# RIIO-3 Draft Determinations Impact Assessment

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The next set of price controls for the Electricity Transmission (ET), Gas Distribution (GD) and Gas Transmission (GT) sectors will cover the five-year period from 1 April 2026 to 31 March 2031 (RIIO-3). In December 2024 the network companies in these sectors submitted their RIIO-3 Business Plans for this period to us. We have now assessed these plans.

This document, and others published alongside it, set out our Draft Determinations for the RIIO-3 price controls. These are for consultation and we would like views from people with an interest in RIIO-3 by 26 August 2025. We particularly welcome responses from consumer groups and energy industry network users. We also welcome responses from other stakeholders and the public.

Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at ofgem.gov.uk/consultations. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

# Contents

# Executive Summary

This is our draft Impact Assessment (IA) for the next Electricity Transmission (ET), Gas Transmission (GT) and Gas Distribution (GD) price controls, RIIO-ET3, RIIO-GT3 and RIIO-GD3 respectively. It represents our views of the impacts of our proposed Draft Determinations on network companies and consumers. We provide an economic assessment of the additional impacts of price control decisions to change our approach in RIIO-3 from that in RIIO-2; and also provide breakdowns of the bill impacts on consumers.

The process of setting price controls includes decisions about the price control framework, specific sector methodologies, draft and final determinations. This IA relates to our Draft Determination proposals. It sits alongside several Draft Determination documents and should be read in conjunction with them. The focus of this draft IA is to assess whether the regulatory options considered for the next regulatory period would provide good value for consumers.

## What is the problem under consideration? Why is Ofgem intervention necessary?

Gas and electricity networks are natural monopolies. Therefore, they are regulated by price controls. RIIO-ET2, RIIO-GT2 and RIIO-GD2 end in March 2026 so we need to set a new price control for each company in these sectors. Our RIIO-3 Framework Decision[1] concluded that the current RIIO methodology for price controls provides the necessary balance for achieving several challenging objectives such as supporting the energy system transition while maintaining security of supply, high quality of service, and fostering system efficiency and long-term value for money.

Therefore, RIIO-3 is a continuation of the previous price controls, with modifications where required. The scope of this IA is to collectively bring together all the RIIO-3 proposals and consider the overall economic impacts of them, including but not limited to the direct effects on network revenues and charges.

## Policy objectives and intended effects including on Ofgem's Strategic Outcomes

Our Draft Determinations reflect a strategic choice to invest now to avoid higher costs later. We find that acting now will accelerate the shift to renewables, reduce long-term costs, strengthen energy security, create jobs, and help meet our net zero goals –

[1] Decision on frameworks for future systems and network regulation | Ofgem

ultimately protecting future consumers. Gas and electricity sectors face distinct challenges:

- In ET, to transform the connections process, generate more clean power, and boost energy security and resilience we must expand the grid at an unprecedented scale and pace, with investment that could exceed £80bn by 2031 (up to more than four times current spend levels). We must set a price control that enable efficient capital injection, whilst maintaining cost controls and strong delivery accountability. We must manage short-term bill impacts whilst recognising the build out of these transmission grids is the only credible way of relieving pressure on consumers in the medium and long term.
- In the gas sectors, we recognise the enduring importance of ensuring gas networks remaining safe and resilient – as they continue to be a vital source of heat for homes, for powering businesses and industry, and as a key pillar of energy security. While the pace of the transition away from natural gas remains uncertain, our RIIO-3 proposals aim to ensure that different generations of consumers pay fairly for the services they receive.

## What are the policy options that have been considered, including any alternatives to regulation?

In our Framework Decision we concluded that the current RIIO methodology for price controls provides the necessary balance for achieving several challenging objectives such as delivering net zero transition projects at pace and maintaining a high quality of service at an efficient cost.

In our Sector Specific Methodology Decision (SSMD),[2] we revised the design of the price control for each sector to achieve the best outcomes for consumers. While we are continuing with the RIIO approach, we have modified some of the mechanisms we used in RIIO-2. We have also proposed a number of changes to the wider RIIO package to ensure that it is fit to deliver against the wider net zero strategy and to ensure fair balance of costs between current and future consumers. In this draft IA, we outline why the proposed changes to the RIIO-2 approach will, in our view, have a positive impact on consumers.

[2] RIIO-3 Sector Specific Methodology Decision for the Gas Distribution, Gas Transmission and Electricity Transmission Sectors | Ofgem

## Preferred option - Monetised Impacts (£m)

Based on current cost projections, overall network charges will increase by around £104 per household per annum by the end of RIIO-3 (2031). The majority of the increase (£82) is due to our RIIO-3 proposals. For consumers, this may be partially offset by lower constraint and wholesale costs. The size of this offset is uncertain, but while gas and dual fuel bills are likely to increase our analysis suggests that RIIO-3 will result in electricity bills being lower than an alternative where we delay investment. This is due to avoided constraint costs and reductions in wholesale costs (driven by higher renewables penetration and lower gas prices). These are only monetised bill impacts in the RIIO-3 period.

In this IA, bill impacts are expressed in 2025/26 prices to provide the greatest transparency about the effect on consumers. Other impacts are expressed in 2023/24 basis, which is the price base used in the price control.

## Preferred option - Hard to Monetise Impacts

There are also a number of hard to monetise impacts that support our proposals. These include:

- Strategic benefits associated with the transition towards net zero such as security of supply and avoiding inherent volatility of global energy markets.
- The contribution of network build to supporting the move to a clean power system, which will reduce the amount of GHG emissions from the generation of electricity.
- Wider economic benefits, specifically the impact on growth.

**Key Assumptions/sensitivities/risks**

There are two main risks to the transition to net zero: the risk of late delivery and the risk of increased costs for Clean Power 2030 (CP2030) projects. There is also significant uncertainty over demand and price for gas over the price control period and beyond due to geopolitical factors and other developments outside of the control of network companies. Different outcomes on wholesale prices and demand for electric vehicles and heat pumps could significantly affect the outcome, and impact, of the modifications and changes we are proposing for RIIO-3.

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| **Will the policy be reviewed? Yes** | In this Draft Determinations we are consulting on the future evaluation approach. |

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| **Is this proposal in scope of the Public Sector Equality Duty?** | **No** |

# 1. Introduction - Problem under consideration

1.1 We are required to set out the price controls that will regulate the ET, GD and GT sectors from April 2026 onwards, because these sectors are natural monopolies and their current price controls end on 31 March 2026. We need to set out a new price control before the current price control expiration date. This IA is part of our Draft Determinations consultation and should be read in conjunction with the rest of the Draft Determination package of documents.

1.2 We decided in our Framework Decision that RIIO-3 should be a natural evolution of the RIIO-2 price controls. RIIO-3 largely mirrors the mechanisms and incentives we have implemented in the past, but with updated values and deliverables to account for lessons learnt or improvements identified from the implementation of RIIO-2. Much of the evidence supporting our proposals for Draft Determinations will be set out in the Overview Document and associated annexes that are being published at the same time as this IA. This is the same approach that we have taken in previous price controls for two main reasons:

- We need to reduce the administrative burden and apply proportionate resources to the decisions we are proposing. There are many decisions involved in any price control and publishing a single IA covering all of these in one place would generate a large number of alternative options for assessment, making the IA unnecessarily complicated and repetitive on analysis already provided in other documents.
- Many of the decisions in the price control do not represent real policy changes but adjustments to the working of the existing price controls mechanisms. We are therefore concentrating the focus of this IA on matters where our proposed approach differs from that in RIIO-2.

1.3 Some of the decisions we are proposing go beyond the natural evolution of the price control. When we moved from RIIO-1 to RIIO-2, the main challenge was to balance returns with risk. We introduced changes to the cost of capital and several uncertainty mechanisms to de-risk future expenditure for consumers and network companies. Government plans for the decarbonisation of the energy sector will require the electricity network operators to accelerate investment in their networks. In doing so, we also need to strike a fair balance between current and future consumers to pay for the network costs which are required to fund this acceleration.

1.4 For this reason, our RIIO-3 SSMD stated that the IA would focus on the strategic changes necessary to meet net zero. This means that this draft IA will focus on the impacts of those proposals necessary to meet the objectives of CP2030. These will be compared a) first to a counterfactual that is produced by assessing the impacts of continuing the price control on the basis of RIIO-2's design; and b) since we need to make a significant increase in network investments to meet net zero, the impact of network charges on bills will be quantified against the current level of network investment.

1.5 In ET, to transform the connections process, generate more clean power, and boost energy security and resilience we must expand the grid at a scale and pace which is unprecedented, with investment that could exceed £80bn by 2031 (up to more than 4 times current spend levels). This means, we must set a price control that enables efficient capital injection, whilst maintaining cost control and strong delivery accountability. We must manage short-term bill impacts whilst recognising the build out of these transmission grids is the only credible way of relieving pressure on consumers in the medium and long term. RIIO-3 will deliver real savings for consumers. It will allow us to make better use of clean, renewable energy, reduce constraint costs payments and protect consumers from future gas price shocks.

1.6 In gas, we're making regulatory decisions ahead of settled government policy on the future of gas networks. We must balance strong asset stewardship and safe, resilient and reliable supplies against maintaining sharp efficiency incentives and avoiding unnecessary spending. We also need to regulate effectively between current and future consumers, managing perceived stranding risk and ensuring gas charges remain fair over time.

1.7 However, the additional costs and benefits of these decisions are relatively modest and hard to quantify[3]. Most people are interested in what their energy bills will look like in RIIO-3. For this reason, we have decided to monetise the impact of our proposals against the baseline of current bills as set in the price cap in 2025/26.

1.8 In the rest of this document we:

- set out what is in scope of the counterfactual and preferred option;

[3] This is because we would need to build a hypothetical counterfactual where RIIO-2 tries to meet the net zero ambition and this would imply making assumptions about the cost and how fast would be delivered.

- provide a summary of the impacts which are treated in more detail in other documents such as sector and finance annexes;
- assess the impact of RIIO-3 on GD, GT and ET network revenues and provide a non-quantified assessment of the benefits of the preferred option;
- assess other hard to quantify impacts: we explore environmental impacts, growth impacts; and
- quantify bill impacts on energy consumers, including non-domestic consumers comparing bill impacts to current levels. We also provide sensitivity analysis following Ofgem's IA guidance on risks and uncertainties.

1.9 We are seeking views on three consultation questions in relation to this IA, as set out below.

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| IAQ1. | Do you agree with our approach to assessing the economic impacts of RIIO-3? |
| IAQ2. | What are your views on the appropriate approach to evaluation of the economic impacts of RIIO-3? |
| IAQ3. | Do you agree with our approach to modelling the bill impacts of RIIO-3? Please provide any additional effects or alternative measures that you think would be appropriate. |

# 2. Scope of this IA

2.1 Many of the RIIO-3 decisions that affect the price controls are tools and mechanisms that already exist in RIIO-2. We have made some modifications to these tools, such as adjusting incentives or the amount of allowances, based on evidence from past performance.

2.2 This IA covers the impact of the main decisions that we are taking in RIIO-3. Table 1 below shows which ones have been included in the counterfactual (an evolved version or RIIO-2 in response to the history and performance of the previous price control) and which changes are included in our proposed option, which responds to the strategic challenges faced in RIIO-3.

Table 1: Scope of IA

| **Decision Area** | **Sector** | **Counterfactual** | **RIIO-3 vs counterfactual** |
|---|---|---|---|
| Non-load totex | All Sectors | Updated RIIO-2 | No change |
| Innovation | All sectors | Updated RIIO-2 | No change |
| Incentives and Uncertainty Mechanisms | All sectors | RIIO-2 approach | Gas: no change<br>ET only: Changes to reflect increased totex risks from the scale of network investment and to re-opener mechanisms |
| Business Plan Incentive (BPI) | All sectors | Proposed Approach as Evolved RIIO-2 | No change |
| ET Load (CSNP-F, ASTI, APM, new Load Re-opener, Load UIOLI etc) | ET | RIIO-2 approach | Updates for high totex risks from CP2030 and proposed re-opener mechanisms |
| WACC | All sectors | RIIO-2 approach | Introduction of "Semi-nominal" approach to inflation, and of gas debt premium |
| Capitalisation Rate | All sectors | RIIO-2 approach | No change to the approach of balancing financeability and the nature of investment when determining capitalisation rates |
| Regulatory Depreciation | Gas sectors | RIIO-2 approach | GD depreciation accelerated for new assets only, n/a for GT and ET as no change |
| Resilience | All sectors | RIIO-2 approach | No change |

2.3 To demonstrate the differences between the proposed option and the counterfactual, we identify how the combination of these decisions will affect

network companies and consumers. The vast majority of these effects are reflected by some key outcomes:

- Totex: the costs that we allow the companies to recover to deliver the outputs, which in turn affects 'fast money' and, indirectly, 'slow money'.[4]
- Uncertainty mechanisms (UMs): where we specify in the RIIO-3 decision that additional totex will be recoverable under pre-specified conditions.
- Capitalisation rate: the percentage of totex that is assigned to fast and slow money.
- Depreciation: the time profile of funding each company can expect to receive back through 'slow money'.
- Weighted Average Cost of Capital (WACC): the combination of cost of debt, cost of equity and gearing that determines the expected return that network companies receive on their Regulatory Asset Value, before the impact of incentives.
- Incentives: in addition to the returns on capital, companies can earn additional return by delivering outcomes subject to specific incentives in the price control.

## Responses to SSMD

2.4 RIIO price controls involve hundreds of decisions and our view is that it would be impractical to run an IA that considers all these decisions at the same time. The combinations of these decisions would result in a huge number of alternatives to be considered in the IA.

2.5 Few SSMD responses shared views on the IA. One response from a network company raised a concern that we had already made regulatory decisions without the support of an appropriate IA. It asserted that we should follow the approach set out by the Treasury Green Book and the associated Better Regulation Framework. Its arguments are summarised as follows:

- Individual and distinct policy changes must be viewed as independent regulatory policy decisions (and their impact assessed accordingly), rather than being assessed as a collective change.

[4] In the context of RIIO, totex encompasses capital and operational expenses related to a licensee's regulated activities. The capitalisation rate in RIIO refers to the proportion of totex that is added to the Regulatory Asset Value (RAV) and earns a return for the licensee. The proportion of totex added to the RAV is called "slow money". The other proportion recovered in-year is called "fast money".

- There should be a clear financial threshold that determines whether a policy should be subject to an impact assessment. For example, the Better Regulation Framework proposes a threshold of +/- £10m equivalent annual net direct costs (EANCB).
- The impact assessment should be carried out for each sector (ie GD, ET, and GT) independently rather than assessed as a collective charge.

2.6 While we agree that each policy change should be subject to a suitable assessment, the changes to the detailed design of the price control have already been assessed in our Overview Document, Finance Annex and sector annexes. This is the approach we followed in previous RIIO price controls. In these documents we explain the rationale for intervention, the options considered and the impact of these decisions. This IA should therefore be read in conjunction with the rest of publications in our Draft Determinations.

2.7 It would be impractical to assess the impact of each individual policy decision in the manner proposed by the network company. There are many individual decisions made in relation to RIIO-3, over a significant period of time from our Framework Decision in October 2023 to our Final Determinations in December 2025. Nor, in our view, would the approach suggested by the network company produce a preferred option and counterfactual in accordance with our IA guidance which we consider remains the most effective method in fulfilling our duty to carry out IAs.

2.8 In this IA we assess the impact of some more strategic changes, and why we expect the changes between RIIO-2 and RIIO-3 to deliver benefits for consumers. In Chapter 5, we also show the effect on bills of our proposed changes to the parameters of the price control. This assessment of bills covers both the effect of changes between RIIO-2 and RIIO-3, and the effect of changes (for example, to financing costs), which would also have been made in the counterfactual of continuing with the RIIO-2 approach.

## Other impacts and considerations covered in this IA

2.9 In Chapter 4 we explore the impact of RIIO-3 on economic growth and the environment (including GHG emissions). We also set out our sensitivity analysis and what type of evaluation plan should be included in our Final Determinations.

2.10 In our assessment of benefits and costs, we find that consumers will pay more in RIIO-3, both because of the semi-nominal approach to the WACC and

because of the changes to gas depreciation. However, both of these effects are direct transfers between "current" (RIIO-3) and future consumers.

2.11 As discussed in our section on benefits and costs in Chapter 3, we consider there are significant benefits to both current and future consumers from the investments to be made as a result of our RIIO-3 decisions. In terms of network charges, we expect that these will increase in RIIO-3 and RIIO-4 periods as a result of the effects of network investment. For the reasons outlined in our GD Annex and our Financial Annex, we expect that these two changes will increase network charges by £835m (£267m in depreciation and £568m in WACC) will increase domestic bills by around £21 per household per annum by 2030/31. We consider that this is consistent with our duty to balance the interests of current and future consumers.

2.12 We have made some detailed design changes to the assessment of the financing costs for the gas networks. We have concluded that this is appropriate for the reasons outlined in our annex on the financial framework. On balance, we consider that these changes are linked to market data, and so would also have happened in the counterfactual rather than being the consequence of policy decisions.

# 3. Economic assessment of RIIO-3 proposals

3.1 In this section we outline the economic assessment for RIIO-3. This requires comparing the proposed option against a suitable counterfactual. It is challenging to decide what is the suitable counterfactual for RIIO-3. There is no "do-nothing" option as we need to set a new price control. A do-minimum option involves carrying on with the tools and mechanisms set in RIIO-2. So, as discussed in the previous section, strictly speaking, our counterfactual follows a do-minimum approach. In other words, it is an evolution of RIIO-2, which involves no major policy changes.[5]

3.2 In addition to decisions in the do-minimum counterfactual, we assess some strategic changes in the price control (see Table 1) and highlight their benefits. The rationale and assessment of these decisions are already explained in the Overview document and relevant annexes. However, many decisions are both in the counterfactual and factual scenarios and this would not give a full view of the magnitude of changes proposed compared to where we are today. In particular, our do-minimum scenario would also include decisions to increase totex and WACC, as many of these changes would have been made under the RIIO-2 approach. For this reason, in the consumers' bills section (chapter 5), we are using an alternative baseline scenario showing the impact of RIIO-3 decisions against the level of network totex investments and bills in 2025/26.[6]

## Economic Counterfactual Scenario

3.3 Quantifying the impact of our policy changes against a do-minimum counterfactual would result in a relatively low impact because most policies have stayed the same. We could have considered other counterfactual options, but they would have been unrealistic. They would be misleading as RIIO-3 needs to meet the CP2030 target set by government.

3.4 In our description of how RIIO-3 is different to the counterfactual scenario, we focus on areas which we are proposing to change in RIIO-3 and are clear policy choices (for example new depreciation policy). For other areas, where there is no policy change, we assume there is no economic impact of our proposed RIIO-

[5] In an evolved RIIO-2, we would re-assess the parameters that set incentive rates, carry out the cost assessments, apply efficiency challenges and carry out RIIO-2 financial assessment. For example, even if we follow the RIIO-2 price control, we would arrive to a different cost of capital because the market conditions have changed.
[6] This approach would account for impacts that would be happening anyway, but give a easier way to understand consumers' impacts.

3. For example, this happens when we retain one of the RIIO tools but change some of the parameters in response to market conditions or past performance. As outlined in Table 1, the following policies are the same in the proposed option as the counterfactual:

- Cost assessment for totex (ET, gas): Our assessment of Business Plans and efficiency challenges would follow the same approach under the counterfactual and the preferred option, and would have still resulted in higher totex in RIIO-3.
- Incentives and uncertainty mechanisms (UM) (gas): The BPI was used in RIIO-2 and therefore is part of the economic counterfactual. There are some differences on the TIM but it would have a similar strength in any scenario. Uncertainty mechanisms in gas would be similar but there is a significant amount of upward investment in ET that is be controlled by UMs that have changed since RIIO-2.
- Resilience (ET, gas): We require network companies to submit a Resilience Strategy that would cover cyber security risks, workforce and supply chain challenges. Whilst we have adapted our approach to resilience, we consider it reflects a natural evolution of RIIO-2 and so we do not assume any changes in this draft Impact Assessment.
- Approach to measurement of WACC parameters (ET, gas):We make decisions on the financial framework based on the latest evidence, and the need to support financeability and investability. This assessment does not explicitly distinguish between any RIIO-3 effects and changes relating to market conditions. For illustration, we have presented the impacts on bills of the changes in WACC since RIIO-2, but in general we assume that these changes would have happened in the counterfactual. We are making changes in RIIO-3 to move to a semi-nominal WACC.
- Innovation (ET, gas): In respect of innovation, we set out in our SSMD the criteria and process that we have used to assess Network Innovation Allowance (NIA) funding requests, our proposals for NIA oversight, the Strategic Innovation Fund (SIF), and increasing third party involvement and innovation deployment. These changes are consistent with our approach to innovation in RIIO-2.

3.5 In respect of the areas where we consider our approach is consistent with RIIO-2, this Draft IA therefore assumes no change between the proposed option and the counterfactual. We welcome any views from stakeholders as to whether

there are changes in our proposed approach, which mean that impacts of other RIIO-3 decisions should be considered further in the final IA.

3.6 The rest of this section outlines our assessment of what we consider key policy changes. Each proposed decision for RIIO-3 can be classified in three categories: cross-sector, specific network decisions and finance decisions. We first summarise decisions for the financial framework, which is cross-cutting, then sector-specific decisions for ET, GD and GT.[7]

## Proposed approach (Factual Scenario)

3.7 In this section we identify a number of proposals that are in line with strategic policy changes to meet net zero and driving a more resilient, secure, cleaner and efficient energy system. We are considering the effects of the increase in load related investment, associated with the need to meet CP2030. We also assess changes to the financial framework, including the introduction of semi-nominal WACC and changes to the gas financial framework. We present the total revenue projections under our preferred options for Gas and Electricity networks.

### Financial Framework

3.8 In our RIIO-3 proposed decisions, we have made several changes to the parameters of the financial framework. These are summarised in table 2. As described in the previous section, we consider that many other changes would have happened in the counterfactual. To illustrate the direct effect of our RIIO-3 decisions, we also outline in our bills chapter below the effect of these decisions on bills in the RIIO-3 period.

[7] Impact assessment guidance | Ofgem, paragraphs 6.1 - 6.2.

Table 2: Summary of parameters of the financial framework

| **Price control parameter** | **RIIO-2 (25/26)** | **RIIO-3** | **Change** | **Change vs counterfactual of evolved RIIO-2** |
|---|---|---|---|---|
| WACC[8] | ET 3.4%<br>GD&T 3.6% | ET 5.6%<br>GD&T 5.1% | 2.2%<br>1.5% | ET: assume no change as RIIO-2 would have also considered higher-risk context.<br>Gas: assume no change as RIIO-2 would also have used latest market data. |
| Treatment of inflation | Inflation added to RAV | Semi-nominal approach | More cash flow, lower indexation | Semi-nominal is a new approach in RIIO-3. |
| Capitalisation Rate | ET 84%<br>GD 66%<br>GT 61%<br>(Averages over RIIO-2) | ET base 48%<br>ET UM 85% | n/a[9] | We have followed a comparable approach between RIIO-3 and RIIO-2, in both cases setting ET capitalisation rates below 'natural rates'. |
| Regulatory Depreciation | £1,213m GD | As RIIO-2, except new assets in GD | Higher depreciation, equivalent to £1,418m GD by 30/31 | The change in gas depreciation is new for RIIO-3. |

3.9 In our assessment of benefits and costs, we therefore find that current consumers will pay more in RIIO-3, both because of the semi-nominal approach to the WACC and because of the changes to gas depreciation. However, both of these effects are direct transfers between current and future consumers.

3.10 As discussed in our section on benefits and costs below, we consider there are significant benefits to both current and future consumers from the investments to be made as a result of our RIIO-3 decisions. In terms of network charges, we expect that these will increase in RIIO-3 and RIIO-4 periods as a result of the effects of network investment. For the reasons outlined in our sector-specific annex on GD and our financial annex, we propose that these two changes which will increase network charges by £835m (£267m in depreciation and £568m in WACC) and will increase domestic bills by 30/31 by around £21 are consistent with our duty to balance the interests of current and future consumers.

[8] For RIIO-2 we show the average real WACC. For RIIO-3, we present the average sectoral semi-nominal WACC.
[9] See chapter 11 of the finance annex for an explanation and a table with all capitalisation rates

3.11 We have made some detailed design changes to the assessment of the financing costs for the gas networks. We have concluded that this is appropriate for the reasons outlined in the Finance Annex. On balance, we consider that these changes are based on using the same approach to cost of capital assessment, but applied to more recent market data, and so would also have happened in the counterfactual.

## Electricity Transmission

3.12 RIIO-ET3 could involve upwards of £80bn of investment by network companies compared to £18bn in RIIO-ET2. This will support the delivery of projects essential to CP2030 and realising the benefits that connection reform will bring. TOs have allocated most of their load-related expenditure to a 'pipeline' of potential investment requiring funding during RIIO-ET3. In ET, TOs have huge but uncertain investment plans. RIIO-ET3 must be adaptive - enabling the investment required to support CP2030 while protecting consumers.

3.13 In response to this uncertainty, we propose a framework of in-period mechanisms that scale the level of scrutiny we provide – to project need, solution design and cost – in proportion to the complexity of the projects. This will involve lighter touch and earlier assessments of many projects than we would have applied previously. This brings risk that some sub-optimal lower value schemes progress (eg where we may have otherwise disagreed with routing or detailed design), however we consider this is necessary to ensure that our decision-making does not impede the delivery of CP2030.

### Benefits and Costs of our proposed option for ET

3.14 The benefits and costs of the mechanism are not generally easy to monetise, in part because the counterfactual (an evolved RIIO-2) also included mechanisms that sought to support TOs in identifying and accelerating investments associated with the energy system transition to Net Zero. Our RIIO-2 framework includes ASTI and LOTI, both of which seek to allow investment that arises during the period. However, we are embedding additional mechanisms including APM, CSNP-F and additional delivery incentives into the RIIO-3 package, as well as certain UIOLI allowances. As a package, we consider this will accelerate investment, both by providing more assurance to TOs on the availability of funding for necessary projects, and by providing strong incentives to hold TOs to account for the delivery of those projects. Under the counterfactual (do-minimum scenario), the risks of non-delivery of CP2030 would also increase.

3.15 In considering the benefits of this package of measures that we propose to implement in RIIO-3, we consider that it is reasonable to attribute the following benefits:

- lower constraint costs; and
    - NESO has forecast that without all the investment in network, constraint costs will rise. We use a central scenario based on CP2030 analysis that costs could potentially rise to c. £8 billion by 2030 with only some of the network being built on time, compared to c. £3 billion with all the planned CP2030 network in place. This number is highly uncertain and NESO has provided scenarios that are significantly higher and lower. However, it is based on detailed system modelling from NESO and we consider it is a suitable modelling assumption for this IA.
- lower wholesale costs.
    - Replacing variable cost gas with fixed cost renewables will lower the resource costs of operating the system, and will therefore lower the wholesale price. This will be mitigated by higher CfD costs for those assets that are funded using that mechanism. However, we expect during RIIO-3 that there will still be significant cost reductions for consumers, by reducing the proportion of wholesale costs that are linked to gas prices, which are still at historically high levels.

3.16 We also consider it is likely that our package of measures will reduce the absolute cost of investments, although those investments may occur sooner. This is hard to measure, as it balances the benefit for TOs in supply chain negotiations from the APM and other mechanisms to de-risk procurement, against the costs that may arise from increased demand on the supply chain. On balance, we consider that the evidence, eg in the IEA's Building the Future Transmission Grid report,[10] is that supply chain inflation would happen in any case, and that it is best mitigated by those TOs, such as TenneT, that had flexibility to propose efficient procurement.

3.17 In terms of costs, we therefore consider that the main cost would be from earlier investment, which would increase the present value of costs for consumers. For example, if an additional £32 billion of investment proposed for the new mechanisms in RIIO-3 occurs 2 years earlier as a result of our RIIO-3 mechanisms, that might increase the present value of the cost attributable to

[10] Building the Future Transmission Grid

consumers by an amount of the order of £3 billion, based on 2 years of WACC of 4-5%. Given NESO's estimate of constraint cost effects of £4 billion per annum, the benefits of an acceleration by 2 years would more than outweigh the costs, before considering the wider benefits in the next section.

3.18 Table 3 illustrates the effect of these decisions, and which we are treating as a change in this Impact Assessment.

Table 3 Changes to Electricity Transmission during RIIO-3

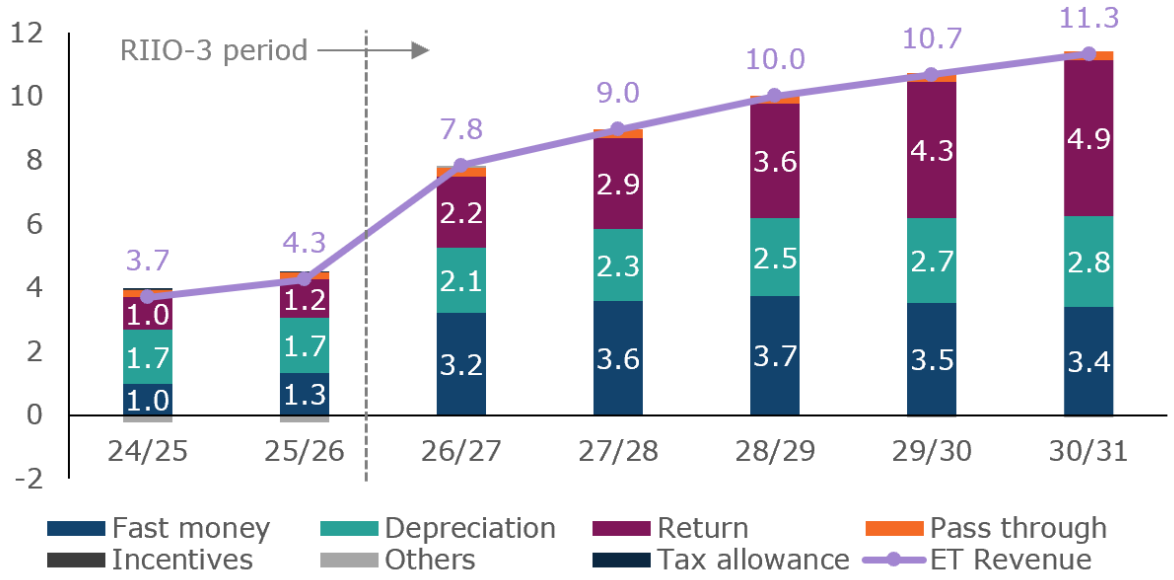
| **Price control parameter** | **Evolved RIIO-2 (25/26)[11]** | **RIIO-3** | **Change** | **Change vs counterfactual of evolved RIIO-2** |
|---|---|---|---|---|
| Totex UMs | ASTI, LOTI | APM, CSNP-F, Load Re-opener and continuation of ASTI | £32bn increase in RIIO-3 period | Accelerate investments. Both baseline and re-openers. |
| Constraint cost | £8bn | £3bn | £5bn | Constraint cost savings in RIIO 3 period. |
| Price control revenue | £4.3bn | £11.3bn | £7bn | Revenue reflects different in totex and financial parameters explained in Table 2 above. |

## Impact on price control revenues

3.19 Figure 1 illustrates the impact of our proposed option on price control revenues during the RIIO-ET3. We have modelled an increase in total revenues of 153% from 2025/26. This is an increase of 190% in total revenue against the total revenue modelled in the counterfactual we use in the bills model.

[11] Please see Chapter 5 for more detailed descriptions of the assumptions made to build the RIIO-2 scenario.

Figure 1: Projected Price Control Revenue for RIIO-ET3, £bn, 2025/26 prices




## Gas Transmission

3.20 RIIO-GT3 is similar to the counterfactual. We are not proposing any major policy changes. The figures outlined in Table 4 correspond to our baseline assessment against 2025/26 figures.

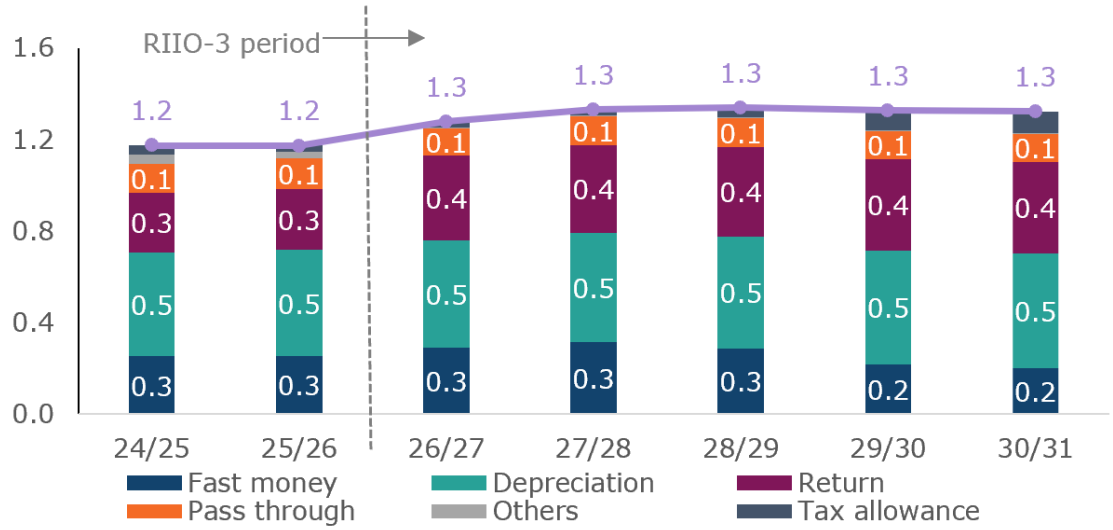
Table 4: Changes to Gas Transmission during RIIO-3

| Price control parameter | RIIO-2 (25/26) | RIIO-3 | Change | Change vs counterfactual of evolved RIIO-2 |
|---|---|---|---|---|
| Capitalisation | £1,193bn | £1,265bn | £0.07bn | These figures reflect Total Revenue with different capitalisation rates before applying WACC. |
| Semi-nominal WACC | £1,265bn | £1,322bn | £0.06bn | These figures reflect Total Revenue with different cost of capital rates after applying capitalisation rates. |

Impact on price control revenue

3.21 Total revenue in RIIO-GT3 compared to RIIO-GT2 increased by 13%. When comparing the effect of capitalisation and semi-nominal WACC, we have modelled an increase of 11% of Total Revenue.

Figure 2: Impact of RIIO-3 decisions on Gas Transmission price control revenue, £bn, 2025/26 prices




## Gas Distribution

3.22 RIIO-GD3 is a steady state price control. That is, while we do not anticipate that there will be large-scale, systematic changes to the gas networks during RIIO-GD3, we must continue to efficiently fund Gas Distribution Networks (GDNs) to deliver secure, uninterrupted supply of energy to homes and businesses. Gas consumers should continue to receive a high quality of service at a reasonable cost, with the GDNs maintaining an important role in supporting and protecting their customers, especially those in vulnerable situations.

3.23 The lack of systemic change in the short-term contrasts with the high degree of uncertainty about the role of the gas distribution network in the longer-term energy transition. This tension is reflected in our DD proposals which begin to tackle the complex question of how to manage the declining use of the gas network in the medium to long term, through accelerated depreciation.

3.24 The key strategic change in GD is on our approach to depreciation of existing and new assets. Our starting point across the sectors is to assume a 45-year asset life and use "natural rates" for capitalisation. However, we depreciate new assets only in GD based on a sum-of-digits approach, such that the new investment is fully depreciated by the government net zero target date (currently 2050).

3.25 As described above, we do not consider that this has direct economic effects for our impact assessment, as it is a direct transfer between current and future consumers. We have presented the effects in our bill impact assessment. In

terms of wider benefits, we consider that the decision to accelerate depreciation will benefit consumers, as it provides an appropriate balance between supporting new investment and maintaining financeability, while recognising the ongoing uncertainty about the future of the GD networks.

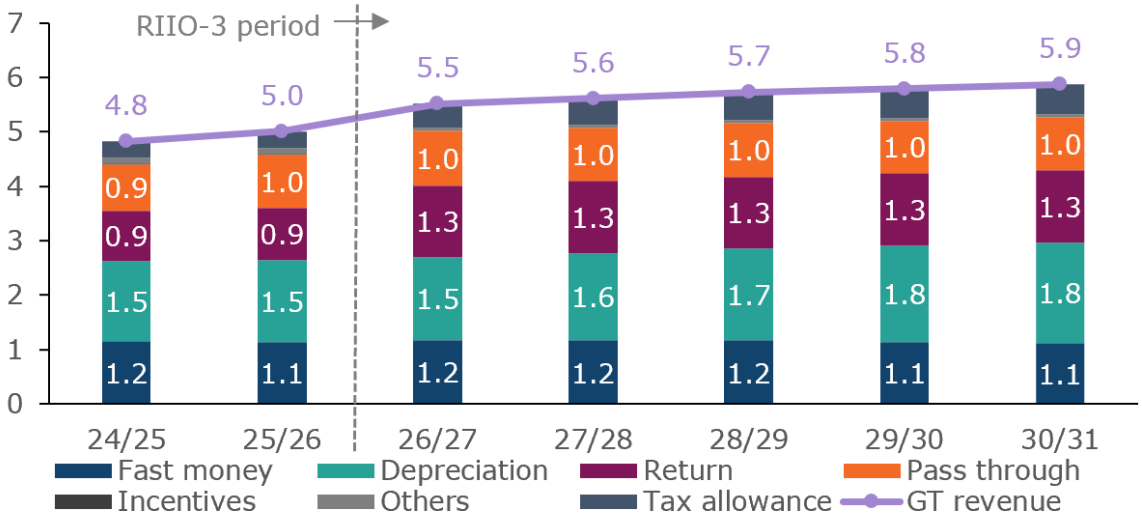
Table 5: Changes to Gas Transmission during RIIO-3

| **Price control parameter** | **RIIO-2 (25/26)** | **RIIO-3** | **Change** | **Change vs counterfactual of evolved RIIO-2** |
|---|---|---|---|---|
| Accelerated Depreciation | £5bn | £5.5bn | £0.5bn | These figures reflect Total Revenue with different depreciation rates. |
| Semi-nominal WACC | £5.5bn | £5.9bn | £0.4bn | These figures reflect Total Revenue with different cost of capital after applying depreciation rates. |

Impact on price control revenues

3.26 Total revenue in RIIO-3 compared to the end of RIIO-GD2 price control increases by 17%. When comparing total revenue against the counterfactual, without the impact of accelerated depreciation and semi-nominal WACC, we have modelled an increase of 11% of Total Revenue.

Figure 3: Price Control Revenue in RIIO-3 for Gas Distribution, £bn, 2025/26 prices



# 4. Wider Impacts and Evaluation Plans

4.1 We are required to have regard to the strategic priorities in the Strategy and Policy Statement for Energy Policy in Great Britian when carrying out our regulatory functions.[12] Additionally, we must have regard to economic growth,[13] and the impact of RIIO-3 on the environment and biodiversity.[14] In this section we consider the wider effects of RIIO-3 on these areas.

4.2 It is difficult to quantify the potential benefits of some of government's strategic objectives as set out in government's Strategy and Policy Statement for Energy Policy in Great Britain. This includes the transition towards net zero and its associated improvement in energy security which will reduce GB's reliance on inherently volatile global energy markets. In the next sections, we focus on the contribution to economic growth and the positive impact on the environment.

## Impact on economic growth

4.3 We have had a Statutory Growth Duty since May 2024. Electricity and gas networks support this new duty as energy is a primary input for all economic activity. As a result, the economic value we generate for consumers is far greater than the direct impact on their bills, including in supporting new jobs and investment. In this section, we describe our impact on economic growth.

4.4 As part of the business plans, network companies submitted their assessment on how they contribute to growth. Some of the factors that contribute to growth do so through higher productivity, better skills and employment opportunities. For example, National Grid Electricity Transmission (NGET) states:

*"The scale and pace of the investments we will make in our network work hand-in hand with changes in how we contract, drive innovation and productivity gains in our supply chain and delivery partners. As many of our delivery partners typically work across other sectors too, this will have much wider benefits to the economy."* [15]

4.5 Overall, NGET predicts that its workforce will grow by more than 50%, with more than 1,100 trainees, apprentices and graduates onboarded by the end of RIIO-3. As part of their price control plans, it will be increasing the number of

[12] Strategy and Policy Statement for Energy Policy in Great Britain
[13] Section 108 of the Deregulation Act 2015
[14] See Section 5A(4) of the Utilities Act 2000 and Section 40 of the Natural Environment and Rural Communities Act 2006, Sections 1 and 2 of the Nature Conservation (Scotland) Act 2004 and Section 6 of the Environment (Wales) Act 2016.
[15] https://www.riiot3.nationalgrid.com/document/30069/download#page=75

training days by 60%, including developing skills, such as AI and digital technologies.

4.6 A paper by the Centre of Energy Policy (CEP)[16] to support Scottish Power Transmission (SPT)'s business plan also concluded that network investment has significant positive impact on growth outcomes:

*"SP Energy Networks'[17] proposed investment activity would trigger sustained net expansionary processes across the economy, both in terms of the enabling activity itself and the net impact on energy bills. Net GDP and employment uplifts of up to 2 billion per annum and 11,500 jobs, and small net gains in real income and spending by UK households (averaging at £60 per annum), are sustained into the long-term.*

*These benefits are larger in all timeframes than would be the case if investment is reactionary to changing electricity demand. Our results show that sustained GDP and employment gains would be reduced, by around £500 million per annum and 3,100 jobs, if SP Energy Networks only invested after demand fully transpires. We also find that gains could generally be greater if worker and skills shortages in the UK labour market are overcome."*

4.7 The CEP authors concluded that SPT's proposed investments would drive and sustain wider social and economic benefits in the near and long-term. They also support the timing of investment earlier rather than later, with economic benefits significantly increased where investment is delivered at pace as opposed to reactionary investment.

4.8 The quantification of these growth benefits is subject to significant uncertainty. It is also difficult to clearly distinguish from the size of effects in the counterfactual from those in the proposed option. Nevertheless, we agree with the principles outlined in the CEP report as to why we can expect that accelerated transmission investment should support growth in the wider economy, and that this would be net beneficial. We welcome stakeholder views on this assessment of the growth effects of our RIIO-3 proposals.

## Environmental impacts of RIIO-3

4.9 RIIO-3 has several policies designed to minimise the direct and indirect impacts of network activities on the environment. We have retained both the

[16] How will SP Energy Network's RIIO-T3 Investment Plans Impact the Wider UK Economy?
[17] SPT is a wholly owned subsidiary of SP Energy Networks, responsible for transmission of electricity in central and southern Scotland.

Environmental Action Plan (EAP) and Annual Environment Report (AER) in RIIO-3, whilst removing the separate Business Carbon Footprint (BCF) ODI-R reporting - which will be absorbed into the AER.

4.10 We have several proposals to cut direct emissions from network activities such as a common mechanistic Price Control Deliverable (PCD) across ET and GD in RIIO-3 applied to costs associated with Zero Emissions Vehicles (ZEVs) and related charging infrastructure. We have several other proposals to minimise the impact of transmission activities on the environment and the communities that host their infrastructure.

## Greenhouse Gas emissions

4.11 A clean power system is a critical milestone in the wider push to net zero. It enables the decarbonisation of other sectors such as transportation and heating through the adoption of electric vehicles and heat pumps. A decarbonised power sector is also vital for other critical elements of net zero, such as low carbon hydrogen produced by electrolysis and carbon removals.

4.12 CP2030 will significantly reduce carbon emissions in the power sector. For example, net electricity emissions in NESO's pathways[18] are less than a quarter of those in a world with the slowest credible decarbonisation. This is also well below the emissions from the Climate Change Committee's pathways to net zero that were the basis for the Nationally Determined Contributions under the Paris Agreement and the Sixth Carbon Budget (2033-37).

4.13 NESO predicts a corresponding drop in the carbon intensity of power generation, from over 140 gCO2/kWh in 2023 to around 15 gCO2/kWh in 2030. There are several technologies that would contribute to this significant reduction including wind and solar, carbon capture and storage, biomass storage and flexibility.

4.14 In this document we have provided an illustrative quantification of the level of constraint costs savings from building the network needed to connect renewable generation. The majority of these constraint cost savings are expected to be from connecting renewable generation, rather than maintaining more carbon-intense thermal generation, and therefore there will be carbon benefits as well as cost savings as a result of our RIIO-3 proposals.

[18] Future Energy Scenarios (FES) | National Energy System Operator

4.15 Given the challenges in directly distinguishing the size of benefits in our proposed approach from the counterfactual, we have not sought to quantify the direct impact of network investment on carbon emissions. However, in line with the potential significant benefits from reducing constraint costs, much of this will relate to increasing the amount on wind power used for generation, and reducing the use of gas generation. We would therefore expect the contribution to carbon emission reduction to be significant.

## Overall assessment

4.16 In this section we explain why we consider that our ET proposals will have wider economic benefits in terms of both effects on growth and carbon reduction.

4.17 Given that we also consider that there will be net quantified benefits from our RIIO-3 proposals, through reducing constraints, improving the efficiency of transmission investment, and reducing whole system costs by reducing the proportion of gas generation in the system, our view is that the combination of quantified and non-quantified benefits will be significant and positive.

4.18 The direct effects of the changes to regulation of the gas network should be broadly neutral. We have made changes to the financial framework, assuming for this impact assessment that would not have happened in the counterfactual. However, these changes are largely around the timing of cost recovery from current and future consumers. When our proposals for electricity and gas are taken together as supporting the net zero transition, the net effect should be large and positive, as a result of achieving the wider benefits discussed earlier in this section.

### Evaluation

4.19 Undertaking proportionate and robust evaluations will help to build a stronger evidence base for future policy interventions and helps us better assess whether we are delivering on our objectives and complying with our statutory duties. Accordingly, in March 2025 we published a new evaluation strategy.[19]

4.20 As part of the new evaluation strategy, we are required to provide a monitoring and evaluation section as part of our statutory Impact Assessment or provide justification as to why it is not included. For Final Determinations we are

[19] Ofgem's Evaluation Strategy

proposing to develop a Monitoring and Evaluation section aligned with our updated Impact Assessment Guidance.[20]

4.21 RIIO price control performance is continuously monitored by Ofgem. This is done through the process of annual iteration and the process of close-out of the price control. We already have several tools such as RIIO-2 Regulatory Instructions and Guidance (RIGs), the Regulatory Reporting Packs (RRPs) and the PCFM Guidance. The RIGs and RRPs are the principal means by which we collect cost, volume, allowed expenditure and output delivery information from licensees to monitor performance against their RIIO-2 objectives and hold them to account.

4.22 While price control expenditure and outputs are closely monitored by Ofgem, there are aspects which present challenges to the process of evaluation:

- At the time of setting new price controls, we lack some of the key information because we need to set the next price control before the current price control is finished. This increases the asymmetry of information between Ofgem and the network companies.
- Price controls are subject to constant evolution. A full independent evaluation of previous past controls (eg RIIO-1) may not provide useful information to set the next price control (RIIO-3).

4.23 We would like to collect views from consultees regarding what to consider in an ex post evaluation of RIIO-3 Final Determinations. This could include:

- views on the general approach we could take to evaluation eg merits of process evaluation and or/impact evaluation;
- specific outcomes to prioritise or areas to consider eg we could focus on changes to the counterfactual as outlined in Table 1;
- particular design aspects of price controls eg information asymmetries described above;
- wider economic impacts eg improved economic growth/GHG;
- potential unintended consequences; and
- any other aspects we should consider.

[20] Impact assessment guidance | Ofgem

# 5. Impact on network charges and consumers' bills

5.1 In this section, we have quantified the potential bills impact of our RIIO-3 proposals. We show the level of network charges that are expected in 2030/31 by comparison to those that consumers are paying for ET and gas networks in 2025/26. We also illustrate the net impact on bills of our RIIO-3 decisions, after accounting for savings elsewhere in the bill. Our estimate is that overall the effect of the additional RIIO-3 investment in ET will be to reduce bills relative to where they would be if investment were delayed, by around £30 per customer. When added to the higher costs of "business-as-usual" investment and financing costs, the total effect is a net increase of £20 per dual fuel customer. This is partly due to avoiding higher constraint costs. This is a point estimate from a wide range, as the benefits are hard to measure and subject to uncertainty.

5.2 To help understand the effects on bills, we present our analysis in 2025/26 prices.

## Overview of our approach to modelling the impact of RIIO-3 on network charges

5.3 The draft determinations proposals will increase network charges in the RIIO-3 period. This is because we are allowing more investment, which results in an increase in ET network charges. Additionally, our proposed financial framework includes a higher cost of capital assumption than RIIO-2, and a move to a semi-nominal approach to inflation, which will also increase network charges.

5.4 To help understand the effect of our proposals, we provide a direct comparison of network charges between the end of RIIO-2 and the RIIO-3 period. To capture the costs that we think would have happened regardless of our RIIO-3 proposals, we provide a "RIIO-2 roll-forward" scenario. Under this scenario we maintain RIIO-2 assumptions for the cost of capital, the level of totex investments, and the approach to depreciation.

5.5 This is not intended to reflect the difference in bills between RIIO-3 and a true economic counterfactual. This is because some of these changes do not result in economic costs relative to the counterfactual of an evolved RIIO-2 that we set out in Chapter 3. The main reasons for this are:

- Increases in totex from allowing TOs to make additional investments. We expect that many of these investments would have been approved under an evolved RIIO-2 approach.

- Higher charges because of an increase in the WACC. Under an evolved RIIO-2 approach, we would still have allowed a higher WACC to capture changes in market conditions.
- Increases in network charges in RIIO-3, that are economically neutral (as they are NPV-neutral transfers between current and future consumers) such as deprecation changes.

5.6 In the next section, we have disaggregated the effects to illustrate the most important changes to network charges. As discussed in our economic assessment, RIIO-3 will directly contribute to lowering other parts of a typical energy bill. We have also sought to quantify two of these benefits: the reduction in Balancing Mechanism costs associated with network constraints and the potential reduction in wholesale costs from avoiding gas generation.

## Network costs impact on bills

5.7 Table 6 provides indicative figures for the likely bill impacts of the policy changes proposed for RIIO-3. We have calculated the bill impacts of our proposals by using a model which calculates the direct effect of rolling forward the regulatory asset value (RAV), and the cost of capital.

5.8 Based on current cost projections it shows that, overall charges will increase from £220 this year, to £324 by the end of RIIO-3 (2030/2031), a rise of £104. The majority of the increase (£82) is due to the RIIO-3 proposals. The remainder (£22) would have happened in any case if we had rolled forward RIIO-2 assumptions. The largest effects of the RIIO-3 proposals are the increases in totex and WACC.

Table 6: Indicative impact of RIIO-3 policies on networks charges in 2030/31

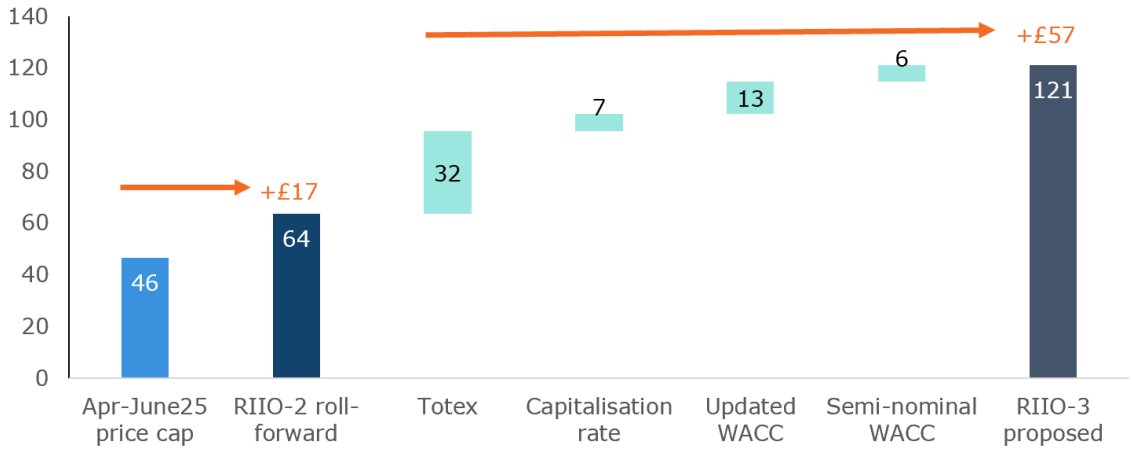
| Scenario | ET | GD | GT | Total | Comment |
|---|---|---|---|---|---|
| Today's charges (using Apr-Jun 2025 price cap prices) | £46 | £161 | £12 | £220 | (£, 2025/26 prices) |
| 2030/31 RIIO-2 roll-forward (assuming the same totex, WACC, cap rate, and depreciation methodology as in the final year of RIIO-2[21]) | £64 (+£17) | £167 (+£5) | £13 (~£0) | £243 (+£22) | Charges still rise, primarily because of a higher totex run rate in the RIIO-2 period than depreciation. |
| 2030/31 charges under our RIIO-3 recommendations; broken down below: | £121 (+£57) | £189 (+£23) | £14 (+£1) | £324 (+£82) | Our RIIO-3 proposals add £82 to the 2030/31 bill compared to a RIIO-2 roll-forward. The combined effect is to increase the bill £104 above April 2025.[22] |
| 1. Higher RIIO-3 totex | (+£32) | (+£3) | (~£0) | (+£35) | In ET, lower (or mitigation of) congestion charges and lower commodity charges with greater renewables sources connected. |
| 2. Lower capitalisation rate | (+£7) | NA | NA | (+£7) | Helps mitigate network financeability challenges and ensure TOs can finance their investment at the lowest cost to consumers. Action is NPV-neutral so offset by lower bills for future consumers. |
| 3. Higher RIIO-3 WACC | (+£13) | (+£6) | (+£1) | (+£20) | Enabling investment by setting an appropriate allowed return. |
| 4. Semi-nominal WACC | (+£6) | (+£6) | (+£1) | (+£13) | Helps mitigate network financeability challenges, eliminates potential windfalls from high inflation, and lowers long-term bills due to reduced indexation. |
| 5. Accelerated depreciation of new assets in GD | NA | (+£8) | NA | (+£8) | Proposal to accelerate depreciation for new assets only in GD reflects a balanced regulatory stance that aims to protect both current and future consumers while maintaining investor confidence. |

Table 5 Notes: 1) Aggregates may not exactly match due to rounding. 2) Bill estimates were derived using typical dual fuel consumer values of 2,700kWh for electricity and 11,500kWh for gas.[23] 3) Bill estimates assume that total electricity and gas demand, and gas connections, remain flat from 2025/26 onwards. If we were to assume a declining number of gas customers, then our charge projections would have been higher

than the ones presented. 4) Our ET charge figures exclude the OFTO and interconnector components. This allows us to assess the impact of RIIO decisions alone.

5.9 In ET, our RIIO-3 proposals add £57 to network charges for a typical dual fuel consumer. Figure 4 shows ET bills in 2030/31 compared to the current level (all figures in 2025/26 prices).

Figure 4: ET network charges for a typical dual fuel consumer in 2030/31 (2025/26 prices)[24]




5.10 In gas (GT and GD), our RIIO-3 proposals result in network charge increases of £24 by 2030/31 for a typical dual fuel consumer. This includes the impact (£8) on bills by 2030/31 of accelerating GD depreciation for new assets only. We are not proposing further acceleration of depreciation for GT beyond the current 45-year sum-of-digits profile and the implementation of the semi-nominal RAV. In GT network charges experience a relatively small increase of £2 for a typical dual fuel consumer.

[21] The only exception is GD totex, for which due to lower projected totex we assume in a roll-forward we make a modelling assumption that we only roll forward the costs of the current network excluding the mains replacement programme.
[22] April 2025 means the April - June price cap level.
[23] https://www.ofgem.gov.uk/sites/default/files/2023-5/TDCV%202023%20Decision%20Letter.pdf
[24] All the bill impacts were estimated as marginal effects i.e. the impact of an updated WACC was derived after already assuming our RIIO-3 proposed totex and accelerated depreciation.

Figure 5: GD network charges for a typical dual fuel consumer in 2030/31 (2025/26 prices)

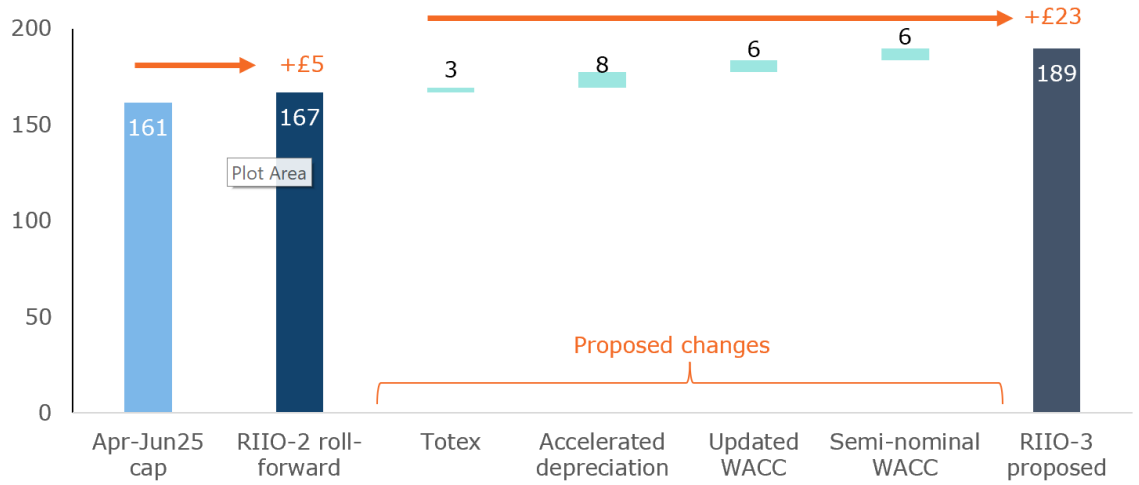
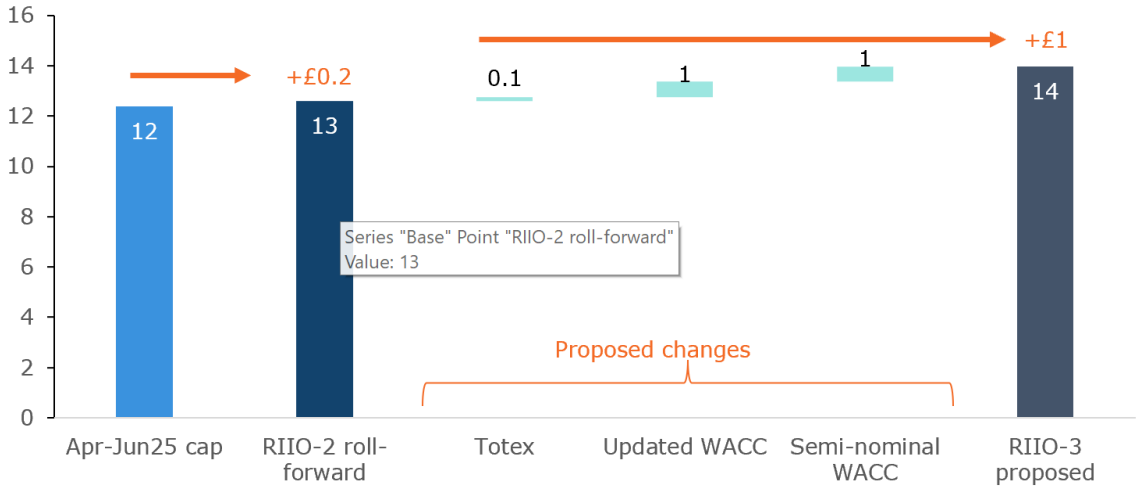



Figure 6: GT network charges for a typical dual fuel consumer in 2030/31 (2025/26 prices)




5.11 Overall, our analysis shows that the combined effect is a £104 or 36% increase in network charges for ET and gas combined in 2030-31 compared to 2025-26.[25]

## Whole bill effects of our RIIO-3 proposals

5.12 Our RIIO-3 proposals are intended to bring a number of direct and indirect benefits to consumers. In this section we focus on two effects. Both of these are hard to measure, but we can illustrate their effect through using a combination

[25] We have made no assumptions about electricity distribution and non-RIIO electricity transmission costs at this stage.

of established analysis from NESO and using assumptions based on a mix of internal analysis and published sources. We have first provided an indicative calculation of the overall bill impacts in RIIO-3, and then considered sensitivities to that calculation. The two offsetting bill reductions that we have assessed are:

- The impact of investment in RIIO-3 on balancing costs, in particular the constraint costs element of balancing costs.
- The impact of investment in RIIO-3 on wholesale prices, where RIIO-3 supports the connection of fixed-cost renewable generation, which will reduce despatch costs.

5.13 This is in addition to other benefits that we have not monetised in this IA, including the potential for cost efficiencies and contribution to lower carbon emissions.

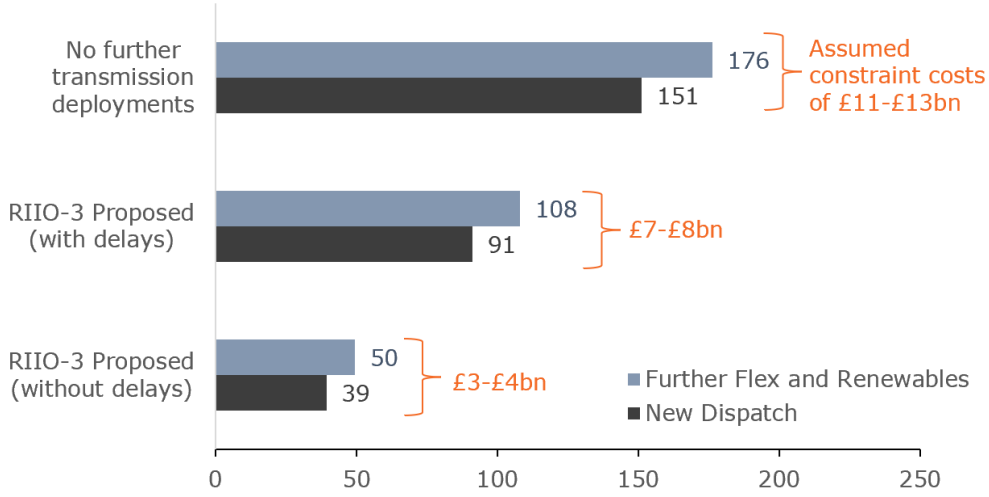
### Projected balancing costs - with and without RIIO-3 investment

5.14 NESO has projected balancing costs to be two to four times higher in their no expansion scenarios, where the investments supported by our RIIO-3 decisions are not made, so less network is available for renewable generation to connect to the grid and to end consumers. Scenarios for network constraint costs, including thermal constraint costs and voltage and stability balancing costs, were included in NESO's analysis for CP2030.[26]

5.15 Thermal constraint costs were calculated for each pathway separately as they make up the majority of constraint costs and they can differ significantly based on the generation mix. The voltage and stability balancing costs are provided with a single projection over all pathways, based on NESO's balancing cost annual report 2024 as they make a minor contribution to the total constraint costs values.[27]

[26] NESO, Clean Power 2030
[27] We also assume no material effect of potential double count between constraint cost savings and avoided CfD top-ups.

Figure 7: Balancing Charges (BSuoS) for a typical dual fuel consumer in 2030/31 (2025/26 prices) [28]




5.16 NESO's modelling shows that there are significant uncertainties. The actual level of constraints will depend on a number of factors, relating to the place and pace of renewables investment, the detailed design and pace of delivery of network investment, and the cost and availability of alternative flexible dispatchable generation. NESO has estimated that if the network were not expanded, then balancing costs could be around £8 billion higher than its CP2030 case (around £100 per customer).

5.17 However, under a scenario where totex was kept down to RIIO-2 levels, this would still be sufficient to connect some new generation to the network. We have therefore used NESO's estimates based on TOs' plans, without further acceleration, as an indicator of the scale of the benefits from the higher RIIO-3 totex levels. Using this scenario, we consider that a base case assumption of £4 billion of avoided constraint costs, equivalent to around £55 per typical dual fuel domestic consumer, is an appropriate starting point for the bills impact of the higher totex in RIIO-3.

5.18 Whilst in practice the link between ET investment and constraints is complex, much of the investment is necessary for other reasons, including to maintain the performance standards of the network, ie it could not be avoided just because it

[28] The RIIO-3 Proposed (with delays) scenario assumes that the AENC/ ATNC/ SCD1 projects are completed after 2030. The RIIO-3 Proposed (without delays) scenario assumes that they are completed by 2030.

does not directly affect constraints. On that basis, we think that this reflects a realistic alternative scenario for the change in constraints linked to our RIIO-3 proposals.

### **Projected** wholesale costs - with and without RIIO-3 investment

5.19 In addition to avoided constraint costs, the proposed network investment funded by RIIO-3 should reduce the costs of operating the wholesale market, increasing the amount of renewables able to access the ET network and ultimately to reach electricity demand. This should have wider benefits for consumers as it will reduce the marginal price in the wholesale market. In CP2030, NESO estimated the effects for two pathways depending on the level of dispatchable low carbon generation, with the average of these having gas setting the price around 30% of the time. This 30% proportion is also consistent with our recent review of data from sector analysts.

5.20 We therefore assume that in the proposed option, gas sets the price around 30% of the time, reducing the wholesale electricity price from today's levels. Currently, the wholesale gas price sets the wholesale electricity price over 90% of the time. In our "RIIO-2 roll forward" scenario, where there is no increase in totex from RIIO-2, and most new capital investment is deferred beyond RIIO-3, we estimate that gas will continue to set the wholesale price over 70% of the time.

5.21 To estimate the effects of increased renewable generation on the wholesale electricity price, we need to project the wholesale gas price. There are no single consensus forecasts for wholesale gas costs, and the projections differ significantly. We use a projected wholesale gas price reduction, based on reviewing a range of market estimates, which is that they will fall from where they are today (which are still relatively high by historical levels). The assumption we have used in our analysis is around a 20% gas price reduction. However, gas prices might fall further, stay at today's levels, or even go up. We consider a number of scenarios in our sensitivities assessment below.

5.22 The benefits of removing gas from the system are higher, in scenarios where the wholesale gas price is higher. In the case of the our lowest gas price scenario of a 35% reduction in gas prices, the benefits are around £15 per annum on a domestic bill (lower wholesale prices, net of the expected offsetting effect of CfDs). As described in our sensitivities below, if gas prices stayed at today's levels, the benefit could be triple this. In other words, when savings are

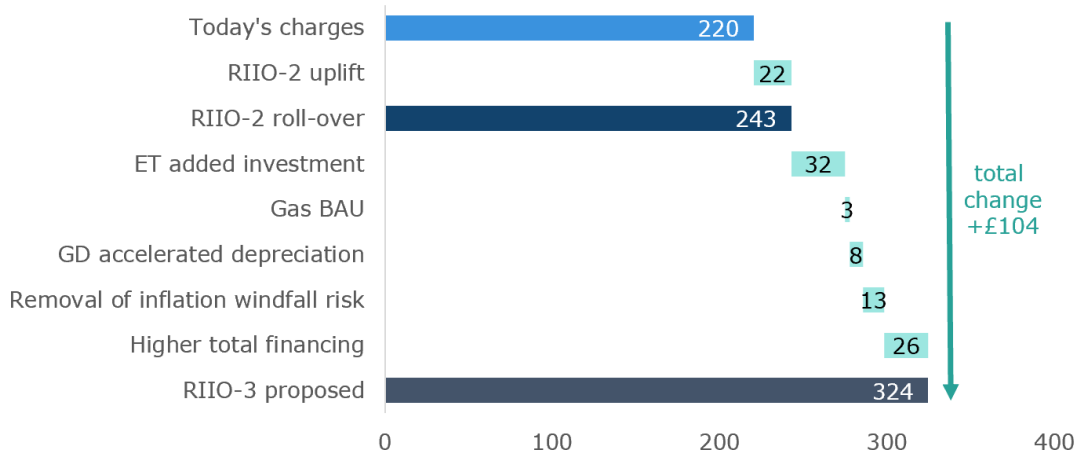
most needed as underlying bills are higher, the investments funded by RIIO-3 will deliver greater benefits.

### Domestic Bills' impact: baseline assessment

5.23 Overall (taking ET and gas together), our projection is that the benefits of the investment associated with our RIIO-3 changes will largely offset the additional costs compared to the RIIO-2 roll-forward scenario during the RIIO-3 period. We estimate that typical dual fuel bills will be around £82 higher by the end of RIIO-3 than in the RIIO-3 roll-forward scenario, which will be largely equal to the £80 of savings achieved as a result of our RIIO-3 changes. Under both our RIIO-3 changes and the RIIO-2 roll-forward scenario, bills would start £20 higher than in 2025-26 because of the higher totex run rate in the RIIO-2 period than depreciation.

5.24 As discussed above, the RIIO-2 roll-forward is not intended to represent a realistic counterfactual, but we consider it is a useful reference point to illustrate the effects on bills of our RIIO-3 decision. Beyond 2031 (RIIO-3), the savings/benefits from the RIIO-3 investment should also persist, embedded in new long lived network assets designed to support the growth in electrification of transport, heat and business. This also enhances the benefits case for our RIIO-3 actions.

Figure 8: Network charges for a typical dual fuel consumer in 2030/31 under our proposed actions (2025/26 prices)[29]




[29] The RIIO-3 proposed (with delays) scenario assumes that the AENC/ ATNC/ SCD1 projects are completed after 2030. The RIIO-3 Proposed (without delays) scenario assumes that they are completed by 2030.

5.25 In summary:

- Network charges will be around £104 higher by the end of RIIO-3; of which around £82 relates to decisions in these RIIO-3 proposals, with the remainder being the ongoing effect of RIIO-2 decisions.
- These increases will support the electrification of the power system, in line with the government's CP2030 plans and the wider transition to net zero. However, they will also support lower electricity bills immediately: our point estimate is based on £80 lower constraint and wholesale costs.
- As a result, our point estimate is that electricity bills will be slightly lower (estimate less than £10 effect) than in 2025/26; that gas prices will be around £25 higher, and that dual fuel bills will be around £20 higher.
- The rise in electricity network charges will also increase standing charges, our current projection is that standing charges for electricity will increase likely from around £190 in April 2025 to £230 by April 2026, and £280 by 2031[30]. We propose to assess whether to rebalance the mix of standing charge and unit rates as part of our review of cost allocation and recovery.

5.26 All of these numbers are uncertain; particularly the benefits. In the next section, we consider sensitivities around these estimates.

## Sensitivities to our bill projections

5.27 In this section we consider the primary sensitivities to the bill projections. We present the following sensitivities:

- Sensitivities to the level of RIIO-3 network charge increases, relating to elements of the price control calculation that are subject to change during the period. We show the impact on RIIO-3 charges of higher or lower supply chain cost inflation, and the impact of higher or lower interest rates.
- Sensitivities to the wholesale price benefits from connecting renewables into the system: if wholesale gas prices are higher or lower than our base case projections, then benefits of moving from gas to electricity will also be higher or lower.
- Sensitivities to the level of balancing / constraint cost reductions. NESO has provided a wide range for the level of balancing cost reductions. Ultimately, this is hard to forecast with any certainty, but we illustrate the sensitivity of

[30] This includes a rise in the RIIO-related ET standing charge from around £45 currently to £80 by 2026 and £115 by 2031. Our overall standing charge projection also includes non-RIIO assumptions, such as anticipated increases in OFTO costs.

higher or lower balancing cost reductions, including if there are delays to the implementation of some of the proposed RIIO-3 investments.

5.28 For **totex**, there is uncertainty over the rate of supply chain cost inflation. We have already assumed significant levels of cost inflation, and based on the information gathered during the RIIO-3 process, our projections assume that some of this cost pressure will continue. As a result, whilst we assume that cost inflation could accelerate further, it is also possible that initiatives to develop additional capacity could have the effect of reducing costs from current high levels. In our assessment below, we illustrate the effects of 5% higher or lower ET aggregate totex, consistent with the RoRE analysis in the Overview Document. Since most GD is set ex ante, and the effect of changes in GT costs is small, we do not include sensitivities for gas totex.

5.29 In respect of the **financial framework**, most parameters are set up front. However, the risk-free rate is indexed and therefore the WACC may go up and down in line with government debt yields, which are affected by both international bond markets and domestic market conditions. Over the RIIO-3 period, our scenarios use an average WACC of 4.1% to 5.1% for ET, and 4.1% to 4.4% for GD and GT. The wider WACC range for ET reflects how its WACC methodology places a larger weight on more recent time periods compared to the methodology for gas.

5.30 Our projections of lower **balancing costs** are fundamentally uncertain, and are based on NESO's CP2030 modelling. They could be higher or lower either because of the pace and effectiveness of roll-out, or because of unexpected developments in the wholesale and balancing markets. While the £55 projected benefits may change for many reasons unrelated to RIIO-3, we have focussed our sensitivity analysis on the potential for these to change due to the pace of delivery of RIIO-3 benefits. We use a sensitivity where slower delivery by 2 years of key projects reduces the balancing cost benefits by around 50% compared to our base case.

5.31 The **wholesale price projections** are also uncertain. We have looked at market projections, which show a wide range of potential wholesale gas prices:[31]

- "No change" scenario: Gas prices stay as they are today.

[31] We recognise that in practice gas prices could fall even further – at this point we have not modelled this scenario as it would require further system modelling of the impact of very low gas prices on the electricity wholesale market.

- Market forecast scenarios: Gas prices fall back towards pre-crisis levels. This scenario is predicted by a number of external commentators, but is also subject to uncertainty; both whether prices decline, and if so, how much.
- High gas price scenario: Gas prices rise again by 20% due to unexpected supply challenges.

5.32 The Table below illustrates the range of potential net effects on typical dual fuel consumer bills in 2030/31 from our RIIO-3 proposals after considering these sensitivities. Although we have a wide range, we have used a point estimate in our Overview Document of £80 for RIIO-3 benefits. The £80 is consistent with the central case from NESO's analysis of balancing costs, and a point estimate around the middle of the range of wholesale price reductions. This £80 benefit is offset by just over £100 in total network charge increases – suggesting a potential net cost of RIIO-3 investment of around £20.

5.33 If these benefits of £80 per customer are compared to the cost per customer of around £50 of the additional electricity network investment alone, then it shows a £30 net benefit from those investments. In other words, the overall £20 net cost per customer of RIIO-3 results from the £50 per customer costs of the "business-as-usual" investments and financing costs of the networks, offset by a £30 benefit from growing the electricity network.

5.34 The table below provides illustrative sensitivities which in combination indicate the net effect could be a benefit of up to £20 or a cost of up to £80.

Table 7: Scenarios of the additional costs for a typical dual fuel consumer bill that arise from our RIIO-3 proposals

| **Scenarios** | **Bill component** | **Additional costs from proposals** | **Comments** |
|---|---|---|---|
| Cost inflation | ET | £29 to £35 (£32 central) | Since most of the ET totex is not being determined now and will instead be settled through uncertainty mechanisms during the period, the actual level of totex allowed under these mechanisms could be higher or lower than expected depending on whether supply chain cost inflation continues to accelerate or reduces against our central estimate. |

| Scenarios | Bill component | Additional costs from proposals | Comments |
|---|---|---|---|
| Interest rates | ET | £10 to £28 (£19 central) | Cost of debt and equity are affected by broader macroeconomic conditions and are therefore uncertain.[32] |
| Interest rates | GD | £8 to £16 (£12 central) | Cost of debt and equity are affected by broader macroeconomic conditions and are therefore uncertain. |
| Interest rates | GT | £1 to £2 (£2 central) | Cost of debt and equity are affected by broader macroeconomic conditions and are therefore uncertain. |
| Constraint costs | BSUoS | -£55 (central) to -£30 (with delays) | Depends on pace of generation build, demand trends and wider wholesale market conditions. Delays in delivery of some network build could result in lower savings.[33] Higher savings are feasible as illustrated by NESO's wide range of scenarios, but would be likely to be due to market factors outside RIIO-3. |
| Gas prices | Wholesale electricity (incl. CfDs) | -£50 to -£10 (-£20 central) (-£35 flat gas) | Wholesale gas prices are largely driven by international demand and supply dynamics and are therefore uncertain. In our RIIO-3 proposed scenario, wholesale electricity prices are less affected by gas because gas sets the price less frequently. As a result, the higher the future gas price, the greater the implied benefits of the RIIO-3 proposals.[34] |

[32] Our RIIO-3 proposed scenario assumes that during the coming price control WACC could average 4.1%-5.1% for ET and 4.1%-4.4% for the gas networks. In our counterfactual that reflects a continuation of borrowing conditions from the last year of RIIO-2 we assume a WACC of 3.4% for ET, and 3.6% for gas. Our RIIO-3 proposals also include a switch to a semi-nominal WACC methodology.

[33] Our central scenario uses NESO's Holistic Transition Recommended Network scenario which projects constraint costs to reach £4.5bn by 2030/31. Our delayed scenario uses NESO's Holistic Transition Expected Network scenario that has constraint costs reaching £8.5bn. (See NESO's 2025 Annual Balancing Costs Report.)

[34] Our gas price scenarios assume that the wholesale gas bill allowance will rise by 20%, stay flat, drop by 20%, or drop by 35% by 2030/31 compared to the price cap allowance in the April-June price cap. The projections rely on an Ofgem review of wholesale gas price projections produced by DESNZ and independent data providers.

| Scenarios | Bill component | Additional costs from proposals | Comments |
|---|---|---|---|
| All | Total bill changes[35] | -£20 to £80 | **The impacts of our RIIO-3 proposals on bills are highly uncertain; they depend on hard-to-predict factors such as future gas, constraint, material, and interest rate costs. We expect an overall net increase in bills compared to the alternative of delaying investment, but the actual effect is uncertain and could be a net reduction of up to £20.** |

### Impact on non-domestic consumers

5.35 Our assessment above is focused on domestic consumers, with measurement for a typical (average) domestic consumer. In this section we provide analysis of the effect on non-domestic consumers.

5.36 The effect of RIIO-3 varies significantly between non-domestic consumer types, both because there is a greater variation in the charging structure for different non-domestic consumers, and also because demand volumes vary so sharply. As a result there is no equivalent simple calculation of the effect on a non-domestic consumer. What we can say as a starting point is that the net bill impact of RIIO-3, relative to a scenario where the RIIO-3 investment is delayed, should be relatively small for the majority of non-domestic consumers, assuming that the projected effects of avoiding balancing costs and reducing wholesale bills are achieved in the RIIO-3 period.

5.37 The effects on the largest consumers: including energy intensive industries (EIIs) are likely to be different. Overall electricity bills for EIIs are expected to be lower as a result of RIIO-3 investments than the alternative scenario of delayed investment, with the beneficial effects of RIIO-3 investments being greatest for these large customers, especially for EIIs with the supercharger.[36] This is because:[37]

[35] Including the bill rises due to changes in the capitalisation rates, GD depreciation, and GD and GT totex. We have not produced scenarios for these impacts.
[36] In the government's recent Industrial Strategy, it announced an increase in support through the British Industry Supercharger package. Supercharger is part of a group of measures to cut network charges and provide exemptions from electricity costs for firms in sectors like steel, metals and chemicals.
[37] These figures are all 25/26-30/31 and for an EII with an EHV connection using 100,000 MWh. They also don't include retail costs which we believe are relatively low for EIIs.

- Under RIIO-3, ET is currently a relatively small share of bills for EIIs. We estimate that while ET costs will increase, that the offsetting benefit of lower balancing costs (including constraints) will increase by even more, and so total network costs (balancing and transmission) would be lower under our RIIO-3 proposals than the alternative scenario of delaying investment.
- We also project wholesale prices will be lower under RIIO-3, and wholesale prices are by far the largest contributor to EII costs. Our scenarios above illustrate there is a wider range of benefits, and they are highest when gas prices are highest. However, in the central case, we expect RIIO-3 to reduce wholesale costs by around 20%.
- EIIs with the supercharger also benefit most as they are exempt from policy costs. This means that these EIIs retain all the benefits of lower wholesale prices, which are offset by higher CfD top-ups for other consumers.

5.38 As an illustrative example, based on our central case for wholesale gas prices, we have estimated the effect on an EII[38] of our RIIO-3 proposals:

- EIIs bills without the supercharger are around 10% lower than the RIIO-2 roll-forward scenario.
- EIIs with the supercharger are around 15% lower than the RIIO-2 roll-forward scenario. The effect is greater because they do not pay offsetting CfD costs. Also, these EIIs have a lower proportion of network costs so the increase is smaller.

5.39 In summary, the bill effects of RIIO-3 are expected to result in benefits for the largest users, in particular EIIs with the supercharger. For other non-domestic users, the net effects will depend on the type of charges that they pay (some pay more transmission costs than others), and their volumes. For the smallest non-domestic consumers, we would expect a more comparable scale of effects to domestic consumers.

[38] We have assumed that the EII consumes 100,000 MWh of electricity per year, and that it is connected to the EHV electricity distribution network.

# 6. Your response, data and confidentiality

6.1 All proposals published as part of these documents are draft proposals, subject to consultation. We will publish our decisions on the RIIO-3 price controls in our Final Determinations later this year. We will implement our Final Determinations by modifications to the companies' licence conditions, after further consultation on licence drafting.

## Consultation stages

6.2 Table 8 below sets out the key stages for this consultation and how we will progress from Draft Determinations to Final Determinations

Table 8: Consultation Stages

| **Stage** | **Date** |
|---|---|
| Consultation Open | 01/07/2025 |
| Consultation closes (awaiting decision). Deadline for responses | 26/08/2025 |
| Final Determinations (including publication of consultation responses) | Winter 2025 |

## How to respond

6.3 We want to hear from anyone interested in this consultation. Please send your response to RIIO3@ofgem.gov.uk.

6.4 We've asked for your feedback in each of the questions throughout. Please respond to each one as fully as you can.

6.5 We will publish non-confidential responses on our website at www.ofgem.gov.uk/consultations.

## Your response, your data and confidentiality

6.6 You can ask us to keep your response, or parts of your response, confidential. We'll respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000, the Environmental Information Regulations 2004, statutory directions, court orders, government regulations or where you give us explicit permission to disclose. If you do want us to keep your response confidential, please clearly mark this on your response and explain why.

6.7 If you wish us to keep part of your response confidential, please clearly mark those parts of your response that you do wish to be kept confidential and those that you do not wish to be kept confidential. Please put the confidential material in a separate appendix to your response. If necessary, we'll get in touch with you to discuss which parts of the information in your response should be kept confidential, and which can be published. We might ask for reasons why.

6.8 If the information you give in your response contains personal data under the General Data Protection Regulation (Regulation (EU) 2016/679) as retained in domestic law following the UK's withdrawal from the European Union ("UK GDPR"), the Gas and Electricity Markets Authority will be the data controller for the purposes of GDPR. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. Please refer to our Privacy Notice on consultations, see Appendix 4.

6.9 If you wish to respond confidentially, we'll keep your response itself confidential, but we will publish the number (but not the names) of confidential responses we receive. We won't link responses to respondents if we publish a summary of responses, and we will evaluate each response on its own merits without undermining your right to confidentiality.

## General feedback

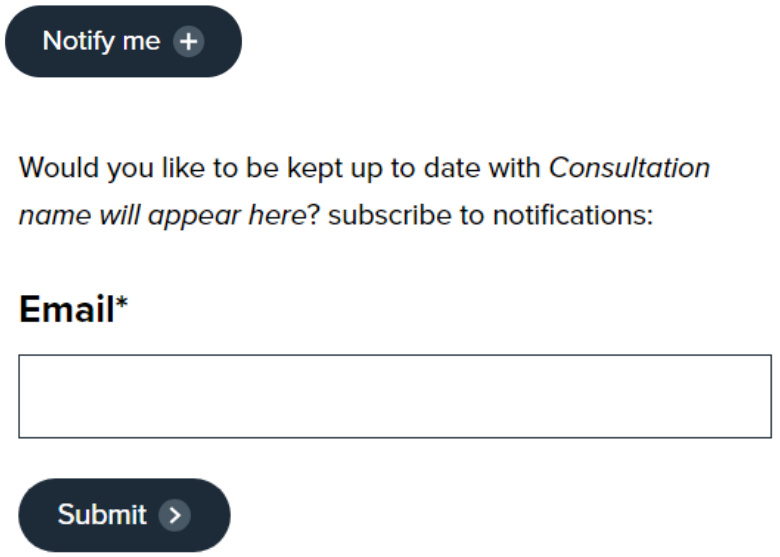
6.10 We believe that consultation is at the heart of good policy development. We welcome any comments about how we've run this consultation. We'd also like to get your answers to these questions:

- Do you have any comments about the overall process of this consultation?
- Do you have any comments about its tone and content?
- Was it easy to read and understand? Or could it have been better written?
- Were its conclusions balanced?
- Did it make reasoned recommendations for improvement?
- Any further comments?

Please send any general feedback comments to stakeholders@ofgem.gov.uk

## How to track the progress of the consultation

You can track the progress of a consultation from upcoming to decision status using the 'notify me' function on a consultation page when published on our website. Choose the notify me button and enter your email address into the pop-up window and submit. ofgem.gov.uk/consultations




Once subscribed to the notifications for a particular consultation, you will receive an email to notify you when it has changed status. Our consultation stages are:

Upcoming > Open > Closed (awaiting decision) > Closed (with decision)