follow our governance process. This assures that we manage capital investment in line

Figure 20.03 our investment process



### Our capital costs will stay efficient

For RIIO-2 we will deliver a further £11m per year (4 per cent) efficiency forecast on our baseline direct capital investments. This is additional to the benefits of previous engineering and asset management innovations that are built into the forecast costs of our business plan. To achieve the 4 per cent efficiency on our baseline direct capital investments we will continue to innovate, use native competition to extract as much value as possible from the supply chain, market test and benchmark (internally and externally). In addition, we are seeking to leverage benefits from our transformation programmes and our asset health campaign approach.

## 5.2 Operating Expenditure

Our operating costs are the costs we incur on an ongoing basis to maintain and operate our business. As such they contribute to almost all the stakeholder priorities in our RIIO-2 plan, with only business support costs not already included elsewhere in this plan. **Collectively, our operating costs make up 31 per cent of our total expenditure for the RIIO-2 period and, because they**

with the delegated authority provided by our board to the Gas Transmission Investment Committee. The purpose of the governance process is to assure that investments deliver the best value, fit for purpose solutions to identified problems or opportunities, which meet the needs of ourselves, customers and stakeholders. It manages and defines the project lifecycle from inception through to closure for all gas transmission investments in the regulated business. It includes six stages with 'gated' progress to ensure minimum requirements are met for each phase (as set out in figure 20.03), formalises the delegation of authority for gate keepers and sets out mandatory questions to be completed before onwards progression.

It defines the requirements of an investment needs case, which will include cost benefit analysis (CBA) as required. The needs case is confirmed at every stage before project delivery. We have increasing cost certainty as we move through the stage gates. We appoint a front-end engineering design (FEED) contractor at stage 4.3 and a main works contractor at stage 4.4 in figure 20.03. It also sets out the option evaluation and selection process to ensure all reasonable options are considered. These can include 'do nothing' and commercial options in addition to build options. Our investment process is interlinked with our Governance Code which provides the means for financial approval and commits the investment to time, scope and cost parameters.

There are three possible drivers and routes of entry into the investment process; network capability and legislation, asset health and customer driven (change in need or load-related).

relate to the day-to-day running of our business and occur year after year, it is particularly important that we can demonstrate these costs are efficient.

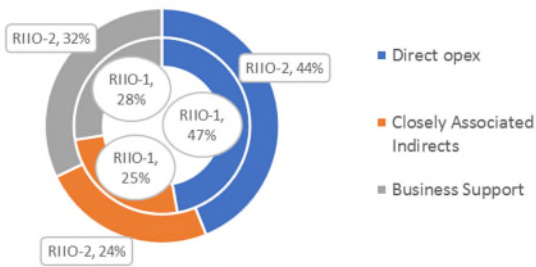
### We have challenged ourselves in RIIO1 to embed opex efficiencies to ensure we are efficient as we enter the RIIO-2 period.

In RIIO-1 we spent around £1,77m per year on our operating costs. Just under half of this is **direct costs** on activities that directly impact our assets, such as maintenance activities and asset inspections. The other half is **indirect costs** on activities such as those related to planning network changes, IT support costs for our asset management systems, the running of the Gas National Control Centre and associated applications, and support functions such as HR and finance.



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**Figure 20.04** how our operating costs are made up



The mix of our operating cost base has changed over time as the result of business decisions and the need to respond to external challenges.

As we entered the RIIO-1 period, we were facing growing maintenance requirements from an ageing asset base as well as a shortage of adequately trained workers. The level of opex allowances received for the RIIO-1 period did not fund these upward pressures and consequently gave us a dual challenge of delivering the increasing workload whilst reducing our costs.

To meet this challenge, **early in the RIIO-1 period we reset our operating model to restructure our business to realign accountabilities, introducing performance excellence (lean) capabilities and optimising our support functions for additional workload.** This allowed us to mitigate some of the upward pressures in workload and reduce our workforce by over 100 roles.

From a direct opex perspective, as we started to deliver our asset health programme in RIIO-1, we found that we needed to get a greater understanding of our asset condition and make more interventions than anticipated. We invested in asset and asset-condition data management systems, as well as the resources and capability to analyse and assess the data we collected. This enabled more informed decision-making around asset interventions, reducing capex costs.

From an indirect opex perspective, IT costs increased because of the IT systems we invested in to support our asset condition data and as we developed our capability in identifying and managing the increasing cyber threat to our operations. We also needed to increase the scope of our financial control activities to respond to increasing compliance requirements and focus. The benchmarks that set our allowances did not take these increased activities into account and we were not able to contain these costs within our allowances.

More recently, building on the experiences and capabilities we developed in the first half of RIIO-1, we have reshaped our business in readiness for the changing needs of our customers over the next five years. **We have undertaken an ambitious, bottom-up review of our business which enables us to bring in new skills and capabilities and reduce costs.** We have identified a suite of coordinated initiatives which will deliver savings of £30m against our projected costs for RIIO-1 by March 2021. This will flow into all years of RIIO-2 delivering a total consumer benefit of £30m per year over the next price control period and bringing our costs in line with external efficiency benchmarks. The

resulting re-shaped organisation and cost base make us fit for delivery in the RIIO-2 period. By moving to our new operating model in advance of the start of the next price control we can be transparent with our stakeholders about our future operating cost base.

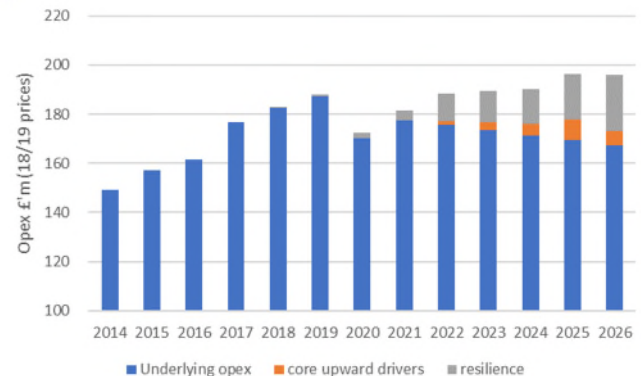
**We consciously overspent our opex allowances in RIIO-1 as this was the right thing to do to deliver the service our stakeholders and consumers need.**

**We will deliver a further £6m per year of operational cost efficiencies on our activities by the end of RIIO-2**

This is driven through an ambitious 1.1 per cent per annum productivity growth target, which is almost three times the current UK trend, representing a stretching target on top of costs that are already at the efficient frontier at the start of RIIO-2.

Collectively these efficiencies and our future productivity mean our underlying costs will be £20m lower (11 per cent) by the end of RIIO-2 compared with today.

**Figure 20.05** underlying opex costs reduce by £20m by the end of RIIO-2



**We will manage key cost drivers in our plan**

We expect the opex pressures we have experienced in the RIIO-1 period to continue into RIIO-2, and they will, in part, offset the underlying savings we forecast. The three core upward cost drivers relate to:

**1. IT run costs:** The costs of supporting our IT systems has grown through RIIO-1 as we have made investments in asset data management systems and built our capability to respond to an escalating cyber risk. Average spend for the early part of RIIO-1 was £21m per annum, however our IT costs are forecast to reach £29m by the end of RIIO-1 as we expand our cyber resilience activities and support investments to make our transactional business support functions more cost efficient. Independent benchmarking experts Gartner have confirmed that our IT operating costs are efficient as we enter RIIO-2.

IT operating costs show further growth in the first few years of RIIO-2 as we make further investments to support key business processes and modernise shared IT infrastructure and hosting capabilities. However, as the impact of our 1.1 per cent per annum future productivity improvements builds up, costs start to fall again. Overall, this results in IT costs that are £8m per year higher, on average, than in RIIO-1. We give more detail on the drivers for this transformation in our IT annex A20.03 and





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set out the options we have considered around these investments.

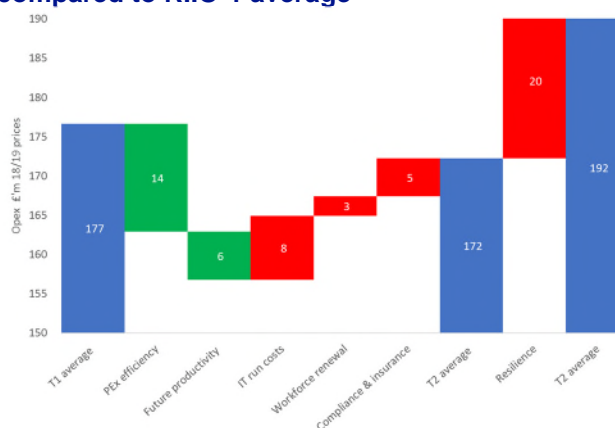
**2. Workforce renewal:** Our strategic workforce planning process has identified that over 20 per cent of this workforce are due to retire in the period 2020-2030 and we need to act now to recruit and train a new workforce and pre-empt the loss of experienced personnel. The additional headcount and training costs will result in an average £3m per year increase in opex over RIIO-2. Our sustainable workforce strategy annex A21.02 provides more detail on these challenges and how we are responding.

**3. Compliance and insurance:** We have overspent allowances in meeting regulatory and financial compliance activities through RIIO-1 with the additional requirements and scrutiny that followed the move to a more outputs and incentive based regulatory regime and increased focus on controls from external auditors. These pressures will build into RIIO-2 with more complex mechanisms being introduced which will reduce the potential for windfall gain or loss but add £4m opex per year. In addition, insurance market premiums are increasing due to external pressures, adding £1m per year to our opex. We provide more detail on these costs in our opex annex A20.15.

Collectively these upward drivers will increase opex by £16m per year (relative to RIIO-1 actual expenditure) meaning that, overall, core operating costs prior to enhanced resilience activities will be £5m lower.

**Maintaining protection from external threats** In addition to our core operating activities, we are being asked to do more to respond to the emerging threat around deliberate cyber and physical interference with our operational assets. We have invested in cyber resilience during RIIO-1 but there is more to do as we enter RIIO-2. Government bodies are guiding developments in our approach to cyber and this will necessitate both new investment and ongoing operating costs. We have included opex of £20m per year in our baseline plan for our cyber and physical security activities. For external threats, whether physical or cyber, uncertainty mechanisms allow us to adjust our plans should we be asked by the external competent authorities to do more to ensure we can deliver a highly reliable and resilient service.

**Figure 20.06 through application of efficiencies our core costs will decrease in RIIO-2 by £5m per year compared to RIIO-1 average\***



\*RIIO-1 average based on 2013/14-2018/19 actual costs (as requested by the RIIO-2 Challenge Group). RIIO-2 average excludes pension admin costs for comparability (previously treated as non-totex)

### Our operating costs have been tested for efficiency

In testing the efficiency of our operating costs, we used a variety of approaches, depending on how the cost was incurred. When we procure goods and services from third parties, we follow rigorous European and UK procurement directives (as required by Official Journal of the European Union (OJEU) notices), ensuring that we robustly test the market for prices. This enables us to give external assurance on our procured costs. Where our costs relate to our own people and processes, we have looked to external and internal benchmarking evidence to provide this assurance.

All of our cost base is either market tested, benchmarked for cost or subject to broader industry benchmarking. Many of these evidence areas overlap with each other but in summary:

- 51 per cent of our cost base is regularly market tested
- 55 per cent has been recently independently cost benchmarked
- 60 per cent has been subject to recent, broader industry benchmarking.

51 per cent of our opex cost base is regularly market tested, with around 45 per cent of our direct opex spent on externally procured goods and services (such as specialist plant hire and river crossing surveys to support our direct opex activities). We also use third party providers to support most of our IT activities, across closely associated indirect and business support categories. Considering contract extension periods, around 75 per cent of our IT operating costs are contracted for the RIIO-2 period, giving us a high degree of certainty over these areas of our cost base.

### Our direct costs are efficient

**We have structured our direct field-based workforce in line with an ISO55000 compliant asset management-based organisational structure.** The workforce is responsible for the operation of our Bacton



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and St Fergus terminals, and for maintenance, third party response and project support activities across our NTS. We have built our workforce considering geographies, minimum safety requirements, and shift patterns in conjunction with our HR policies and discussions with trade unions. Structuring our field force in this way builds a level of resilience into our direct opex costs, as we can flex utilisation of resource depending on need. For example, trends in customer behaviour mean that, for certain sections of our network, there will be insufficient gas flows to support in line inspections (ILI) and instead we will need to switch to on line inspections (OLI) which require increased resource to support. We can contain these trends within our existing direct opex costs through increased utilisation of the existing resource needed to safely cover our national geography.

### Our employees' pay is in line with other companies in our sector

**We test our pay deals against our peer group and regularly benchmark our employee remuneration to ensure it remains in line with the market.** Our annual pay awards are benchmarked against those of network companies and other competitors in the skills market. We ensure that any deal we put in place with our trade unions or annual pay rise for managers is in line with our peers, so we do not fall out of step with the market but, equally, we do not become a higher than market payer.

From a broader pay benchmark perspective, we undertake periodic assessment of our overall pay levels with the latest review completed in 2018 by Korn Ferry (a people and organisational consultancy). We adopt a single pay framework across our UK regulated businesses which means that all our employee (both direct and support function) costs have been recently benchmarked. In summary, total cash remuneration was in line with median pay for a comparator of 130 entities in the utilities, oil and gas and chemical sectors.

### Our business support costs are efficient

Our business support functions provide services such as IT, property management, HR and finance to all the National Grid businesses. They help with the delivery of our core activities, for example by procuring materials, helping us to find and retain our people, and managing IT systems. Our support functions also perform key business activities such as financial control, health and safety and legal compliance. Our business support costs include associated IT infrastructure costs. Our IT functions also invest in shared IT infrastructure and hosting investments. These costs are covered in section 9 of this chapter.

We operate a shared services model for these functions, where a single function provides services across the National Grid group of businesses. This shared services model means each National Grid business benefits from economies of scale and use of expertise in each area, as well as taking a proportion of the costs for each function. This creates efficiencies for each National Grid business,

as it costs less than each business having its own functions.

We make sure that each National Grid business pays a fair share of the costs of these functions, using the unified cost allocation model (UCAM) approach agreed with Ofgem. Cost allocations are reviewed annually to make sure these are fair, robust and have not been affected by changes to business activities. These allocations are submitted to Ofgem every year as part of the regulatory reporting pack (RRP) process, which includes a description of any allocation methodologies that have changed, and why.

Our allocation of business support costs for the RIIO-2 period is £75m per year (compared to £73m per year in RIIO-1). Of this £55m per year is for operating costs.

### We regularly use benchmarking exercises to test the value that our business support functions deliver

In preparation for our business plan submission, we commissioned studies to test the efficiency of our **HR, finance, audit and regulation, procurement, property management, CEO & group management and business support IT costs.** We did not include health and safety costs or insurance costs, as the varying levels of risk between businesses means comparisons are limited in these areas.

We invited The Hackett Group, a global business benchmarking organisation, to perform a high-level benchmarking assessment for our combined business support costs for electricity transmission, gas transmission and electricity system operator businesses against comparable sized non-regulated businesses. For our IT costs, we also engaged Gartner (an industry-recognised specialist in IT benchmarking) to perform a more detailed analysis of our operational and non-operational IT costs, comparing costs for each key activity (e.g. application support, networks, storage, end-user computing) with those of other companies in their database, adjusting for workload (i.e. number of applications, number of services, number of users). We did this because simplistic comparisons of total IT costs between companies do not account for factors such as the number and level of availability of business applications supported.

Because of this analysis, we have reduced the costs of our business support functions by £2m per year to align with the upper quartile benchmark. In all other areas, the benchmarking analyses showed that our costs were in line with upper quartile world class efficient level after accounting for the activities we undertake (such as regulatory activities, and our obligations as operators of critical national infrastructure sites), or in line with peers (the recommended level for effective operation of IT) for IT function costs. These studies and their findings are presented in more detail in our opex annex A20.15.



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### Our insurance costs are 23 per cent lower than commercial market premiums

We insure our businesses through our captive insurance company, wherever it is efficient to do so. Under this arrangement, insurance is provided by a licenced insurance company owned by the group, set up specifically to underwrite insurable risks of our business operations. We periodically use external consultants to review the premiums considered achievable in the commercial market for our risks, to compare these against the premiums charged and forecast by the captive. We last did this in 2019, using Aon Global Risk Consulting and RKH Specialty, who estimated the commercial market premiums would be over 23 per cent more than our proposed premiums for RIIO-2. This equates to around **£6m of savings to consumers for the RIIO-2 period.**

Within the RIIO-2 framework a further form of competition designed to ensure the lowest cost solution for consumers is that of competition for investments. Competition could be introduced to specific new, large and separable investment projects. We support competition where in consumers' interests and will facilitate the introduction into gas transmission by working with Ofgem. We have gone through our plan and identified works that may meet the early and late competition criteria from a cost perspective. We have reviewed these projects to come up with an initial view of whether they should be unflagged and the reasons behind this. With competition being new for gas transmission, we will continue to work with Ofgem to work through these examples and explore further how it could be implemented. The below table summarises the projects that meet the materiality of competition (a value of £50m):

## 6. Competition for investments

Figure 20.07 summary of projects that meet early/late competition

Projects	Early competition			Late competition			
	Cost criteria (>£50m)	Suitable for contestability	Unflag	New	Separable	Cost criteria (>£100m)	Unflag
Bacton	Yes	No	Yes	No	Ongoing discussion required	Yes £139m	Ongoing discussion required
Wormington (2 x new units)	Yes	No	Yes	N/A	N/A	No	N/A
Milford Haven capacity increase	Yes	No	Yes	Not known yet	Not known yet	Yes	Ongoing discussion as part of RIIO-1

#### Bacton:

We identify the investment in redeveloping the Bacton terminal meets this threshold. However, we “unflag” this project on grounds that we do not think it is suitable for contestability. This is because alternative, non-asset, solutions have already been thoroughly considered and ruled out in our options analysis. Details of our options considered can be found in annex A14.02.

For late competition, we have flagged it as meeting the criteria of being over £100m. We unflag it as new, as the project is a redevelopment of the site and not a brand-new site. For separable, there are elements that could be deemed to be separable. However, there are parts of the project that are very interlinked with existing assets and it would be hard to indicate that this would meet the separable criteria. In addition, the works to be carried out are within the existing top tier Control of Major Accident Hazards (COMAH) site, and the site will continue to be fully operational during the works. It therefore needs to be carefully considered when determining if the project should be put out for late competition. We will work with Ofgem to discuss this further to understand by putting out to late competition would deliver benefits to consumers.

#### Wormington:

We identify the investment in two new compressor units at Wormington meet this threshold. However, we “unflag” this project on grounds that we do not think it is suitable for contestability. This is because alternative, non-asset,

solutions have already been thoroughly considered and ruled out in our options analysis and we therefore deem it uncontestable. Details of our options considered can be found in annex A16.10. The project does not trigger the threshold for late competition as it is below £100m.

#### Milford Haven:

We identify the potential network reinforcement project to increase entry capacity at Milford Haven as a candidate that meets this threshold value. However, we “unflag” this project on grounds that we do not think it is suitable for contestability. This is because alternative, non-asset, solutions have already been thoroughly considered and ruled out in our assessment of the PARCA application. For late competition, we have flagged it as meeting the criteria of being over £100m.

Currently there is not a clearly defined framework for early or late competition and as a result, any changes would need to ensure there is no impact on the delivery to the customer. We will continue to work with Ofgem as part of our RIIO-1 discussions as the PARCA process progresses, to see if competition is suitable and will deliver benefits to consumers.

## 7. Justification of our information technology investment

Information technology (IT) is at the heart of our business. It underpins the safe and reliable operation of our transmission business. IT expenditure cuts across both



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capex and opex activities, with activities reflected across all our stakeholder priorities. We include here a summary of the full programme of IT activities covered across our RIIO-2 plan, along with our digitisation strategy. Our IT applications and the IT infrastructure that supports those systems are fundamental to the running of our operations and **keeping our IT systems maintained and updated is critical to ensuring that we continue to deliver efficiently and reliably**. In RIIO-2 we will invest more in our IT systems, both to maintain existing functionality and ensure our business is fit for the challenges of meeting a net zero future.

### Our digitalisation strategy

The future energy system will be more dynamic than ever before. To prepare for these challenges, we want to transform our business through digitalisation to ensure we continue to offer the best service to our customers and stakeholders. Over the next 3-5 years, we expect to see significant change brought about by the impact of artificial intelligence (AI) on businesses. Data-driven technologies will play a central role in the day-to-day operation of our business, while practical applications like augmented and virtual reality and the internet of things will impact how we interact with the world around us. Our stakeholders will come to expect their interactions and digital experiences with us to be as seamless, rich and easy as their interactions with other commercial organisations. As part of our digitalisation strategy we will consider the recommendations of the Energy Data Taskforce (EDTF) report on 'A Strategy for a Modern Digitalised Energy System' and use technology and data to deliver value to our stakeholders by:

- Reducing whole system costs through the ability to collaborate with a common data platform.
- Reducing costs through improved real-time asset information allowing more informed risk-based decisions.
- Using advanced analytics and intelligence in business support systems to provide information to allow lower cost decisions to be taken.

### Our data management capability is a key enabler for our RIIO-2 digital ambitions

Extensive work in RIIO-1 has taken place to improve, understand and document our business-critical data. In RIIO-1 we undertook a transformation programme through which we spent significant time documenting, understanding, rationalising and updating the data we already have, how it's used, what state it's in and what good looks like. This is part of a continuous improvement plan to bring core data sets together so we can better manage the end to end data flows, minimise duplication and maximise efficiency.

Everything we are doing now to enhance our data management capability is laying the foundations for delivery of our RIIO-2 IT strategy and aligns with the EDTF. Our alignment to EDTF recommendations is summarised below:

- Digitalisation of the energy system - is at the heart of our ambitions. Our investment in IT infrastructure,

business services, work and asset management and customer facing IT systems outlined in our business plan are key to enabling the digitalisation of our data assets where this drives value for stakeholders.

- Maximising the value of data – our work to build a comprehensive data library with common standards, structures and interfaces will be incorporated within our systems at the point where they are upgraded/replaced in RIIO-2. This will be a key foundation to move to a 'presumed open' principle, where data is discoverable, searchable and understandable.
- Visibility of data - our data library, together with our investment in enterprise content management, digital experience and external portals will facilitate a greater level of sharing of our metadata with energy system users where it is safe and appropriate to do so.
- Coordination of asset registration – during RIIO-2 we will be investing in our Customer Relationship Management (CRM) platform and replacing our core work and asset management and asset registration system (Ellipse). This will afford us the opportunity to consolidate our systems and data and provide the capability to integrate with a future single asset registration portal.
- Visibility of infrastructure and assets - our geospatial information system (GIS), asset investment planning (AIP) investments, together with our proposals for the use of digital engineering and digital twins present an opportunity to contribute towards the development of a unified system map of the energy system.

See annex A20.23 for more detail of our digitalisation strategy.

### Our information technology is fully in line with industry practice as we enter RIIO-2

At the start of RIIO-1, we responded to the challenge from Ofgem to reassess our IT asset health policies by extending the technical lives of our IT infrastructure assets, accepting higher levels of risk while maintaining levels of availability. However, as we continued through RIIO-1 our employees fed back that IT was becoming a significant blocker to their effectiveness at work. What's more, over the same period, the escalating threat of cyber-attack on our IT systems meant that we had to look again at how we manage our infrastructure so that we could proactively monitor and manage cyber threats. We responded by revising our IT asset health policies, which have been reviewed by independent IT experts, Gartner, who confirmed that they are in line with industry practice.

We have recently implemented a series of investments in new systems to support our HR, purchasing and financial transactional processes, in response to analysis that showed that we had more manual process steps than 'world class' functions. These investments will support better controls and lower costs of function as we start the RIIO-2 period.



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### We have developed an IT strategy that underpins our stakeholder requirements and responds to the energy market, political and environmental trends

Our RIIO-2 plan will:

- Sustain our core IT systems: we will maintain the technology health of our core IT systems that manage our asset health, data, work, and operation of the network. Many of these systems will be reach end of life during the RIIO-2 period, and in line with our IT asset health policy (see annex A20.03), we will invest to ensure we maintain our safety and reliability performance for our stakeholders whilst extracting the most value for money from our systems.
- Support market and regulatory change, unlocking consumer and customer value through, developing ensuring our IT systems to support the delivering the future energy system and transition to a low-carbon future.
- Delivering new capability in areas such as data management, analytics, artificial intelligence (AI) and machine learning (ML) to deliver our stakeholders' needs.

In RIIO-2 our IT investments total £55m per year. These investments cut across our other stakeholder priorities, and fall into direct and indirect investments. Please see annex A20.03.

#### Direct IT investments

Our direct IT investments account for £36m per year RIIO-2. The key drivers for RIIO-2 relate to us maintaining and refreshing our systems and enhancing our capabilities in order to ensure we continue to meet the needs of our stakeholders.

Our IT direct investments are categorised in the key IT technical capabilities summarised below.

- digital experience channels and engagement
- insights and innovation
- network operation and control
- commercial and markets
- network planning and investment
- network asset management
- training and development
- infrastructure.

#### Indirect IT investments

Our indirect IT investments account for £19m per year in RIIO-2. Ensuring our IT infrastructure is fit for purpose and provides an efficient, scalable and reliable service is the key driver of indirect investment.

All business applications are dependent on common capabilities such as computing infrastructure which our central IT teams manage as shared capabilities to leverage economies of scale. These make up our indirect investments which are within the following categories:

- Business Services: the common HR, Finance, Procurement and other business services used across National Grid Group.
- Data centres that host data and provide power to run all IT applications. This includes the management of

infrastructure in on-premise data centres, externally hosted data centres and hybrid cloud environments with the associated operations management tools, practices and processes (covering areas such as IT service management; IT asset management; IT helpdesk).

- The networks used to securely and efficiently connect our business users to internally and externally hosted systems, data and tools required to meet their objectives. The networks provide wide area network (WAN), local area network (LAN), wireless (Wi-Fi) and voice services.
- Modern workplace: user facing devices, communication and collaboration services.

Included within the indirect category are other enabling capabilities, such as tools for:

- IT planning and delivery which includes investment planning, demand management, resource management, financial tracking and benefits management
- Solution design and build tools
- Application performance monitoring and management
- Software licensing and asset management to optimise provisioning and de-provisioning of services to end users.

#### Our IT investments are in line with external benchmarks

We have submitted our IT investment plans, direct and indirect, for independent review by Gartner – a recognised IT benchmarking organisation. This output of this work is that the mix of investment areas, the individual project costs and our project rate cards were all in line with their expectations, formed from their knowledge of IT investments made by other utility companies (See annex A20.19 for more information).

## 8. Risk and uncertainty

There is some risk around the level of external costs that we face which is outside of our control. We are proposing to pass through non-controllable costs, which cover costs such as licence fees and business rates.

#### We will be subject to above inflation impacts on our plan

Real price effects (RPEs) occur where input prices are anticipated to move differently to the inflation measure by which our allowances adjust annually. This is because the mix of goods and services in the inflation calculation is different from the goods and services we purchase. The main areas where this applies are labour costs and the materials we use in our capital works. Independent forecasts and long-term trends highlight that both of these costs are forecast to grow at a quicker rate than inflation over the RIIO-2 period. We will therefore be exposed to above-inflation RPEs in our plan. Whilst both are anticipated to grow, the level of control we have differs, as does the potential volatility in the annual price movements. Our staff costs track the directional trend of the relevant indices but do not fluctuate with short-term changes due to our long-term pay deals and longer-term approach to workforce resilience. The underlying indices



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are also less volatile than those related to commodities. Following the RIIO principle of aligning risk to the party best placed to manage it, we are therefore proposing a fixed allowance for labour RPEs based on independent forecasts of 0.3 per cent above RPI (1.3 per cent above CPIH). More detail can be found in annex A22.02 RPEs and ongoing efficiency.

In comparison, we have limited ability to control how capex material prices impact our cost base. Changes in input prices will be factored into all goods we purchase, and the related indices aligned to these costs are inherently more volatile than labour with, for example, 20 per cent annual cost swings in the last ten years. Although these impacts can be partially mitigated through contracting strategy, we cannot control the risk and underlying cost trend. We are therefore proposing an index approach for capex materials, which will ensure our customers pay no more or no less than the relevant indices for these costs. We set out our proposals for RPEs, and how they interact with our baseline plan, in annex A22.02 RPEs and ongoing efficiency.

**Figure 20.08 our proposal to manage the risks of real price effects in the RIIO-2 period**

	Plant, materials & equipment	Labour
Volatility	High, particularly on materials	Lower in the long term
Network's ability to mitigate	Limited ability, more akin to pass-through	More controllable through salaries
Risk of variance to forecast	High due to volatility	Lower due to duration of pay deals
Proposed treatment	Indexation	Ex-ante allowance with deadband
Forecast impact on RIIO-2 period	Capex £61m	Capex £54m
	Opex £2m	Opex £31m

### Defining clearly our output commitments

An important part of providing value for money is spelling out exactly what our stakeholders will receive for the money. We are making clear output commitments for as many of our costs as we can.

The benefit of defining outputs to consumers is that they are transparent. We can be held to account to deliver them. We talk more about how we will ensure transparency of our performance in chapter 18. If we do not deliver an output, we expect to see consequences through our regulatory contract. By focusing on outputs, we can look for more cost-effective and innovative ways to achieve them. When we do that, we give consumers what they want at a lower cost and share any savings with them.

### Protecting consumers against uncertainty

Uncertainty mechanisms are designed to allocate risk to whoever is best placed to manage it. We have protected consumers by proposing uncertainty mechanisms for less certain costs to ensure if customer or consumers' needs change so do our allowances.

We have two types of uncertainty mechanisms to deal with the types of uncertainty we are managing. Where the uncertainty relates to the likely cost of doing the work, but not the need for the work, we have included an estimate of the cost in our baseline. We propose the cost would be set in RIIO-2 once we have finalised the detailed design and have tender-backed prices. Where there is uncertainty around the need for the work and the cost we have not included these in the baseline but have provided estimates for transparency purposes. We propose the RIIO-2 framework would only provide allowances for this work if the output is needed in RIIO-2. This is described in more detail in annex A3.02.

## 9. Our proposed costs for RIIO-2

This chapter demonstrates the efficiency and value for money of the entire business plan. The costs shown here are those which are not mapped separately to other stakeholder priorities, including business support costs and non-controllable costs.

**Table 20.09 summary of efficient and affordable costs by activity**

Activity spend (£m in 18/19 prices)	2022	2023	2024	2025	2026	Total RIIO-2	Annual RIIO-2	Annual RIIO-1
Total controllable costs	82.1	75.9	74.5	74.2	72.9	379.5	75.9	72.6
Total non-controllable costs	187.6	187.6	162.9	154.0	153.8	846.0	169.2	182.6
Total spend	269.7	263.6	237.4	228.2	226.7	1225.5	245.1	255.2
Capex efficiency commitment	-8.7	-13.3	-12.5	-11.0	-11.0	-56.5	-11.3	
Productivity efficiency commitment	-2.0	-4.1	-6.1	-8.2	-10.3	-30.7	-6.1	

Please note we have provided costs to one decimal place and hence some columns may not equal to the totals